Identifying Birth Places of Young Neutron Stars to Determine Their Kinematic Ages

Bestimmung kinematischer Alter junger Neutronensterne durch Identifikation ihrer Geburtsorte

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Abstract

Kinematic ages of young neutron stars give good estimates of their true ages. From the age of a neutron star, cooling models can be probed to improve theoretical inputs and provide constraints on the equation of state of matter above nuclear density. Furthermore, the identification of neutron star birth places, i.e. sites of supernovae, serves as input for models of the interstellar medium which is stirred by supernova explosions. In addition, theoretical nucleosynthesis yields and supernova models can be tested if distance and time of a supernova event are known. Moreover, a very nearby supernova also influences the climate on Earth. Therefore, knowing time and place of such events provides input for climate change studies. Another issue is the unknown radial velocity of neutron stars that can be obtained if the birth place was established.

In this thesis, a large sample of young neutron stars is studied in order to identify their birth places and obtain kinematic ages up to five million years. Past flight paths of neutron stars and possible parent associations (as well as runaway stars) are calculated throughout Monte Carlo simulations to account for the errors on the observed parameters of the objects as well as the unknown radial velocity of the neutron stars. The outcome of the Monte Carlo simulations is then interpreted statistically. A subsample of 20 neutron stars within 500 parsec from the Sun is analysed in great detail and for 19 of these stars possible parent associations or clusters are proposed. For 11 neutron stars, also former companion candidates of the neutron star progenitor are identified that are now runaway stars. 12 of the 20 stars were possibly born within 500 parsec from the Sun. For further 85 neutron stars with present distances to the Sun larger than 500 parsec, preliminary results are given.

In preparation of the investigation of neutron star birth sites, a sample of 289 young stellar associations and clusters that are possible neutron star parents, is obtained from an extensive literature study. In addition, a catalogue of young runaway stars is compiled. 2038 young Hipparcos stars are considered runaway stars.

From a population synthesis that is developed in this work, neutron stars and runaway stars are produced in order to obtain spatial densities of young neutron stars and runaway stars in the Solar neighbourhood (up to a few kiloparsec). These are used to evaluate the significance of a possible encounter between a neutron star and a runaway star. Furthermore, the feasibility of this project is evaluated by testing whether the birth association of a random neutron star can be recovered. The expected success rate is approximately 70 per cent.

Kinematische Alter junger Neutronensterne liefern eine gute Abschätzung ihrer wahren Alter. Das Alter eines Neutronensterns wird benötigt um den Kühlprozess zu untersuchen und theoretische Modelle zu verbessern. Dies ermöglicht auch eine Einschränkung der Zustandsgleichung von Materie bei Dichten, die größer sind als die Atomkerndichte. Zudem können die ermittelten Geburtsstätten von Neutronensternen, das heißt Orte von Supernovae, in Modelle des interstellaren Mediums eingehen, da dieses durch Supernovaexplosionen durchmischt wird. Ferner ist es möglich, theoretische Modelle zur Nukleosynthese zu prüfen und die theoretischen Häufigkeiten von in Supernovae ausgestoßenen Isotopen zu verbessern. Hierfür werden die Entfernung und Zeit einer Supernova benötigt. Sehr nahe Supernovae beeinflussen sogar das Klima auf der Erde. Daher kann die Kenntnis von Ort und Zeit solcher Ereignisse helfen, Klimaveränderungen zu verstehen. Ein anderer Aspekt ist die unbekannte Radialgeschwindigkeit von Neutronensternen, welche durch die Idenfikation der Geburtsorte ermittelt werden kann.

In dieser Arbeit wird eine große Auswahl junger Neutronensterne bezüglich ihrer Geburtsorte untersucht, um ihre kinematischen Alter (bis zu fünf Millionen Jahren) zu bestimmen. Die Bahnkurven der Neutronensterne und möglicher Geburtsassoziationen (wie auch Schnellläufersterne) werden in Monte-Carlo-Simulationen berechnet, um die Fehler der beobachteten Parameter der Objekte sowie die unbekannte Radialgeschwindigkeit der Neutronensterne zu berücksichtigen. Die Ergebnisse dieser Monte-Carlo-Simulationen werden statistisch ausgewertet. 20 Neutronensterne, welche sich innerhalb 500 Parsec von der Sonne befinden, werden sehr genau untersucht. Für 19 dieser Sterne werden mögliche Geburtsassoziationen vorgeschlagen. Kandiaten für frühere Begleitsterne der Vorläufersterne (heutige Schnellläufersterne) von 11 Neutronensternen werden identifiziert. 12 der 20 Neutronensterne entstanden möglicherweise innerhalb 500 Parsec von der Sonne. Für weitere 85 Neutronensterne mit heutigen Entfernungen zur Sonne, die größer als 500 Parsec sind, werden vorläufige Ergebnisse präsentiert.

Zur Vorbereitung der Untersuchungen junger Neutronensterne, wird eine Liste von 289 jungen Sternassoziationen und -haufen, welche mögliche Geburtstätten von Neutronensternen sind, zusammengestellt. Außerdem wird ein Katalog junger Schnellläufersterne erstellt. Dieser beinhaltet 2038 junge Hipparcos-Sterne.

In einer Populationssynthese werden Neutronensterne und Schnellläufersterne erzeugt um Raumdichten junger Neutronensterne und Schnellläufersterne in der Sonnenumgebung (einige Kiloparsec) zu erhalten. Mittels dieser wird die Signifikanz eines möglichen Zusammenstoßes zwischen einem Neutronenstern und einem Schnellläuferstern beurteilt. Des Weiteren werden die Erfolgsaussichten dieses Projektes evaluiert, indem überprüft wird, ob die Geburtsassoziation eines beliebigen Neutronensterns gefunden werden kann. Die erwartete Erfolgsrate liegt bei etwa 70 %.

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Special thanks go to my parents, my brother and my parents-in-law for their love and relief, especially during the past exertive months. I thank my little baby boy Darius for his strength and everlasting smile. I love you and your daddy.

*http://simbad.u-strasbg.fr/

†http://www.atnf.csiro.au/research/pulsar/psrcat/

‡http://www.univie.ac.at/webda/

To Darius and Leonie.
Für Darius und Leonie.

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List of Units

In astronomy cgs units are used rather than mks units. Furthermore, astronomical quantities are commonly in use. Here, a list of units that is used throughout this thesis is given.

- 1 au (astronomical unit: mean distance between Sun and Earth)
  $1\,\mathrm{au} = 149.6 \cdot 10^{9}\,\mathrm{m}$
- 1 pc (parsec, parallax second: an object at 1 pc distance has a parallax of one arcsec with respect to 1 au; the parallax of stars is often expressed in milli-arcsec, mas)
  $1\,\mathrm{pc} = 30.857 \cdot 10^{15}\,\mathrm{m}$
- $1\,\mathrm{M}_{\odot}$ (Solar rest mass)
  $1\,\mathrm{M}_{\odot} = 2 \cdot 10^{30}\,\mathrm{kg}$
- tropical year (time needed for the mean longitude of the Sun to increase by 360° [356])
  $1\ \text{tropical year} = 365.242\,\mathrm{d}$
- 1 eV (electron volt: amount of kinetic energy that is gained by an electron moving in an electric field of 1 V)
  $1\,\mathrm{eV} = 1.6022 \cdot 10^{-19}\,\mathrm{J}$
- $1\,\mathrm{erg} = 1\,\mathrm{g\,cm^{2}\,s^{-2}} = 10^{-7}\,\mathrm{J}$
- 1 G (1 Gauss)
  $1\,\mathrm{G} = 1\,\mathrm{V\,s\,cm^{-2}} = 10^{-4}\,\mathrm{T}$

List of Abbreviations

General Abbreviations

3D	three-dimensional
EoS	equation of state
HR diagram	Hertzsprung-Russel diagram
IMF	initial mass function
ISM	Interstellar medium
LSR	Local Standard of Rest
M7	"Magnificent Seven"
NS	neutron star
PMS	pre-main sequence star
PSR	pulsating source of radio emission
SNR	supernova remnant
YLA	Young Local Associations
ZAMS	zero-age main sequence

Stellar constellations

Ara	Ara	Lac	Lacerta
Aur	Auriga	Lyr	Lyra
Boo	Boötes	Mon	Monoceros
Cam	Camelopardalis	Ori	Orion
Car	Carina	Per	Perseus
Cas	Cassiopeia	Pup	Puppis
Cen	Centaurus	Sco	Scorpius
Cha	Chamaeleontinus	Sct	Scutum
Cep	Cepheus	Ser	Serpens
CMa	Canis Majoris	Sgr	Sagittarius
Cru	Crux	Tau	Taurus
Cyg	Cygnus	Vel	Vela
Gem	Geminis	Vir	Virginis
Her	Hercules	Vul	Vulpecula

Stellar clusters

Col/Cr	Collinder Catalogue object [96]
IC	Index Catalogue object [142]
NGC	Object in the New General Catalogue of Nebulae and Clusters of Stars [141]
M	Messier Catalogue object [365]
Tr	Trumpler Catalogue object [500]
vdB-Hagen	Object in the van-den-Bergh-Hagen Catalogue of clusters [514]

Sco OB2 Subgroups and Young Local Associations

US	Upper Scorpius
UCL	Upper Centaurus Lupus
LCC	Lower Centaurus Crux
AB Dor	AB Doradus moving group
β Pic-Cap	β Pictoris moving group
ϵ/η Cha	ϵ/η Chamaeleontinus associations
Ext. R CrA	extended Corona-Australis association
HD 141569	HD 141569 moving group
Tuc-Hor	Tucana-Horologium association
TWA	TW Hydrae association

1 Introduction

1.1 Motivation

The spin-down age of a neutron star (NS) (see section 1.4.2) can be compared with its kinematic age which is a better estimate of the true age. The true NS age is important to study NS cooling (section 1.4.1) that provides constraints on the equation of state (EoS) for NSs, i.e. matter above nuclear density. Moreover, knowing time and location of a supernova provides input for theoretical nucleosynthesis yields and supernova models.
There are many young associations and clusters of massive stars in the solar vicinity that are potential birth places of NSs, hence supernova hosts. The NSs born in those supernovae were ejected from their parent association or cluster shortly after formation due to a kick in an asymmetric supernova explosion [e.g. 67, 247, 248, 274, 529]. This scenario of NS kicks and ejection from its parent association or cluster is supported by the observation of large NS proper motions that indicate high space velocities [e.g. 9, 101, 210, 221, 308, 318].
If it is found that the past flight path of a NS intersects an association/cluster, it is well possible that the NS was born at that place at the inferred time in a supernova. From the flight time of the NS (its kinematic age), the association age and assuming contemporaneous star formation, it is also possible to estimate the mass of the supernova progenitor from its life time and evolutionary models. Alternatively, the progenitor mass can be estimated by comparing the ejected ^{26}Al mass that can be obtained from the measured γ ray flux (1.8 MeV) with theoretical nucleosynthesis yields. Comparing both mass estimates may help to improve theoretical core-collapse supernova models.
For a small number of NSs parent associations have been suggested [e.g. 51, 52, 230, 484, 485, 487]. Due to large uncertainties in the NS distances and the unknown radial velocities, the results are often not unique ([230], Tetzlaff et al. [484, 487]). Therefore, further indicators are needed to decide on a particular birth place. Such indicators may be the identification of a possible former companion that is now a so-called runaway star [43].[1]
Other indicators are sources of radioactive isotopes. Such isotopes are ^{26}Al and ^{60}Fe with half-lives of 0.72 Myr [432, 490] and 2.62 Myr [436], respectively, i.e. much longer visible than a supernova remnant (SNR, typically $\approx 10^4$ yr). A nearby ($\lesssim 500$ pc) cooling NS is

[1]Runaway stars that were ejected in a supernova in a binary system, should show signs of the former binary evolution such as a high helium abundance and a high rotational velocity (due to mass and momentum transfer from the primary as it filled its Roche lobe) as well as enhanced abundances of α elements (Ne, Mg, Si, S, Ar, Ca, Ti) as supernova debris.

visible for $\approx 1\,\mathrm{Myr}$ [see e.g. cooling curves in 198, 417], i.e. a similar time span. The comparison between maps of γ ray emission (^{26}Al at 1.8 MeV), probable origins of runaway stars and NSs as well as the supernova rate shows that there are regions on the sky where more supernovae/NSs are present than average (Fig. 1.1). Moreover, such regions contain young OB associations, e.g. Cygnus, Vela or Orion. Hence, it is plausible to search for NS and runaway origins within young associations and clusters. Providing small regions on the sky with enhanced supernova/NS number is also an important input for gravitational wave searches [228].
In this work, it is searched for close encounters between NSs and possible parent associations/clusters and/or NSs and runaway stars by tracing back their paths. To account for the errors on the observables as well as the for NSs unknown radial velocity, Monte Carlo simulations are utilised.

1.2 Nucleosynthesis from Massive Stars and Core-collapse Supernovae

Massive stars ($M \gtrsim 8\,\mathrm{M}_\odot$, i.e. supernova progenitors) play an important role for the evolution of the universe. Heavy elements that are crucial for life, are only produced in massive stars and their supernovae. Stellar winds and supernova explosions stir the ISM and trigger star formation, hence the genesis of the next generation of stars. NSs that are (besides black holes) the end products of massive star evolution are important laboratories to study matter under extreme conditions, such as supernuclear densities, high pressures and magnetic fields up to 10^{15} G.
In this section, the evolution and explosion of massive stars and their nucleosynthesis are shortly introduced. The information given here are based on [135, 296, 547].

1.2.1 Pre-Supernova Evolution of Massive Stars

Stars are born in molecular clouds due to gravitational collapses. High mass protostars are already hot enough to ignite hydrogen fusion, i.e. their pre-main sequence phase does not exist or is extremely short.
During the hydrogen burning phase hydrogen is converted into helium via proton-proton reactions or the CNO (carbon-nitrogen-oxygen) cycle. In massive stars, the CNO cycle dominates. As the temperature reaches 10^8 K, helium burning sets in converting helium into carbon via triple-alpha reaction. Also low-mass stars undergo hydrogen and helium burning. However, only massive stars experience further burning phases up to silicon burning where iron group elements are produced. With proceeding burning, the central temperature of the star increases. Therefore, the nuclear reaction rate also increases which leads to an acceleration of the stellar evolution. In Table 1.1 the elements that are produced during the

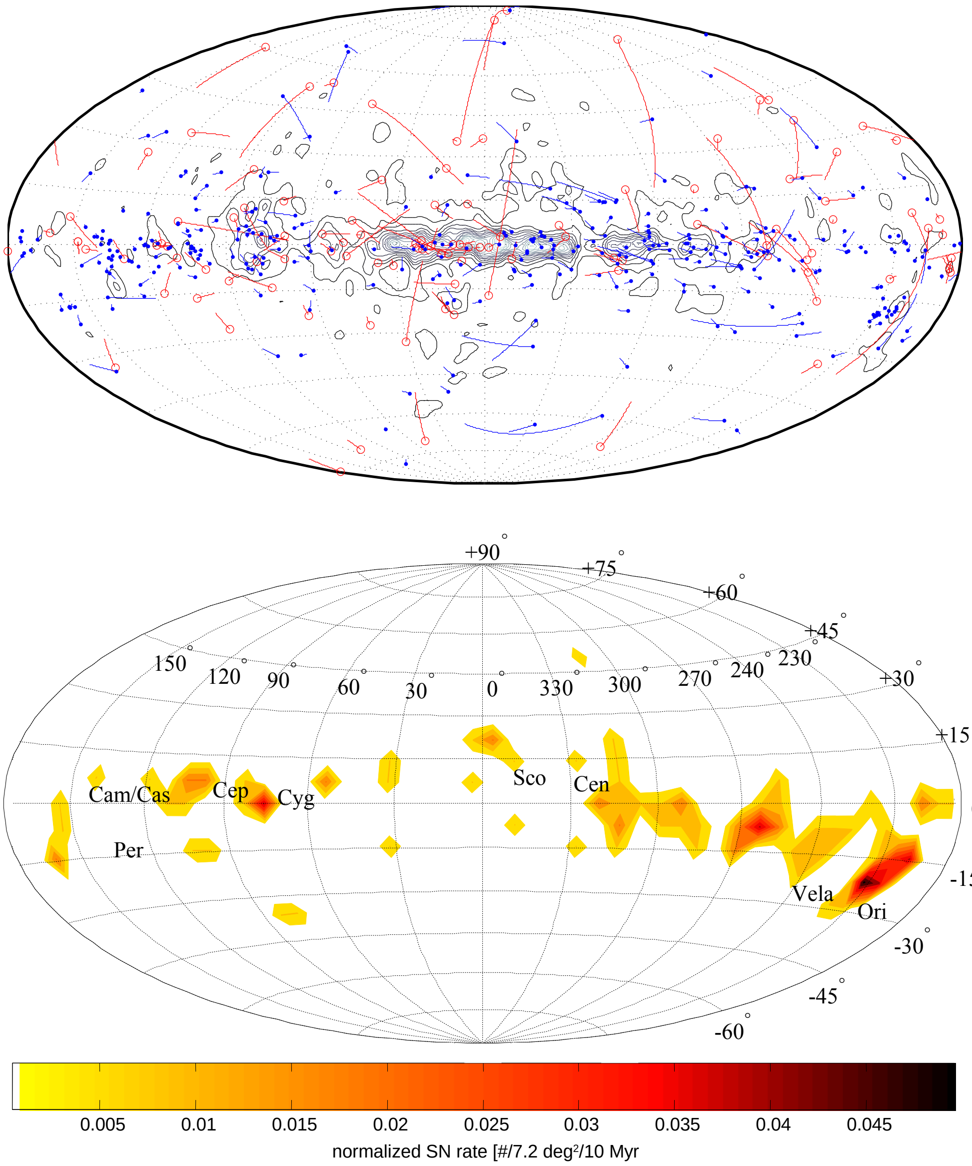


Figure 1.1: Top panel: Past flight paths (1 Myr into the past) of young NSs (red, adopting zero radial velocity, kinematic data from ATNF pulsar database) and massive runaway stars (blue, Tetzlaff et al. 2011 [486]). Symbols indicate their present position in Galactic coordinates. They are overplotted on the ^{26}Al 1.8 MeV COMPTEL map from [136]. Most NSs and runaway stars seem to originate from regions on the sky with enhanced γ ray 1.8 MeV emission (e.g. Cygnus, Vela, Orion). Bottom panel: supernova rate within 600 pc from the Sun (this image has been kindly provided by J. Schmidt, [443]; see also [228]), expected from current O and B type stars. The same regions are pronounced in both maps.

different burning stages are presented along with the duration of each stage for a 13 $M_\odot$ star [547]. As the centre of the star reaches the temperature to begin the next burning phase, the previous fusion reaction still occurs in a shell further outside. Finally, the star has an onion-like structure with different burning shells. At this time, the star is a supergiant. During the different burning stages, the stellar compound is enriched with neutrons. Since the neutron density is relatively low, the so-called s-(slow-)process occurs where neutrons are captured on a small rate, i.e. the newly formed isotope undergoes β^- decay before it captures another neutron. By the s-process, elements up to bismuth (atomic mass number 209) are created.

1.2.2 Core-collapse Supernova

Table 1.1: Burning phases for a 13 $M_\odot$ star [from 547].

Phase	Products	Duration
H	He	13.5 Myr
He	C, O	2.67 Myr
C	O, Ne, Mg	2.82 kyr
Ne	O, Mg, Si	0.341 yr
O	Si, S	4.77 yr
Si	Fe group	17.8 d

As silicon burning ceases, a degenerate iron core is left in the centre of the star. If it has a mass in excess of the Chandrasekhar mass, it collapses because, at this limit, the electron degeneracy pressure cannot support against gravitational contraction. Shortly after collapse, the neutron flux is extremely high due to photodisintegration at high temperatures, such that the so-called r-(rapid-)process can occur, i.e. neutron capture can occur much faster than does β decay. This creates very neutron-rich isotopes. Proton-rich isotopes cannot be produced by s- or r-processes. They are formed in the so-called p-(proton-)processes. These processes increase the relative number of protons within a nuclei by either photodisintegration, proton absorption or positron absorption.

1.2.3 Aluminium-26 and Iron-60

Particularly, two long-lived radioactive isotopes that are important for γ ray astronomy, ^{26}Al and ^{60}Fe are produced in massive stars and their supernovae. They are already produced during early burning phases. ^{26}Al is produced in the hydrogen burning stage in the NeNaMgAl cycle [311] and can be ejected by stellar winds. Also in the later phases ^{26}Al is produced by proton capture on ^{25}Mg, ^{25}Mg(p,γ)^{26}Al. ^{60}Fe is produced by neutron capture on ^{59}Fe. Since ^{59}Fe is unstable against β decay, the reaction only occurs at high neutron densities. Such high neutron densities are achieved in the He shell as oxygen burning is ongoing in the stellar core.

^{26}Al is also produced during the explosive phases of Ne/C burning in core-collapse supernovae. Then, the following reactions occur,

$$\begin{aligned} ^{24}\mathrm{Mg} + n &\rightarrow {}^{25}\mathrm{Mg} + \gamma, \\ ^{23}\mathrm{Na} + \alpha &\rightarrow {}^{26}\mathrm{Mg} + p, \\ ^{25}\mathrm{Mg} + p &\rightarrow {}^{26}\mathrm{Al} + \gamma. \end{aligned} \tag{1.1}$$

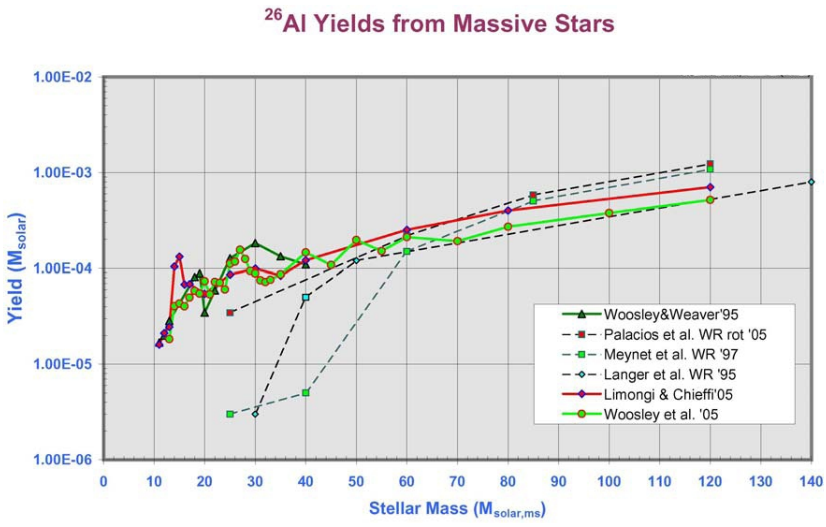


Figure 1.2: ^{26}Al yields ejected by stellar winds and in supernovae for different theoretical models [the figure was taken from 134].

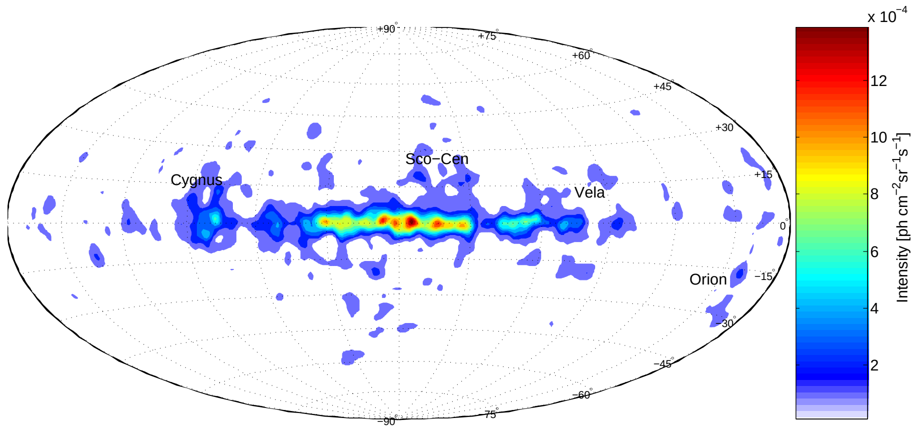


Figure 1.3: All-sky ^{26}Al γ map (1.809 MeV) observed with the COMPTEL telescope (1991-2000) [136, 416].

In Fig. 1.2 theoretical ^{26}Al yields ejected by stellar winds and in supernovae are shown. The decay of the radioactive isotope ^{26}Al with a half-life of 0.72 Myr [432, 490] occurs at 1.809 MeV,

$$\begin{aligned} {}^{26}\mathrm{Al} &\rightarrow {}^{25}\mathrm{Mg}^{*} + p, \\ {}^{25}\mathrm{Mg}^{*} &\rightarrow {}^{25}\mathrm{Mg} + \gamma \;\; (1.809\,\mathrm{MeV})\,. \end{aligned} \tag{1.2}$$

Fig. 1.3 shows the 1.809 MeV map observed with the γ ray telescope COMPTEL (Imaging Compton Telescope) [445]. While the emission from the inner Galaxy is strong, also other regions on the sky are prominent, such as Cygnus, Scorpius-Centaurus (Sco-Cen), Vela or Orion.

^{60}Fe is only produced during He-shell burning (see above). The material is ejected during the supernova explosion. In Fig. 1.4 theoretical ^{60}Fe yields are shown for different models. ^{60}Fe has a half-life of 2.62 Myr [436] and decays through the following chain,

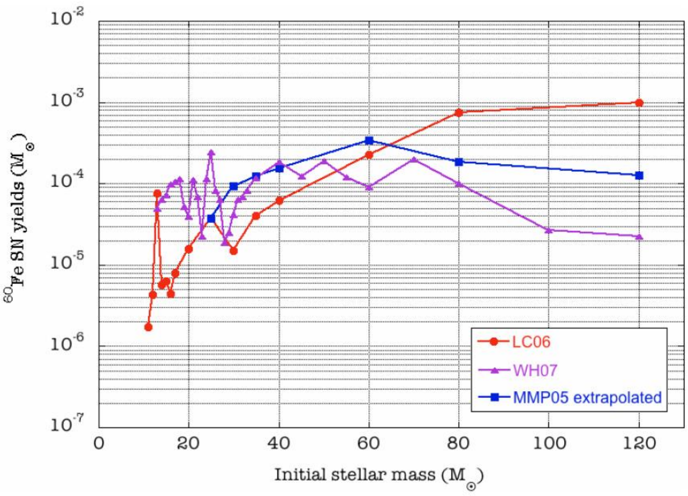


Figure 1.4: ^{60}Fe yields ejected in supernovae for different models [taken from 348].

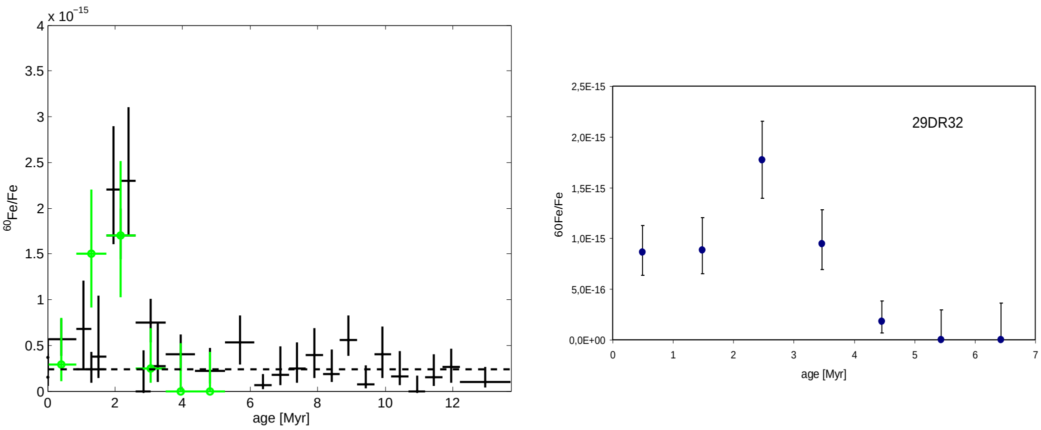


Figure 1.5: ^{60}Fe found in the Earth's crust. *Left panel*: Measurements from a deep-sea ferro-manganese crust from the Equatorial Pacific (9° 18′ N, 146° 03′ W, depth 4830 m). The black points are measurements from [275] and the green points from [163] (note that the data has been shifted according to the new determination of the ^{10}Be lifetime that is used to date the crust, footnote 2). The horizontal dashed line indicates the background level at $2.4 \cdot 10^{-16}$. *Right panel*: Measurements from a deep-sea ferro-manganese crust from the Midway Atoll (Equatorial Pacific, 4000 km away from the first crust's position, 28° 13′ N, 177° 22′ W, depth 2938 m; this figure has been kindly provided by G. Korschinek). The measurements give direct evidence for a nearby supernova 2.0 ± 0.5 Myr in the past. The apparent higher signal at $0 - 2$ Myr might be real but is not significant (G. Korschinek, priv. comm.).

$$\begin{aligned} {}^{60}\mathrm{Fe} &\rightarrow {}^{60}\mathrm{Co}^* \rightarrow {}^{60}\mathrm{Co} + \gamma \\ {}^{60}\mathrm{Co} &\rightarrow {}^{60}\mathrm{Ni}^* \rightarrow {}^{60}\mathrm{Ni}^* + \gamma \;(1.173\,\mathrm{MeV}) \rightarrow {}^{60}\mathrm{Ni} + \gamma \;(1.332\,\mathrm{MeV})\,. \end{aligned} \tag{1.3}$$

The γ rays produced at 1.173 MeV and 1.332 MeV are, however, still hardly detectable with current telescopes [135]. Direct evidence of Galactic ^{60}Fe ejected in a recent (2.0 ± 0.5 Myr ago[2]) nearby supernova event was found in the Earth's crust [163, 275] (Fig. 1.5) as well as in lunar samples [100, 162].

[2] Note, that the original peak found at $2 - 3$ Myr in the past has shifted due to a new measurement of the half-life of ^{10}Be (earlier: 1.51 Myr [224], now: 1.38 Myr [281]) that is used to date the crust.

1.3 Expansion of a Supernova Remnant

This section will give a short introduction into the theory of supernova remnant (SNR) expansion following [92] (for a more detailed description see also [158]). The expansion of a SNR can be described with three evolutionary phases that will be shortly explained in this section. For simplicity, it is assumed that the SNR expands into a homogeneous gaseous medium with density ρ_0.

1.3.1 Free Expansion

Since the density of the ejected material is much larger than the density of the surrounding medium shortly after the supernova, the ejected matter expands freely into the surrounding interstellar medium (ISM). This stage of free expansion lasts until the ejected mass equals the ISM mass that is swept up. Typically, depending on the local ISM density, this phase lasts a few hundred years. Then, the SNR has a typical size of a few pc.
Prominent examples of young Galactic SNRs that are probably still in their free expansion phase are the Kepler SNR (380 yr, $\approx$ 3 pc diameter), Cassiopeia A (320 yr, $\approx$ 5 pc diameter, known central compact source), the Crab Nebula (900 yr, $\approx$ 4 pc diameter, well known Crab pulsar in its centre) and the Tycho SNR (410 yr, $\approx$ 6 pc diameter) [192].

1.3.2 Sedov-Taylor Phase

The Sedov-Taylor solution describes the expansion of a blast wave [originally published by e.g. 447, 478]. When the mass that is swept up equals the mass of the ejecta, a reverse shock starts to move inwards. This results in heating the medium and the expansion is then caused by the pressure from inside the SNR. During the adiabatic expansion the temperature T of the gas evolves with time t as

$$T = \frac{3}{100}\frac{\mu m_u}{k}\left(\frac{2E}{\rho_0}\right)^{\frac{2}{5}} t^{-\frac{6}{5}}, \tag{1.4}$$

with $\mu = 0.61$ being the molecular weight for a fully ionized medium with helium abundance $n_{He}/n_H = 0.1$. $m_u = 1.67 \cdot 10^{-24}$ g is the atomic mass unit, $k = 1.38 \cdot 10^{-16}$ erg/K is the Boltzmann constant and $E = 10^{51}$ erg is the typical explosion energy of a core-collapse supernova[3]. The radius and expansion velocity change according to

$$R = \left(\frac{2E}{\rho_0}\right)^{\frac{1}{5}} t^{\frac{2}{5}} \tag{1.5}$$

[3] Approximately one third of the total initial explosion energy is converted into kinetic energy while two third are converted into thermal energy.

and

$$\dot{R} = \frac{2}{5}\left(\frac{2E}{\rho_0}\right)^{\frac{1}{5}} t^{-\frac{3}{5}}, \tag{1.6}$$

respectively. When the temperature becomes $T \approx 10^6$ K, most elements start to recombine and cooling evolves faster. In an ISM with $\rho_0 \approx 2 \cdot 10^{-24}$ g/cm^3, this happens after $\approx 3 \cdot 10^4$ yr. Then, the inside pressure decreases. The cooling time can be approximated as

$$t_{cool} \approx \frac{3kT}{2n\Lambda(T)}, \tag{1.7}$$

with n being the particle density in the shell and the cooling function

$$\Lambda(T) = 1.33 \cdot 10^{-19} T^{-1/2} \, [\mathrm{erg\,cm^3\,s^{-1}}] \tag{1.8}$$

published by [257]. When the dynamical time $t_{dyn} = R/\dot{R}$ is comparable to the cooling time t_{cool},

$$\frac{R}{\dot{R}} = \frac{5}{2}t = \frac{3kT}{2n\Lambda(T)}, \tag{1.9}$$

the SNR interior (often called "bubble") has cooled down such that the pressure from the inside is negligible. The cooling time can then be expressed as

$$t = \left(\frac{3}{20}\right)^{\frac{5}{14}} \left(\frac{k}{1.33 \cdot 10^{-19} n_0}\right)^{\frac{5}{14}} \left(\frac{3\mu m_u}{100k}\right)^{\frac{15}{28}} \left(\frac{2E}{\rho_0}\right)^{\frac{3}{14}}, \tag{1.10}$$

with $n = 4n_0$ (for a strong shock, see [158] for a detailed derivation). The radius and expansion velocity still evolve according to Sedov-Taylor expansion (equations 1.5, 1.6). In an ISM with $\rho_0 \approx 2 \cdot 10^{-24}$ g/cm^3, the cooling time is typically of the order of $\approx 10^4$ yr. The Sedov-Taylor phase thus lasts for a few 10^4 yr.

1.3.3 Snowplough Phase

At the end of the Sedov-Taylor phase, the pressure from the inside is negligible and the shell evolution is only based on momentum conservation,

$$p = \frac{4}{3}\pi r^3 \rho_0 \dot{r}. \tag{1.11}$$

Integration with respect to time yields

$$R = R_0 \left(1 + \frac{4v_0(t - t_0)}{R_0}\right)^{\frac{1}{4}}, \tag{1.12}$$

where R_0, v_0 and t_0 are the radius of the shell, its expansion velocity and time since the explosion at the end of the Sedov-Taylor phase, respectively. The Snowplough phase lasts until the SNR merges with the ISM.

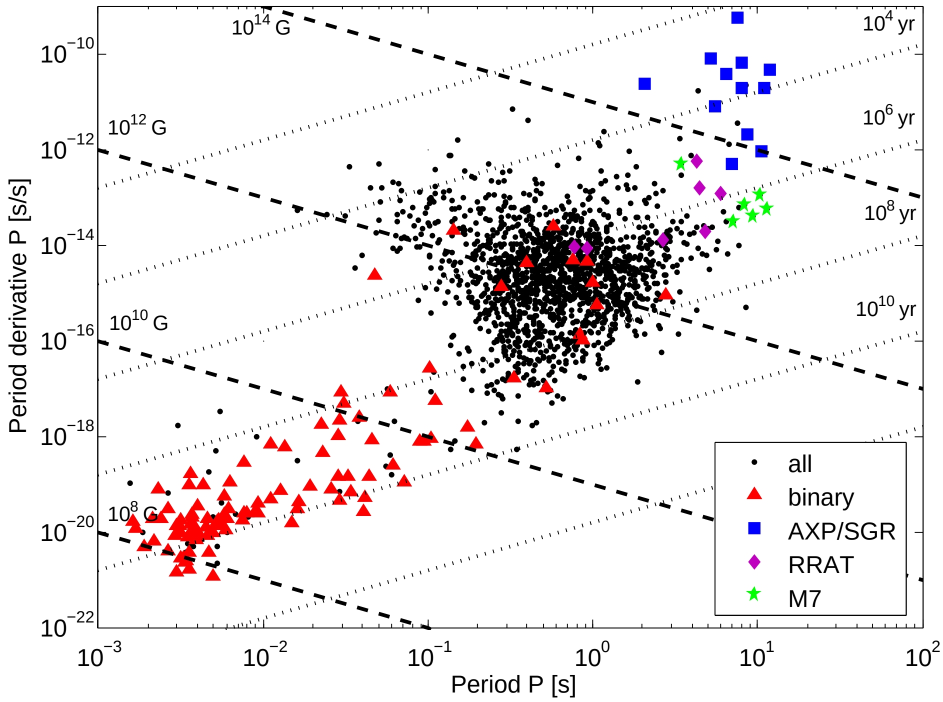


Figure 1.6: NSs in the P-$\dot{P}$ diagram with lines of constant characteristic age (dotted lines, equation 1.20) and constant magnetic field (dashed lines, equation 1.18). The data was taken from the ATNF pulsar database. The abbreviations of NS classes are: AXP – Anomalous X-ray Pulsars, SGR – Soft Gamma Repeaters, RRAT – Rotating Radio Transients, M7 – "Magnificent Seven" (see also text).

1.4 Neutron Stars

The fundamental discovery of the neutron as elementary particle was made by James Chadwick in 1932 [79]. Only two years later, Walter Baade and Fritz Zwicky predicted the existence of NSs when they searched for the origin of supernovae. Their idea was "that a super-nova represents the transition of an ordinary star into a neutron star, consisting mainly of neutrons. Such a star may possess a very small radius and an extremely high density" [14, 15]. Indeed, a NS is the remnant of a supernova that occurs as the degenerate core of a supergiant reaches the Chandrasekhar mass limit $M_{Ch} = 1.44\,\mathrm{M}_\odot$ and collapses. A NS has a mass of about $1.5\,\mathrm{M}_\odot$, a radius of $\approx 10\,\mathrm{km}$ and a central density of $n_c \approx 5 \ldots 10\,\mathrm{n}_0$ ($\mathrm{n}_0 = 0.16\,\mathrm{fm}^{-3}$ is the nuclear density) [292]. Furthermore, NSs show small rotational periods of the order of milliseconds to seconds and strong magnetic fields of $\approx 10^8 - 10^{15}\,\mathrm{G}$ due to conservation of angular momentum and magnetic field of the progenitor star.

In a simplified model, a NS can be treated as rotating dipole that continuously radiates energy and slows down. The evolution of a NS can be seen in a P-$\dot{P}$ diagram (see Fig. 1.6, P is the period and $\dot{P}$ its derivative). New-born NSs rotate fast and spin down quickly (upper left corner of the diagram). They evolve towards larger rotational periods and smaller period derivatives. Since the discovery of the first NS in 1967 by Jocelyn Bell and Antony Hewish [219], almost 2000 NSs were found until now. Most of them are radio pulsars that emit

periodic signals in radio wavelengths. They occupy the same region in the P-$\dot{P}$ diagram with typical spin periods between 0.1 and 1 s and magnetic fields strengths of $\approx 10^{12}$ G. In the lower left corner of the diagram the population of millisecond pulsars is visible. These are old pulsars in binary systems that could accrete matter from their companion, hence gained momentum and spun up. Therefore, they are also called "recycled pulsars".
Located in the upper right corner of the diagram are a few sources with rotational periods of a few to ten seconds and strong magnetic fields. These young objects are so-called Soft Gamma Repeaters (SGRs). Similar to them are the Anomalous X-ray Pulsars (AXPs) that occupy roughly the same region in the diagram. It is believed that both groups represent different evolutionary stages of the same class of NSs [418]. Their X-ray emission is mainly powered by the decay of their strong magnetic fields which is why they are also called "magnetars" [144]. Below the magnetars, i.e. with similar spin periods but slightly lower magnetic fields, are the so-called Rotating Radio Transients (RRATS) and the "Magnificent Seven" (M7). RRATS show short radio bursts whereas the M7 [204] are radio quiet. The M7 are isolated young (up to a few Myr) nearby ($\lesssim 0.5$ kpc) NSs [204] with rotation periods between 3 and 12 s [204]. Their X-ray spectra fit well a blackbody distribution, i.e. pure thermal emission. Accretion from the ISM can be excluded because of their high-velocity motion. Magnetic field strengths can be derived either from their period P and its derivative $\dot{P}$ (equation 1.18, most M7 members have P and $\dot{P}$ measured) or from a broad cyclotron absorption feature found in the spectra of some M7. Both methods yield $B \approx 10^{13}$ G [204]. The thermal emission of the M7 is believed to come directly from the NS's surface. Then, the temperature of the surface of the NS can be measured. In those cases, where the distance to the NS is known, i.e. its luminosity, it is in principle possible to determine the radius by means of the Stefan-Boltzmann law.
Beside the radius, the NS mass is a fundamental parameter of the EoS. Precise mass measurements can only be done in binary systems. In 1974, the first binary pulsar was reported by Russell Hulse and Joseph Hooton Taylor Jr [240]. This configuration remained rare and until today only nine binary pulsars were found [467]. Also other binary systems that contain a NS are suitable to measure their masses. Most NS masses were found close to the canonical value of $1.4\,M_\odot$ [467].[4]
In principle, knowing NS masses M and radii R, i.e. the compactness R/M, the EoS for matter at extreme densities as it occurs in NSs, can be constrained. However, a large variety of NS EoSs exist for different compositions. Constraints can be found by analysing the NS cooling process. The cooling rate depends upon the NS mass as well as the composition and state of the NS matter [292, 419, 553]. Such theoretical cooling curves show the dependency of the surface temperature of a NS (effective temperature T_{eff}) upon the NS age (Fig. 1.7, section 1.4.1).

[4] A white dwarf collapses to a NS if its baryonic mass reaches the Chandrasekhar limit of $1.4\,M_\odot$. Due to the loss of potential energy, the gravitative mass of the resulting NS should be $\approx 1.2\,M_\odot$. Hence, that for most binary pulsars a value of $1.4\,M_\odot$ is found, is a surprising result and points to an accretion event after collapse.

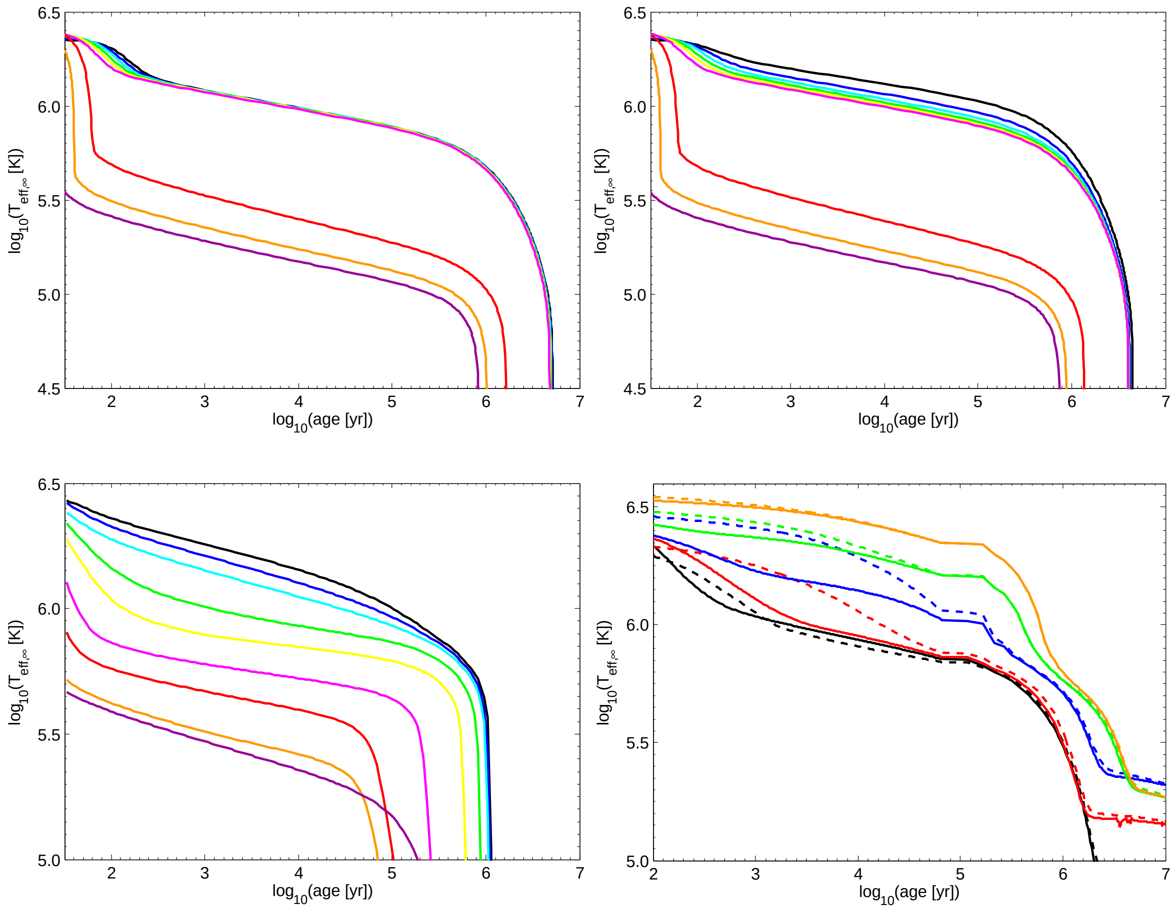


Figure 1.7: NS cooling curves. *Top left panel*: models with pure hadronic matter for NS masses from 1.1 – 1.9 $M_\odot$ (from top to bottom) and a magnetic field strength of $5 \cdot 10^{12}$ G; *top right panel*: as top left panel, but these models include superfluidity of neutrons and protons [the curves in the top panels have been kindly provided by A. D. Kaminker; see also 198]; *bottom left panel*: models with deconfined quark matter for NS masses from 1.05 – 1.75 $M_\odot$ (from top to bottom) [model from 419]; *bottom right panel*: models for a 1.32 $M_\odot$ NS and magnetic field strengths of 10^{13}, $3 \cdot 10^{13}$, 10^{14}, $3 \cdot 10^{14}$ and 10^{15} G (black, red, blue, green, orange). The solid lines represent models with pure toroidal field, whereas the dashed lines show models with toroidal and poloidal field [kindly provided by J. Pons; see also 417, 420].

1.4.1 Neutron Star Cooling

To investigate the cooling process of a NS, the thermal emission coming from its surface needs to be detected. However, only few NSs are suitable to do that. For very young NSs ($\lesssim$ 1000 yr), the spectrum is dominated by non-thermal emission from Compton scattering. For non-isolated NSs, re-heating by accretion might also occur. The spectrum of radio pulsars is dominated by Bremsstrahlung and synchrotron radiation. Therefore, suitable NSs for investigating their cooling processes are those, for which the thermal emission from the surface takes up a sufficiently high fraction of the total emission. Such objects are middle-aged (a few 10^4 yr to a few 10^6 yr) isolated NSs.

When a NS is born, it has a temperature of $T \approx 10^{11}$ K and is impermeable for neutrinos [553]. Already one minute after formation, the star becomes neutrino transparent. For the next ten to hundred years, cooling is dominated by neutrino (and anti-neutrino) emission due to β decay and inverse β decay (the so-called direct Urca processes):

$$\begin{aligned} n &\rightarrow p^+ + e^- + \bar{\nu}_e, \\ p^+ + e^- &\rightarrow n + \nu_e. \end{aligned} \tag{1.13}$$

Direct Urca processes take place only if the proton fraction is high because NS matter is degenerate [293]. This condition is satisfied in the inner core of a NS [553]. Other neutrino emission processes proceed until a maximum NS age of $\approx 10^5$ yr. Then, the NS is isothermal with a temperature of up to few 10^6 K and photon cooling dominates.

There are slow and fast neutrino emission processes. Fast cooling is dominated by direct Urca processes. The majority of NSs cools slowly by the so-called modified Urca processes,

$$\begin{aligned} n + N &\rightarrow p^+ + N + e^- + \bar{\nu}_e, \\ p^+ + N + e^- &\rightarrow n + N + \nu_e, \end{aligned} \tag{1.14}$$

and Bremsstrahlung,

$$N + N \rightarrow N + N + \nu_e + \bar{\nu}_e, \tag{1.15}$$

where N is a nucleon. These processes take place in massive as well as less massive NSs. The modified Urca process differs from the normal Urca in that additional nucleons participate to ensure energy and momentum conservation.

After $\approx 10^5$ yr, the final cooling state that is dominated by photon emission, sets in. It occurs until the NS reaches the temperature of its surroundings.

Cooling might be accelerated by other mechanisms such as neutron superfluidity and proton superconductivity (see also Fig. 1.7).

1.4.2 Ages and Magnetic Fields

To estimate the magnetic field strength and age of a NS, a simplified model can be used where the NS is a magnetic dipole, losing energy due to its rotation with period P [396]. The loss of rotational energy is given by

$$\dot{E} = I\omega\dot{\omega} = 4\pi^2 I\dot{P}/P^3, \tag{1.16}$$

where I is the moment of inertia and ω the angular velocity. Typically, I is of the order of $10^{45}\,\mathrm{g \cdot cm^2}$.[5] The energy loss of a rotating magnetic dipole with the magnetic field strength B is

$$\dot{E}_{dipole} = \frac{16\pi^4 \cdot B^2 R^6 \sin^2\theta}{6c^3 P^4}. \tag{1.17}$$

[5]With $M \approx 1.5\,\mathrm{M_\odot}$, $R \approx 10\,\mathrm{km}$ and $\rho = \mathrm{const.}$, $I = \frac{2}{5}MR^2 \approx 10^{45}\,\mathrm{g \cdot cm^2}$.

Here, θ is the angle between the rotational axis and magnetic axis, c is the speed of light. For $\theta = 90^\circ$ and $\dot{E}_{rot} = \dot{E}_{dipole}$, a typical NS mass of $1.5\,M_\odot$ and radius of 10 km,

$$B \;\approx\; 3.2 \cdot 10^{19} \left(P\dot{P}\right)^{1/2}\ \mathrm{G}. \tag{1.18}$$

The so-called characteristic age or spin-down age of a NS can be derived from the general expression

$$\dot{\omega} = -k\omega^n, \tag{1.19}$$

where k is a constant and n is the braking index. For pure dipole emission, $n = 3$. Integrating equation 1.19 and also assuming that the spin frequency at birth is much larger than the present one, the characteristic age is

$$\tau_{char} = \frac{P}{2\dot{P}}. \tag{1.20}$$

Due to the assumptions made, τ_{char} represents only a rough estimate of the true age [49, 174, 367]. Also, the characteristic age is significantly influenced by pulsar winds [550] and possibly by the emission of gravitational waves [537]. The kinematic age of a NS gives a better estimate of its true age [e.g. Tetzlaff et al. 484, 487].

1.4.3 Velocity Distribution of Neutron Stars

NSs have very large proper motions which, with known distances, indicate high space velocities [9, 101, 210, 221, 308, 318]. Some NSs even show velocities of the order of ≈ 1000 km/s (e.g. PSR B1508+55 [85]; PSR B2223+65 [211, 479]; RX J0822-4300 [237, 542]). Those high velocities are usually larger than those of the progenitor stars and may be the result of an asymmetric supernova explosion assigning the new-born NS a kick velocity for that a number of mechanisms have been suggested [67, 247, 248, 274, 529]. Another possibility is that the high-velocity NSs are the remnants of (symmetric[6]) supernova explosions of so-called hyper-velocity runaway stars [199, 200, 202] which were ejected due to dynamical three- or four-body encounters either from the Galactic centre [220] or from massive star clusters in the Galactic disk.

In the following, the velocity distribution for NSs is introduced shortly. For a detailed analysis of the velocities of runaway stars, see section 2.3.

In the literature, two profiles for the velocity distribution of NSs are proposed, a one-component Maxwellian distribution and a distribution with two Maxwellian components. A two-component model means that there are two populations of NSs – those for which the

[6]Although numerous three-dimensional (3D) simulations showed that supernovae are most likely asymmetric [50, 137, 209, 246, 441, 546].

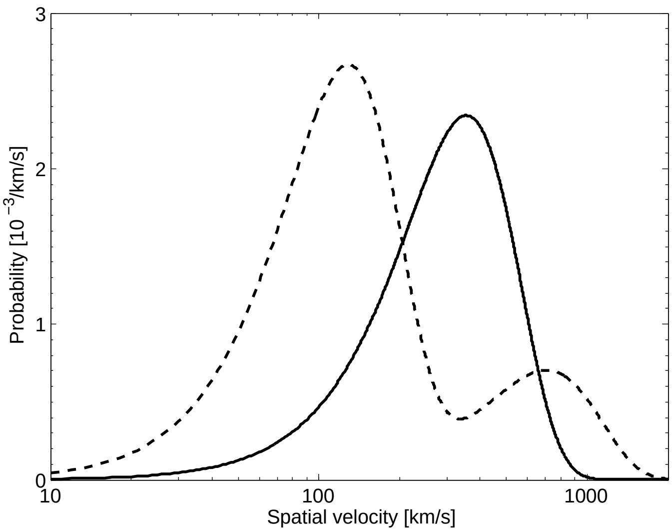


Figure 1.8: Distribution of spatial velocities for NSs. The solid line and dashed lines show the one-component model by [221] and the two-component model by [9], respectively.

high velocity is dominated by the kick velocity and those for which the fraction that stems from the orbital motion in the former binary system cannot be neglected. For example, the distribution derived by [9] consists of two additive Maxwellians

$$f(v) = 4\pi v^2 \left\{ \left[w_1 \frac{1}{\left(2\pi\sigma_{v_1}^2\right)^{3/2}} \exp\left(-\frac{v^2}{2\sigma_{v_1}^2}\right)\right] + \left[(1-w_1)\frac{1}{\left(2\pi\sigma_{v_2}^2\right)^{3/2}} \exp\left(-\frac{v^2}{2\sigma_{v_2}^2}\right)\right]\right\}. \quad (1.21)$$

with

$$\sigma_{v_1} = 90\,\mathrm{km/s},\ \sigma_{v_2} = 500\,\mathrm{km/s},\ w_1 = 0.4\,. \quad (1.22)$$

However, [221] investigated a huge sample of pulsars and found that a one-component model better fits the observed velocities. They found that the spatial velocities[7] of NSs are represented by the following Maxwellian distribution:

$$f(v) = av^2 \exp\left(-bv^2\right), \quad (1.23)$$

with constants a und b derived from normalisation,

$$\begin{aligned} a &= 4\sqrt{\tfrac{b^3}{\pi}},\ b = \tfrac{1}{v_{max}^2},\ \text{where} \\ v_{max} &= \tfrac{\bar{v}}{2}\sqrt{\pi},\ \bar{v} = 400\,\mathrm{km/s}. \end{aligned} \quad (1.24)$$

Both models are shown in Fig. 1.8. One-component models are currently preferred whereas a two-component model is statistically not significant [221].

[7]Spatial velocities are usually derived assuming that the velocities are isotropic.

2 Sample Selection

2.1 The Sample of Associations and Clusters

2.1.1 Preparation of the Sample

NSs are the remnants of massive stars (masses $\gtrsim 8\,M_\odot$ [e.g. 214]) that ended their lives in supernovae. As the lifetimes of massive stars are of the order of Myr and shorter than the dispersion time of a massive star cluster, it is reasonable to assume that NSs form in associations and clusters of massive stars. In fact, only $20 - 30\,\%$ of massive stars are located outside any cluster, i.e. $\gtrsim 70\,\%$ remain within their parent cluster [e.g. 329, 349]. Potential birth associations and clusters of young NSs (kinematic ages up to ≈ 5 Myr that are investigated in this work, see section 2.2) are young (Myr to tens of Myr, to account for different phases of star formation ≈ 100 Myr) and have either still member stars that are NS progenitors (i.e. possible already exploded members must have been even more massive) or show a present mass function that indicates the presence of massive stars in the past.

The following criteria have been applied to select potential parent associations and clusters:

- OB associations and clusters with kinematic data available in the literature[8]:
  - Contained in the lists of [48, 110, 230][9]
  - Associated with stars from the Galactic O-star catalogue [329]
  - Young clusters (up to 100 Myr) from [64]
  - Clusters associated with a spectral type earlier than B3 in the WEBDA database[10] [363]
- Young local associations (YLA) that were suggested to have hosted a few supernovae in the recent past [160]
- Massive star forming regions [431, 545] and young nearby loose associations [498]
- Hercules-Lyrae association [149, 173, 306]

[8] The distances of the associations and clusters collected in this study range up to ≈ 6 kpc from the Sun while most of them lie within ≈ 4 kpc. This is mainly due to observational limits.

[9] Note that distances given by [48] are overestimated by $\approx 20\,\%$ [110] and have been reduced accordingly if they were taken from this publication.

[10] http://www.univie.ac.at/webda/webda.html

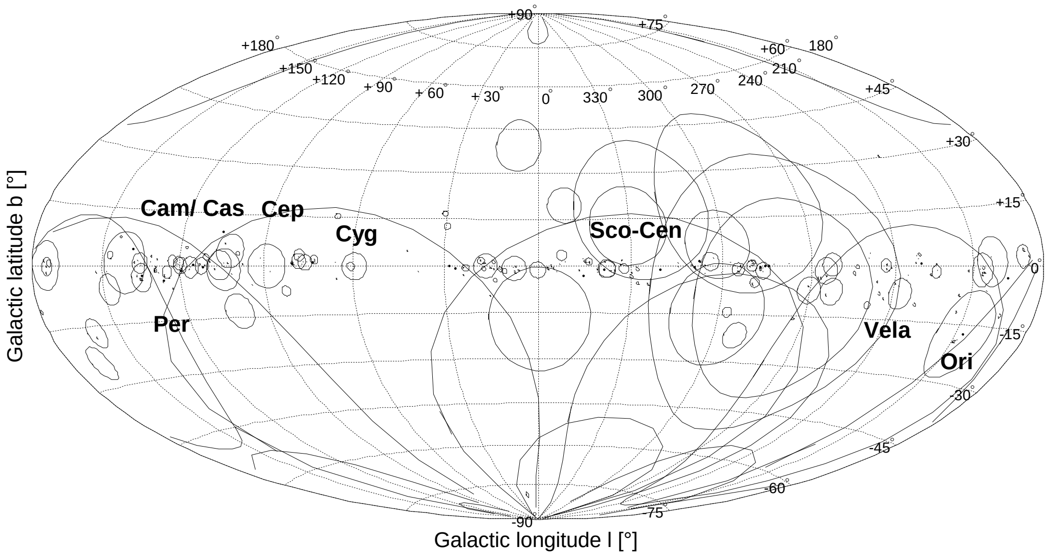


Figure 2.1: The sample of associations and clusters (Table A.1) in Galactic coordinates. To denote their extensions, spherical shapes were assumed.

- Pleiades B1 moving group [12] that was suggested to have hosted supernovae that re-heated the Local Bubble[11] [31].

This sample of potential birth sites contains 289 young associations and clusters. They are listed in Table A.1 along with their Galactic coordinates (l, b), distances d, heliocentric space velocities (U, V, W), diameters ∅ (assuming spherical shape) and ages. Their location on the sky is shown in Fig. 2.1.

There are another 174 young associations/clusters with unknown or incomplete kinematic information available, hence they were not considered when searching for NS parent associations but kept for the future. They are listed separately in Table A.2.

2.1.2 Present Mass Functions of Young Local Associations

The SACY survey ("Search for Associations Containing Young stars") [497] aimed to identify young nearby associations from kinematical properties of young stars. Nine associations were found [498]. [160] investigated the kinematic evolution of eight young associations in the Solar neighbourhood. Five of them were also identified during the SACY survey. They proposed that a few supernovae within these YLA were responsible for re-heating the Local Bubble. However, the present stellar content of all those 12 young nearby associations may nurse doubts on that scenario since no O type stars and only few B type stars are present. To evaluate the possibility that recent supernovae could have occurred inside these associations, i.e. that they are potential NS parent associations, the present mass functions are

[11] The Local Bubble is a region with a low ISM density. Its formation is explained by up to 20 supernovae which occurred during the past $\approx 20\,$Myr [31, 328]. The Sun is currently situated inside the Local Bubble.

compared with the initial mass function (IMF) as given by [284],

$$\xi(m) = k \begin{cases} \left(\frac{m}{m_H}\right)^{-\alpha_0} & , m_{min} \leq m < m_H, \\ \left(\frac{m}{m_H}\right)^{-\alpha_1} & , m_H \leq m < m_0, \\ \left(\frac{m_0}{m_H}\right)^{-\alpha_1} \left(\frac{m}{m_0}\right)^{-\alpha_2} & , m_0 \leq m < m_1, \\ \left(\frac{m_0}{m_H}\right)^{-\alpha_1} \left(\frac{m_1}{m_0}\right)^{-\alpha_2} \left(\frac{m}{m_1}\right)^{-\alpha_3} & , m \geq m_1, \end{cases} \tag{2.1}$$

with $m_{min} = 0.01\,\mathrm{M}_\odot$, $m_H = 0.08\,\mathrm{M}_\odot$, $m_0 = 0.50\,\mathrm{M}_\odot$, $m_1 = 1.00\,\mathrm{M}_\odot$ and exponents $\alpha_0 = 0.3 \pm 0.7$, $\alpha_1 = 1.3 \pm 0.5$, $\alpha_2 = 2.3 \pm 0.3$ and $\alpha_3 = 2.7 \pm 0.7$ (Fig. 2.2). Masses were estimated from the stellar positions in the Hertzsprung-Russel diagram (HR diagram) using pre-main sequence evolutionary models[12] [21, 32, 112, 113, 326, 345, 397, 453] for members listed in [102, 159, 160, 187, 194, 197, 295, 306, 313, 332, 335, 336, 375, 413, 430, 463, 464, 469, 482, 497, 498, 532, 560, 562, 567] (for a detailed description on how stellar masses were obtained, see section 2.3.1). The multiplicity of the known multiple stars was taken into account. For stars with unknown distance, the distance of the respective association was adopted to calculate the luminosity. Masses from [444] were adopted for stars without sufficient photometric data.

The HD 141569 group was proposed by [535]. It contains only three stellar systems. The B9.5V star HD 141569 is accompanied by two M type companions. Two early A type stars share the kinematic properties of this triple system. If it is a real group, new members are needed to derive a mass function. Since late B and early A type stars are present, it seems possible that a supernova progenitor that already exploded belonged to this group.

Table 2.1: Initial stellar mass for the YLA.

Name	M_{init} [$\mathrm{M}_\odot$]
TWA	25
Tuc-Hor	440
β Pic-Cap	80
ϵ Cha	65
η Cha	65
Ext. R CrA	155
AB Dor	65
Columba	65
Carina	30
Octans	30
Argus	75

The YLA were included in the sample of potential NS parent associations as there is a possibility that supernova progenitors were formed. For β Pic-Cap this is clearly the case since two early B type stars are still present in this association. Within 1.5σ, up to one supernova progenitor is expected to have formed for all YLA. In Table 2.1 the total initial stellar masses of the YLA are given as derived from comparing their present mass functions with the IMF taking into account that the high mass population (masses $\gtrsim 2\,\mathrm{M}_\odot$) consists only 25 % of the total stellar mass [425]. The initial masses M_{init} of the YLA are much lower than for normal (OB) associations (M_{init} of a few 1000 to 10,000 $\mathrm{M}_\odot$, see [44]).

[12]For a few B type stars in β Pic-Cap, post-main sequence models from [33, 34, 88, 345, 410, 440] were used.

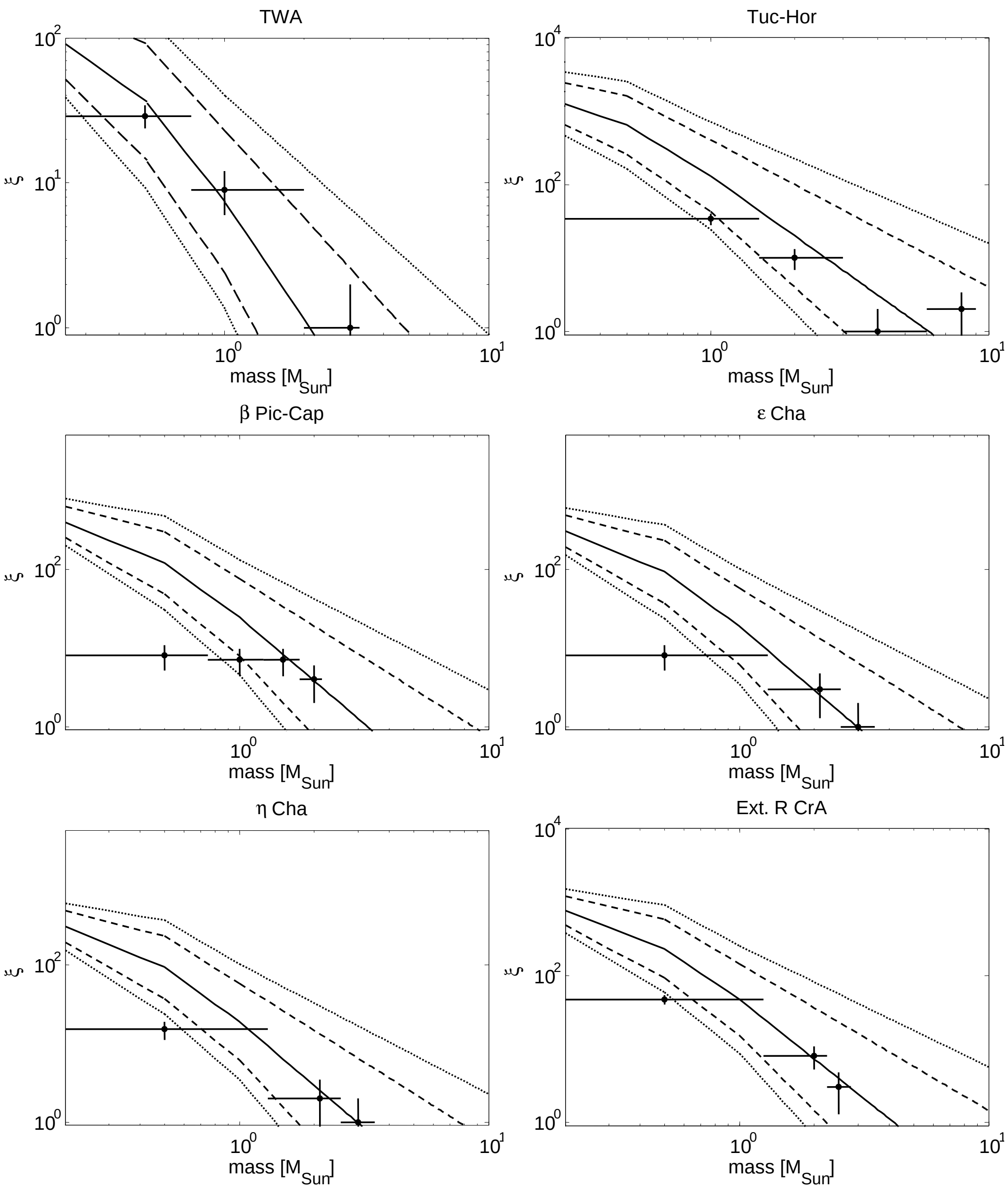


Figure 2.2: Present mass functions of YLA (black circles) in comparison with the IMF ξ (solid line) as given by [284], their equation 2 (equation 2.1 in this work). Dashed and dotted lines represent the 1σ and 1.5σ IMF boundaries, respectively. Within 1.5σ up to one star with $8-10\,M_\odot$ is expected for all associations. Except Tuc-Hor, the probability for higher mass stars is low. The error bars of the star counts per bin represent the Poissonian errors and mass bin sizes, respectively.

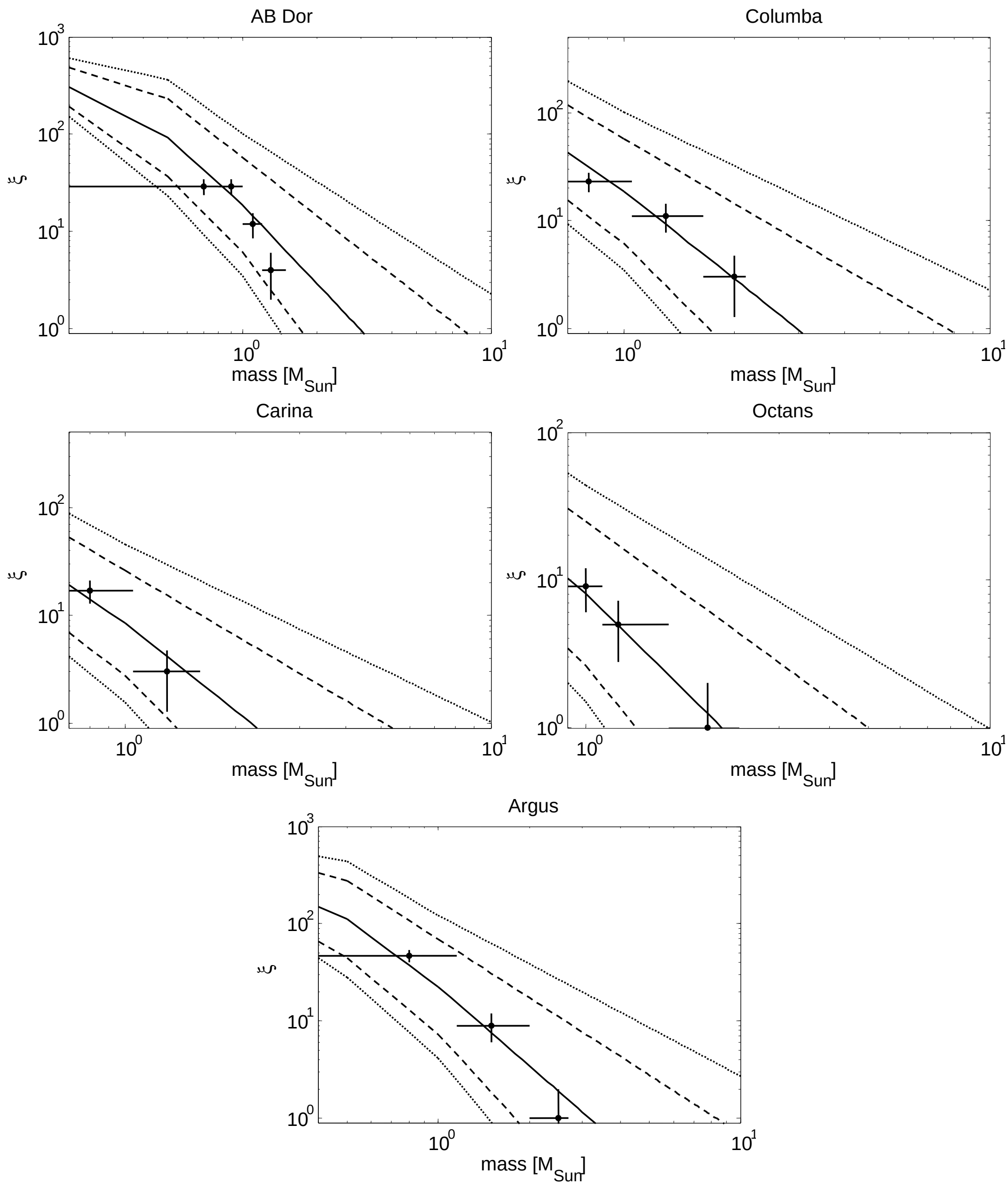


Figure 2.2: – Continued –

2.2 The Sample of Neutron Stars

Among the 2008 radio pulsars incorporated in the ATNF pulsar database (status September 30th 2012), there are 203 pulsars for which proper motion and distance measurements are available. For 195 of them, also the spin-down age is given. In this work, the origin of young NSs is investigated and their past flight paths are traced back for at most 5 Myr limited by the large uncertainties of the trajectories. For NSs the radial velocity is unknown, thus must be treated with a probability distribution [487], see section 1.4.3. For that reason the error cone of the spatial motion is large and the position of a NS can be determined reliably only for a few million years, optimistically $\approx$ 5 Myr. As the spin-down age only gives a rough estimate of the order of magnitude of the true age, NSs with spin-down ages up to 50 Myr are selected for investigation allowing for an uncertainty on the age of one order of magnitude.

The distance d_{NS} of a NS to the Sun was either taken as the parallactic distance if available or as the distance given in the ATNF pulsar database (from dispersion measures or the distance to an associated object, e.g. a SNR). If no parallax is available, the distance was adopted as the mean of all given distance values for the particular NS with the standard deviation being its error.[13] The distance of the selected NSs was restricted to 3 kpc (within its uncertainties, $d_{NS} - \Delta d_{NS} \leq 3$ kpc) due to the completeness limit of the sample of parent associations and clusters (section 2.1, footnote 8) that includes young associations and clusters up to $\approx$ 5 kpc.[14]

Applying all selection criteria, 103 pulsars were selected for investigation from the ATNF pulsar database.[15] Two further, RX J1605.3+3249 and RX J1308.8+2127 (= RBS 1223) that are members of the "Magnificent Seven", and therefore important thermal isolated NSs (section 1.4), were added. The complete sample of 105 NSs that was analysed in this work, is listed in Table B.1.

For most of the 105 NSs, distances are rather uncertain. This results in a large number of possible parent associations and clusters among which it is hard to find the true host of the supernova at the current status. The situation is even worse when searching for a possible former companion as the number of candidates will be high (tens to hundreds of candidates). For those reasons, a subsample of 20 NSs with best distances (see below, Table B.2) are analysed in great detail, i.e. all possible parent associations and clusters are discussed and the most probable candidate(s) is (are) concluded (chapter 4). Furthermore, it is searched for former companion candidates among the sample of runaway stars.

For the remaining NSs, i.e. those with insufficient accuracy, a list of possible parent as-

[13] If only one value differed significantly from the other values, it was neglected.

[14] Assuming a maximum NS distance of 3 kpc, a maximum kinematic age of 5 Myr and a typical space velocity of 100 − 500 km/s [9, 221], the parent association or cluster should be at a distance no farther than $\approx$ 5 kpc.

[15] Although the Crab Pulsar (PSR J0534+2200) also satisfies the selection criteria, it was not included here since it is only 900 yr old [192]. Hence, it has not moved far from its birth place which is the Crab Nebula. If it had a former companion, also this star did not travel far from the place of the supernova.

sociations and clusters is accomplished in appendix F. For them, further observations will improve the degeneracy and enable the search for possible former companions.

The subsample of 20 NSs with best parameters incorporates 12 NSs with parallaxes and proper motions that have an accuracy better than 10 %. Among them is RX J1856.5−3754, a member of the "Magnificent Seven". Another seven NSs with maximum distances of 500 pc from the Sun, i.e. $d_{NS} - \Delta d_{NS} \leq 500$ pc, are included into the subsample. Four of the latter have parallaxes or distances with an accuracy of ≈ 20 % or better, two further, RX J0720.4−3125 and RX J1605.3+3249, belong to the "Magnificent Seven" and one, Geminga, belongs to the "Three Musketeers" (see section 4.2). The sample also includes another member of the "Three Musketeers", PSR J0659+1414. The Guitar Pulsar is added to the sample because its radial velocity is restricted due to its well seen bow shock. The names of the 20 NSs belonging to the subsample and hence investigated in great detail, are given in Table B.2. Although the "Magnificent Seven", Geminga and the Guitar Pulsar have been investigated in the precedent diploma thesis [483], all of them except RX J1308.8+2127 (see below) were analysed in detail in this work again due to new distance measurements and/or the additional search for former companion candidates.
[526] recently reported a parallactic distance of RX J1856.5−3754 of 123^{+15}_{-11} pc confirming earlier measurements by [527]. This distance is significantly smaller than 160 − 180 pc claimed by [260, 264, 515] and used in the diploma thesis [483] (see also Tetzlaff et al. 2010 [487]) to evaluate the birth place of RX J1856.5−3754. Hence, it is worthwhile to re-investigate the origin of RX J1856.5−3754. For RX J0720.4−3125, a new parallax measurement was done by [150], yielding a distance of 280^{+210}_{-85} pc. Compared to the old value of 360^{+170}_{-90} pc [264], this new distance is in much better agreement with estimations derived from the spectrum and hydrogen column density n_H yielding 250 ± 25 pc [421] although it is consistent within the error bars with the older value. [421] used different models for n_H and derived distances for RX J1605.3+3249 of 390 pc and 325 pc. [377] give an upper limit of 410 pc. According to [421], the different models give consistent, hence very reliable results up to ≈ 300 pc (their values are also in good agreement with the parallactic distances for RX J1856.5−3754 and RX J0720.4−3125). Hence, in this work a distance for RX J1605.3+3249 of 350 ± 50 pc was adopted (differing from the value of 200^{+300}_{-75} pc adopted in the diploma thesis taking into account the upper limit by [377]).
The first search for possible parent associations for RX J1308.8+2127 (the fourth member of the "Magnificent Seven" with proper motion and distance measurement/estimate) was already published in Tetzlaff et al. 2010 [487]. An improvement of the previous results is not expected at this stage. Its uncertain distance (≈ 100 − 700 pc [261, 263, 446], hence ≈ 400 ± 300 pc) does not allow a proper search for former companion candidates. Preliminary results can be found in appendix F. The data (especially the distance) of the third member of the "Three Musketeers", PSR J1057−5226, are also too uncertain to allow a proper analysis. Preliminary results for this star can also be found in appendix F.

2.3 A Catalogue of Young Runaway Hipparcos Stars Within Three Kiloparsec From the Sun

The first version of the catalogue of young runaway Hipparcos stars has been published in *Monthly Notices of the Royal Astronomical Society*, Volume 410 (Tetzlaff et al. 2011 [486]). Here, the sample of young stars among that is searched for runaway stars is updated using improved stellar ages.

Fifty years ago, [43] recognized that many O and B type stars show large peculiar space velocities exceeding $\approx 40\,\mathrm{km/s}$. For that reason, they were named "runaway" stars. Since then, many studies concerning O and B type runaway stars have been published and different selection methods were applied [e.g. 105, 185, 371, 472, 524].
There are two accepted theories on the formation of runaway stars:

1. The binary supernova scenario (BSS) [43] is related to the formation of the high velocity NSs[16]: The runaway and the NS are the products of a supernova within a binary system. The velocity of the former secondary (the runaway star) may be as large as its original orbital velocity [477].
   Runaway stars produced in this scenario should share typical properties such as a high rotational velocity $v \sin i$ and an enhanced helium abundance owing to momentum and mass transfer during binary evolution [47] as well as enhanced abundances of α elements (e.g. Ne, Mg, Si, S, Ar, Ca, Ti) as supernova debris. They might have been rejuvenated and might be blue stragglers compared to their parent association. The kinematic age of a BSS runaway star is smaller than the age of its parent association.
2. In the dynamical ejection scenario (DES) [424] stars are ejected from young, dense clusters via gravitational interactions between the cluster members.
   The (kinematic) age of a DES runaway star should be comparable to the age of its parent association since gravitational interactions are most efficient soon after formation.

Which scenario is dominating is still under debate; however, both are certainly taking place (one example for each identified by [230]: BSS – PSR B1929+10 and the runaway star ζ Oph; DES – the three stars AE Aur, μ Col and ι Ori, two of them are known runaway stars).

The selection criteria for runaway stars of previous studies were either based on spatial velocities [e.g. 43], tangential velocities [e.g. 371] or radial velocities [e.g. 105] alone. The velocity distribution of early type stars can be explained with the existence of two different velocity groups of stars: a low velocity group containing normal Population I stars and

[16] Note that high-velocity NSs may also be the result of a supernova of a massive runaway star [199, 200, 202].

a high velocity group containing runaway stars [471]. Since the spatial velocities of both groups obey a Maxwellian distribution, also runaway stars, e.g. members of the high velocity group, with relatively low velocities exist.

In this work, previous methods are combined. Exceptionally high velocities in all dimensions are investigated in order not to miss an important star because its radial velocity may be unknown (hence no spatial velocity) or its tangential or radial velocity component may be significantly larger than the other component (hence it would be missed in one direction). Moreover, also lower velocity runaway stars are identified by searching for stars with deviant orientation of their velocity vector compared to stars in their neighbourhood. Furthermore, the term "runaway" star will be used not only for O and B type runaway stars but extended to all young (up to ≈ 50 Myr) runaway stars of all spectral types to account for the possibility of less massive companions of massive stars and low-mass stars in young dense clusters which also may be ejected due to gravitational interactions.

2.3.1 Selection of Young Hipparcos Stars

As a starting point, a list of all 118218 stars from the Hipparcos catalogue [408] was compiled. Spectral types, V magnitudes and $B-V$ colours were obtained from the Hipparcos catalogue. According to the errata file provided with the Hipparcos catalogue [151][17], erroneous spectral types were corrected. Parallaxes (π) and proper motions ($\mu_\alpha^* = \mu_\alpha \cos\delta$, μ_δ) were taken from the new Hipparcos reduction [518]. The star sample was restricted to distances from the Sun not farther than 3 kpc ($\pi - \sigma_\pi \geq 1/3$ mas with σ_π being the 1σ error on π) to include only stars with plausible parallaxes (median parallax error $\approx 15\,\%$). Furthermore, stars in the regions of the Large and Small Magellanic Clouds were removed since they could accidently have $\pi - \sigma_\pi \geq 1/3$ mas [cf. 228]. This yields an initial set of 103217 stars.

In the cases where the Hipparcos catalogue does not provide sufficient spectral types, spectral types were taken either from the Simbad database or catalogues available via the VizieR database [1, 53, 69, 180, 196, 271, 272, 456, 549]. Missing $B-V$ colours were amended from different sources [Simbad, 53, 148, 270, 272, 549, 557].

With parallaxes, spectral types as well as V magnitudes and $B-V$ colours, stellar luminosities (L) and their uncertainties (ΔL) were calculated and effective temperatures (T_{eff}) were derived from spectral types according to [444] and [267]. The extinction A_V was determined from the apparent $B-V$ colour and the spectral type. For some stars with unknown luminosity class, luminosity class V was assumed. For the effective temperature T_{eff}, differences between different luminosity classes are modest and the error of the luminosity L is mainly caused by the error on the parallax. The initial sample contains 1721 stars also included in the list of [228] who used additional colours to determine L. Thus, for those stars, the luminosities listed in [228] were used.

[17] http://cdsarc.u-strasbg.fr/viz-bin/getCatFile_Redirect/?-plus=-%2b&I/239/errata.htx

To complete the kinematic data, radial velocities were collected from Simbad or VizieR catalogues [23, 53, 153, 188, 196, 265, 270, 272, 333, 429, 568].

Since the focus of this work lies on young stars, stellar ages need to be obtained. For that reason, pre-main sequence stars were searched for among the sample stars. A total of 236 pre-main sequence stars could be identified either in catalogues [35, 86, 143, 218, 267, 278, 388, 389, 481, 489, 512, 513, 540] or showing strong lithium absorption (see [385] for the lithium criterion; for individual stars see also [106, 123, 157, 175, 176, 249, 280, 294, 366, 374, 386, 387, 459, 462, 473, 476, 481, 496, 532, 538, 566, 567]).[18]
Afterwards, evolutionary models (assuming Solar metallicity) were utilised to estimate stellar ages $\tau_\star$[19] and masses $m_\star$ ([33, 34, 88, 345, 410, 440][20]; and for pre-main sequence stars: [21, 32, 112, 113, 326, 345, 397, 453]) for 101628 stars of the sample with known spectral type and magnitudes, i.e. known L and T_{eff}, taking into account the error on the luminosity.[21]

A star was defined to be "young" if its age is ≤ 50 Myr. This limit is set for the following reason considering BSS runaways. It is desirable to identify the (now isolated) NS which was formed in the supernova that released the runaway star. In this work, NSs are traced back for at most 5 Myr (section 2.2). This is the maximum runaway time (the kinematic age) of the runaway star (as well as the NS) such that the NS could be identified. The latest spectral type on the main-sequence for stars to explode in a supernova and eventually become a NS is B3. These stars live about 35 Myr before they end their lives in supernovae. A lifetime uncertainty of 10 Myr is realistic, hence the maximum stellar age (not the kinematic age) of a BSS runaway for which the associated NS should still be identifiable is ≈ 50 Myr. Despite that, a larger age would mean a longer timespan to trace back the star to identify its origin (if it is a DES runaway). This would cause large error bars on the past position of the runaway star that would make it less reliable to find the origin.

[18] For late-type stars low-resolution spectroscopy was proposed for CAFOS/Calar Alto (Tetzlaff, Neuhäuser, Errmann et al.) and NTT EFOSC2/ESO (Tetzlaff, Neuhäuser, Errmann et al.; Tetzlaff, Dincel, Neuhäuser, Errmann) in order to detect Lithium. One half night was approved at Calar Alto for March 30th 2012. 84 stars were observed. In 29 spectra, Lithium absorption was found; in six of these stars, it is significant (R. Errmann, priv. comm.).

[19] The pre-main sequence duration for main sequence and post-main sequence stars was neglegted, i.e. their ages are zero on the zero-age main sequence (ZAMS). For the majority of young main sequence and post-main sequence stars the pre-main sequence phase is anyway negligible.

[20] See also http://albione.oa-teramo.inaf.it/ for [410] and http://www.astro.up.pt/corot/models/cesam for [345].

[21] From the positions of the stars in the HR diagram ages and masses for the range ($T_{eff}, L \pm \Delta L$) are determined for each model. The median masses and ages for any model are obtained. The finally assigned masses $m_\star$ and ages $\tau_\star$ are taken as the medians from all models. For each model, the errors on the masses and ages are given as the median absolute deviations (MADs) multiplied by $1.858/\sqrt{n-1}$ [381], where $n = 100$ is the number of variations within ($T_{eff}, L \pm \Delta L$). The total errors $\sigma_{m,\star}$ and $\sigma_{\tau,\star}$ are then taken as $1.858/\sqrt{\hat{n}-1} \cdot MAD$ (with $\hat{n}$ being the number of models) of the models plus the median of the model errors. If a star falls below the ZAMS of a model (due to its parallax error), it was shifted towards the ZAMS according to its ΔL. Stars for which at least two models yield ages exceeding 1 Gyr are considered old stars.

However, stellar ages often suffer from large uncertainties due to large errors in distances and strong uncertainties in evolutionary models. That is why the following criteria on the stellar age $\tau_\star$ for a star to be young were chosen:

$$\tau_\star + \sigma_{\tau,\star} \leq 100\,\text{Myr} \quad \text{and} \quad \tau_\star - \sigma_{\tau,\star} \leq 50\,\text{Myr}. \tag{2.2}$$

With this criterion an error of $\tau_\star$ that is of the order of $\tau_\star$ itself is allowed but also stars with accurately known ages above the limit of 50 Myr are excluded. Unfortunately, ages of supergiants are rather uncertain and many of them would be missed when applying the criterion although they can be supernova progenitors, i.e. massive, hence young stars. For that reason, all stars of luminosity classes I and II as well as stars of luminosity class III earlier than A0 were added because they could certainly be supernova progenitors, hence younger than 50 Myr. Moreover, the classical definition of runaway stars by [43] includes stars up to B5 of luminosity classes IV and V. These were added as well. Finally, the sample contains 6300 potentially young stars. Their Hipparcos numbers and common names as well as ages, masses and spectral types are listed in Table C.1. Since 2466 stars in the table entered the list owing to their spectral type and luminosity class, their spectral types and luminosity classes as given in the literature are listed only.

The so-called Local Standard of Rest (LSR) is defined as the Solar motion with respect to a specific star sample. It depends upon the age of the stars in the sample [e.g. 370]. The peculiar velocity of a star is its measured (heliocentric) velocity corrected for Solar motion and Galactic rotation. To be able to obtain the peculiar motion of the stars in the young star sample, the kinematic centre of the sample stars was derived by calculating the spatial velocity components of the 3824 stars with complete kinematic data (in a right-handed coordinate system with the x axis pointing towards the Galactic centre and y is positive in the direction of Galactic rotation) corrected for Galactic differential rotation using Keplerian orbits:

$$\begin{aligned} \hat{U} &= U - U_{rot}, \\ \hat{V} &= V - V_{rot} + V_{\odot,rot}, \\ \hat{W} &= W, \end{aligned} \tag{2.3}$$

where U, V and W are the heliocentric velocity components (in the x, y and z direction, respectively) and U_{rot} and V_{rot} the components of the rotational velocity of the star moving around the Galactic centre. $V_{\odot,rot} = 225\,\text{km/s}$ is the rotational velocity of the Sun around the Galactic centre. To avoid significant contamination of high velocity stars, stars with $\hat{v} > 50\,\text{km/s}$ (that is approximately two times the median of $\hat{v} = \sqrt{\hat{U}^2 + \hat{V}^2 + \hat{W}^2}$) were excluded. Then, a Gaussian was fitted to the histogram of each velocity component to obtain the kinematic centre that was found to be

$$(U_\odot, V_\odot, W_\odot) = (10.5 \pm 0.5, 11.8 \pm 0.4, 6.2 \pm 0.2)\ \mathrm{km/s}. \quad (2.4)$$

The agreement of the derived LSR with the classical value of (9,11,6) km/s [128] is remarkable. In comparison with the widely used value published by [127] (recently updated by [13], (9.96 ± 0.33,5.25 ± 0.54,7.07 ± 0.34) km/s), the V component differs significantly; however, [127] and [13] obtained their results by examining the correlation between the LSR and colour $B - V$, hence the stellar age. They corrected the V velocity for asymmetric drift [e.g. 41], i.e. extrapolated the V curve to zero velocity dispersion ignoring stars with $B - V \leq 0$ because they are probably not yet mixed. Such stars are overabundant in the sample of young stars investigated in this thesis. From Figure 3 in [127] one may easily see that the result of this thesis agrees also well with their findings. A detailed discussion and comparison between different methods may be found in [167]. The result of (7.5 ± 1.0,13.5 ± 0.3,6.8 ± 0.1) km/s given by [167] is in reasonable agreement with the values derived here.
In the following, equation 2.4 will be used to correct velocities for Solar motion.

2.3.2 Young Runaway Stars

2.3.2.1 Runaway Stars Identified from Their Peculiar Space Velocity

Runaway stars were first described by [43] as stars that are responsible for the longer tail in the stellar velocity distribution such that it is not sufficiently describable with one Maxwellian distribution. Consequently, [471] defined runaway stars as the members of the so-called high velocity group. These are stars with large peculiar velocities that can be represented by an additional Maxwellian. The other Maxwellian distribution incorporates stars with lower velocities, hence the low velocity group (normal Population I stars). It was pointed out by [471] that by applying a velocity cutoff to identify runaway stars, a certain fraction of members of the high velocity group would be missed as also high velocity group members with lower velocities exist. However, this issue can only be handled when determining stellar space frequencies [see 472] and a velocity cutoff is still inevitable for the identification of runaway star candidates. To obtain a reasonable cutoff, the distribution of peculiar space velocities v_{pec} of the sample stars (3824 with full 3D kinematics) was fitted with two Maxwellians (Fig. 2.3),

$$f(v) = 4\pi N v^2 \left[(1 - f_H) \frac{1}{(2\pi\sigma_L^2)^{\frac{3}{2}}} e^{-\frac{v^2}{2\sigma_L^2}} + f_H \frac{1}{(2\pi\sigma_H^2)^{\frac{3}{2}}} e^{-\frac{v^2}{2\sigma_H^2}} \right], \quad (2.5)$$

where v is the 3D spatial velocity, N is a normalisation factor, σ_L and σ_H are the average velocity dispersions of the low and high velocity groups, respectively, and f_H is the relative frequency of the high velocity group. The velocity errors were evaluated with a Monte Carlo

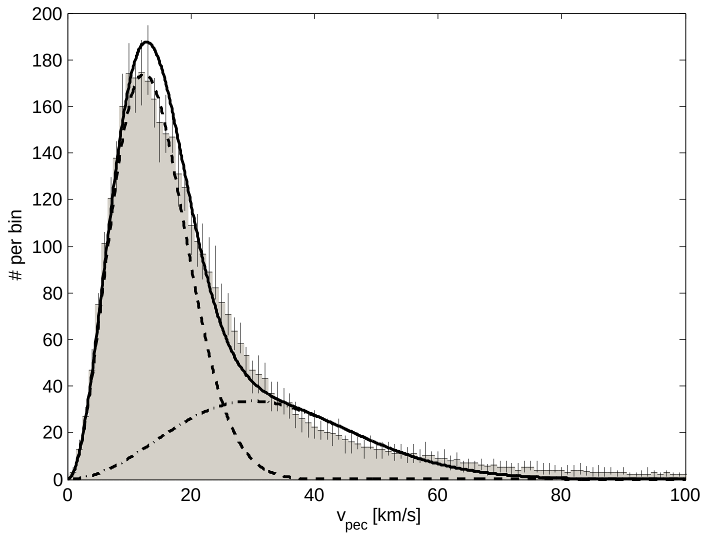


Figure 2.3: Distribution of the peculiar 3D space velocity v_{pec}. The dashed curve shows the distribution for the low velocity group whereas the dashed-dotted curve is for the high velocity group. The two curves intersect at $v_{pec} = 25$ km/s. The total distribution as the sum of the two is represented by the full line.

simulation varying π, μ_α^*, μ_δ and v_r within their confidence intervals. It was found that

$$\begin{aligned} \sigma_L &= 8.8 \pm 0.3\,\text{km/s}, \\ \sigma_H &= 21.2 \pm 1.3\,\text{km/s}, \\ f_H &= 31.7 \pm 4.3\,\%, \end{aligned} \tag{2.6}$$

The derived dispersions are in agreement with those found by [471] (with σ_H being slightly smaller) whereas f_H is smaller; however published values for f_H vary from $34 \pm 14\,\%$ ([43], corrected – see [472]) to $55 \pm 12\,\%$ [471]. Furthermore, the stellar sample of [471] contains a much smaller number of stars than the one used in this work.[22] In addition, to make sure that the low mass stars among the sample stars do not distort the results, it was checked whether the outcome differs from a subsample comprising only O and B type stars as well as Wolf-Rayet stars (2370 stars with full 3D kinematics). It was found that

$$\begin{aligned} \sigma_L &= 8.3 \pm 0.5\,\text{km/s}, \\ \sigma_H &= 18.1 \pm 2.0\,\text{km/s}, \\ f_H &= 27.2 \pm 7.2\,\%. \end{aligned} \tag{2.7}$$

Both results, including young high and low mass stars (equation 2.7) and including only high mass stars (equation 2.8), are consistent. A trend towards lower velocity dispersion may be seen for O and B stars, hence lower ejection velocities (maximum velocity of high velocity group $v_{max,H} = 26 \pm 3$ km/s) than for the sample including all, low and high mass, stars ($v_{max,H} = 30 \pm 2$ km/s). It might be expected that low mass stars are ejected with larger velocities from their parent association or cluster than high mass stars. However, it

[22] Compared to the published first version of the catalogue (Tetzlaff et al. 2011 [486]), the errors are larger and more realistic here due to an updated fitting method which includes not only the fitting error itself but also the binning uncertainty of the velocity histogram.

is not significant. The intersection points of the Maxwellians of both groups, the low and high velocity group, lie at $\approx 25\,\mathrm{km/s}$ in both cases. As this value will serve as definition limit of runaway stars, no differences between low and high mass stars will be made.
Following [471], a star is a probable member of the high velocity group if

$$v_{pec} > 25\,\mathrm{km/s} = v_{crit,v_{pec}}. \tag{2.8}$$

Thereafter, this defines the velocity cutoff for runaway stars. In theory, with this definition, 70 % of the high velocity group members can be identified while the contamination of low velocity group members is 10 %.
A Monte Carlo simulation with varying observables π, μ_α^*, μ_δ and v_r within their uncertainty intervals was performed to evaluate the probability of a star being a runaway star. 983 stars for which the probability is higher than 50 % were assigned to the high velocity group (the probabilities are given in Table C.2).

2.3.2.2 Runaway Stars Identified from U, V, W, Their Radial and Tangential Velocities or Proper Motions

In addition to the peculiar 3D space velocities v_{pec}, their 1D components U, V and W were investigated separately to identify potentially slower high velocity group members which may show an exceptionally high velocity in only one or two directions. For the same reason, the peculiar radial velocities $v_{r,pec}$ were considered as well.
40 % of the stars in the sample do not have radial velocity measurements available. Among these cases, the only way to identify runaway candidates is to use their (absolute) peculiar 2D tangential velocities $v_{t,pec}$ or its 1D components which are the peculiar proper motion in Galactic longitude $\mu_{l,pec}$ and Galactic latitude $\mu_{b,pec}$. To make the velocities comparable, proper motions were transfered into 1D velocities $v_{l,pec} = 4.74\frac{\mu_{l,pec}}{\pi}$ and $v_{b,pec} = 4.74\frac{\mu_{b,pec}}{\pi}$, where the factor 4.74 corresponds to 1 au per one tropical year.
All velocity distributions contain the two velocity groups of stars and can be fitted with bimodal functions. These are Gaussians for the 1D cases U, V, W, $v_{r,pec}$, $v_{l,pec}$ and $v_{b,pec}$,

$$f(v) = \frac{N}{\sqrt{2\pi}}\left[(1-f_H)\frac{1}{\sigma_L}e^{-\frac{(v-v_{cL})^2}{2\sigma_L^2}} + f_H\frac{1}{\sigma_H}e^{-\frac{(v-v_{cH})^2}{2\sigma_H^2}}\right], \tag{2.9}$$

where v_{cL} and v_{cH} are the centre velocities of the low and high velocity group, respectively, and 2D Maxwellians for the 2D case $v_{t,pec}$,

$$f(v) = Nv\left|(1-f_H)\frac{1}{\sigma_L^2}e^{-\frac{v^2}{2\sigma_L^2}} + f_H\frac{1}{\sigma_H^2}e^{-\frac{v^2}{2\sigma_H^2}}\right|. \tag{2.10}$$

Table 2.2 lists the fitting results adopting $f_H = 31.7 \pm 4.3\,\%$ from equation 2.7.
The velocity dispersions of the high velocity group are consistent with an isotropic velocity

Table 2.2: Fitting results and curve intersection points for different velocity components to select runaway stars.

	v_{cL} [km/s]	σ_L [km/s]	v_{cH} [km/s]	σ_H [km/s]	IP [km/s]
U	-0.4 ± 0.3	11.9 ± 0.2	1.0 ± 1.1	25.6 ± 0.3	± 24
V	-0.0 ± 0.6	10.2 ± 0.5	-2.9 ± 0.9	21.1 ± 1.2	± 21
W	0.4 ± 0.2	5.1 ± 0.1	-2.8 ± 0.7	15.6 ± 1.0	± 11
$v_{r,pec}$	0.1 ± 0.6	11.4 ± 0.5	-4.6 ± 1.1	27.1 ± 1.4	± 23
$v_{t,pec}$	–	7.0 ± 0.1	–	18.7 ± 0.8	18
$v_{l,pec}$	-2.6 ± 0.3	8.6 ± 0.2	-2.8 ± 0.7	23.9 ± 1.3	± 18
$v_{b,pec}$	0.7 ± 0.1	5.2 ± 0.1	-3.0 ± 0.4	18.2 ± 0.8	± 11

Columns 2 and 4: centre velocities v_{cL} and v_{cH} (for the 1D cases, i.e. Gaussian fit), Columns 3 and 5: velocity dispersions σ_L and σ_H of the low and high velocity groups, respectively. All errors are formal 1σ errors. Column 6: intersection points (IP) of the curves representing the low and high velocity groups [for the 1D cases two intersection points exist (negative and positive sides of the distribution), they are approximate since the distribution is not exactly symmetric]. Compared to the published first analysis of runaway stars, there is only minor change, see Tetzlaff et al. 2011 [486].

distribution arising from the runaway producing mechanisms as will be shown in the following. For normal Population I stars, i.e. members of the low velocity group, the velocity dispersion in the z direction, σ_W, is smaller than in the x and y directions (in the Galactic plane) due to the Galactic potential that attracts the stars onto the Galactic plane. Since all stars initially belong to the low velocity group there must be a difference between $\sigma_{U/V}$ and σ_W also for high velocity group members. Since the velocity distribution in each direction is Gaussian,

$$\sigma^2_{H,U} = \sigma^2_{L,U} + \sigma^2_{x,U}, \tag{2.11}$$

$$\sigma^2_{H,V} = \sigma^2_{L,V} + \sigma^2_{x,V}, \tag{2.12}$$

$$\sigma^2_{H,W} = \sigma^2_{L,W} + \sigma^2_{x,W}, \tag{2.13}$$

where $\sigma_{x,U/V/W}$ is the velocity dispersion due to runaway formation for each direction. For the low velocity group it was found that

$$\sigma_{L,W} \approx \sigma_{L,U} - (5\,\mathrm{km/s}) \quad \text{and} \quad \sigma_{L,V} \approx \sigma_{L,U}, \tag{2.14}$$

see Table 2.2. Supposed that the additional velocity is isotropic, i.e. $\sigma_{x,U} = \sigma_{x,V} = \sigma_{x,W}$ and subtracting equation 2.13 from equation 2.11, it follows that

$$\sigma^2_{H,W} = \sigma^2_{H,U/V} - 10\,\mathrm{km/s} \cdot \sigma_{L,W} - 25\,\mathrm{km^2/s^2}. \tag{2.15}$$

With $\sigma_{H,U/V} \approx 23$ km/s and $\sigma_{L,W} \approx 5$ km/s (see Table 2.2), $\sigma_{H,W} \approx 21$ km/s, theoretically, using equation 2.15. This value is somewhat higher than the one found in Table 2.2. However, since runaway formation occurred some time in the past (for BSS runaways in the sample this timespan might be comparable with the age of the star before the

Table 2.3: Runaway selection criteria $|v| > v_{crit}$ for different velocity components (as equation 2.8 for v_{pec}, section 2.3.2.1). The limits correspond to the intersection points of the curves representing the low and high velocity groups.

	v_{crit} [km/s]	$f_{id,th}$ [%]	$f_{c,th}$ [%]	N	N_{new}
$\|U\|$	22	35	10	581	4
$\|V\|$	21	41	17	431	31
$\|W\|$	11	51	9	538	179
$\|v_{r,pec}\|$	23	37	12	538	6
$v_{t,pec}$	18	64	10	1383	670[a]
$\|v_{l,pec}\|$	18	47	9	980	4[b]
$\|v_{b,pec}\|$	11	52	8	910	126[c]

Column 2: velocity threshold for defining runaway stars, see section 2.3.2.1 for v_{pec} as an example. Columns 3 and 4: theoretical expectations concerning possible identifications of high velocity group members (the fraction of high velocity group stars $f_{id,th}$ satisfying the selection criteria $|v| > v_{crit}$) and the contamination of low velocity group members (the fraction of low velocity group stars $f_{c,th}$ that also satisfy the selection criteria $|v| > v_{crit}$). Columns 5 and 6: number of runaway star candidates N and new identifications N_{new} (compared to section 2.3.2.1 and previous lines in this table). Note that for U, V, W and $v_{r,pec}$ only 3824 stars could be analysed whereas for $v_{t,pec}$, $v_{l,pec}$ and $v_{b,pec}$ the whole sample of 6300 stars was used.

[a] 669 of them without v_r measurements
[b] 1 of them without v_r measurement
[c] 70 of them without v_r measurements

supernova), the Galactic potential makes an impact on the higher velocities. For that reason, it is expected to measure a somewhat lower value $\sigma_{W,H}$ for the high velocity group than the calculated value of 21 km/s, thus the obtained value of $\sigma_{W,H} \approx 16$ km/s is in good agreement with the predictions and it can be concluded that runaway formation leads to an additional velocity that is isotropic. Moreover, the low velocity group dispersions are in good agreement with those of young disk stars [e.g. 128, 370].

Since the velocity distribution of the low velocity group is not isotropic, hence the same applies for the high velocity group, the criterion given by equation 2.8 cannot simply be translated into the 1D case ($|X| \not> 25/\sqrt{3}$ km/s, where $X = U, V, W, v_{r,pec}, v_{l,pec}$ or $v_{b,pec}$). In addition, such a 1D criterion would lead to a contamination of low velocity group stars among the identifications of ≈ 50 % e.g. in the U and V components.

For those reasons, as for the peculiar spatial velocity v_{pec}, the intersection points of the curves were chosen also for the 1D cases as well as $v_{t,pec}$ to define the runaway criteria. In Table 2.3, the selection criteria, theoretical expectations concerning the possible identifications as well as the number of runaway star candidates identified (stars with a runaway probability higher than 50 %) are specified. With 983 runaway star candidates found in section 2.3.2.1 and 1020 identifications in Table 2.3 (N_{new}), a total of 2003 runaway star candidates with a runaway probability higher than 50 % regarding at least one velocity component investigated were found. All 2003 stars are listed in Table C.2 along with the runaway probabilities for each velocity component.

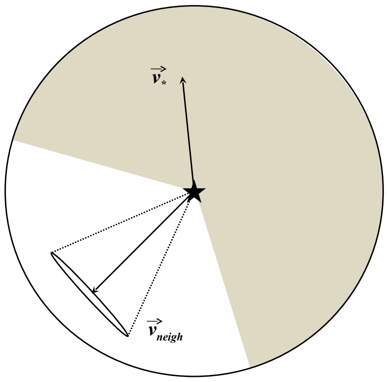


Figure 2.4: Definition for identifying runaway star candidates by comparing their motion with that of neighbouring stars. The neighbourhood is defined as a sphere around an individual star with a diameter of 20 pc or as the OB association/cluster (assumed to be spherical) inside which the star currently lies. The neighbourhood velocity $\vec{v}_{neigh}$ is given by the median velocity of the stars within the sphere or the mean motion of the association/cluster member stars as given in Table A.1, respectively. If the velocity vector $\vec{v}_\star$ points into the grey shaded region, the star clearly moves away from its neighbouring stars and is hence a runaway star. The grey shaded area lies outside the 3σ error cone of $\vec{v}_{neigh}$ (dotted lines mark 1σ). Note that the absolute value of $\vec{v}_\star$ and $\vec{v}_{neigh}$ (v_{pec} or $v_{t,pec}$) is not important here.

2.3.2.3 Stars with Higher Peculiar Velocities Compared to Their Neighbourhood or Surrounding OB Association or Cluster

Still, some high velocity group members may not have been identified yet. Since stars in clusters and associations share a common motion, runaway stars, i.e. stars that experienced some interaction, can be identified through deviations from this common motion, especially if the velocity vector points towards a different direction than the cluster mean motion even if the 3D velocity itself is low. For that reason additional stars are searched for which show a different motion compared to stars in their neighbourhood. With the previous investigations all Hipparcos runaway star candidates with high peculiar velocities were identified. The most important criterion now is the direction of a star's velocity vector compared to its neighbouring stars.

The neighbourhood of each individual star is defined as a sphere with a diameter of 20 pc that is approximately twice the median extension of the associations and clusters listed in Tables A.1 and A.2. All sample stars within this sphere are chosen as comparison stars. The vectors of the peculiar velocities $\vec{v}_{\star,pec} = (U, V, W)$ and the peculiar tangential velocities $\vec{v}_{\star,t,pec} = (v_{l,pec}, v_{b,pec})$ of the star were calculated varying the observables within their confidence intervals. The neighbourhood velocity $\vec{v}_{neigh}$ of the star's surrounding is given as the median velocity of the comparison stars. The runaway criterion is defined such that $\vec{v}_\star$ must not lie within the 3σ error cone of $\vec{v}_{neigh}$ (Fig. 2.4). Varying the observables within their confidence intervals, the runaway probability for each star was obtained.

Examining $\vec{v}_{pec}$ and $\vec{v}_{t,pec}$, no stars were found with a probability of at least 50 % for being a runaway star under the above definition, i.e. by comparing its direction of motion with the median velocity of neighbouring stars.

In addition, the velocity vectors of all young Hipparcos stars were compared with those of the surrounding OB association or cluster (as listed in Table A.1[23]; assuming the associ-

[23] The present mass functions of the nearby large associations and moving groups Tuc-Hor, β Pic-Cap, AB Dor, Cas-Tau, Columba, Carina, Octans, Argus and Pleiades B1 predict at most one to few supernovae (see also section 2.1.2). Due to their large sizes, for them a limiting radius of 10 pc was assumed to minimize high contamination with false positives (cf. [126], their table 2, they excluded Cas-Tau

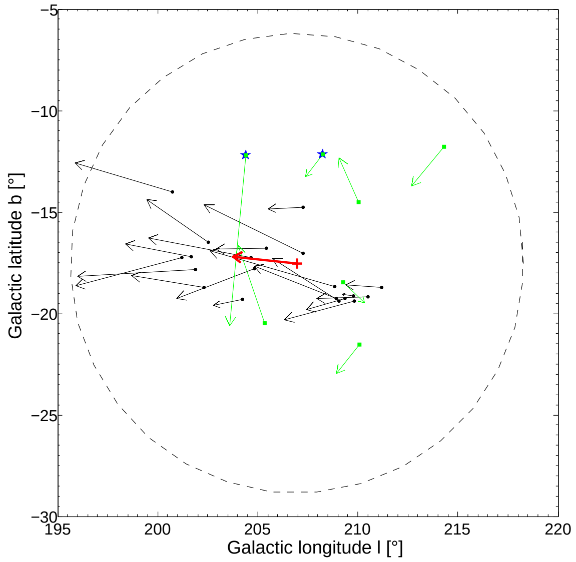


Figure 2.5: Motion of Ori OB1 member stars. The red cross marks the centre of the association, the dotted ellipse its boundaries (assuming spherical shape). The red thick arrow shows the mean peculiar tangential motion of the whole association [48, 61, 110] (see also Table A.1), green squares are runaway star candidates satisfying the criterion defined in Fig. 2.4 whereas blue stars mark runaway star candidates already defined by their large peculiar velocity (section 2.3.2). The length of the arrows is scaled with distance to indicate tangential velocities.

ations/clusters are spherical, see Fig. 2.5 for the Orion OB1 association as an example). From $\vec{v}_{pec}$, 22 additional runaway star candidates are identified. Another two runaway star candidates are identified from their $\vec{v}_{t,pec}$. All runaway star candidates (25 for $\vec{v}_{pec}$, 10 for $\vec{v}_{t,pec}$; four included in both) are listed in Table C.3.

2.3.2.4 Stars Outside OB Associations and Clusters and the Galactic Plane

As runaway stars were ejected from their birth site, i.e. their host OB associations and clusters or the Galactic plane, they are supposed to be isolated (outside any OB association/cluster and the Galactic plane) if their travel time is sufficiently long. Thus, it was also searched for young stars that are clearly outside any OB association/cluster listed in Table A.1 (outside three times the association radius which corresponds to approximately 3σ) and outside the Galactic plane ($z > 500\,\mathrm{pc}$[24]).
60 stars from the whole sample of potentially young stars are situated well outside any OB association/cluster and the Galactic plane; four of them were not identified as runaway star candidates in the previous sections. Those four are listed in Table C.4. If they did not form in isolation they are runaway stars.

2.3.2.5 Comparison with Other Authors

The sample of runaway star candidates that was compiled in the previous sections was compared with lists from other authors [most important sources: 28, 43, 97, 105, 125, 185, 230, 298, 347, 355, 372, 409, 471]. 22 proposed runaway candidates which satisfy the initial

from their analysis). Note that this restriction was not done when the runaway star catalogue was first published (Tetzlaff et al. 2011 [486]). The contamination of non-runaway stars in [486] from young nearby large groups is $\approx 7\,\%$.

[24] This number is derived from twice the low velocity dispersion in the z direction ($\approx 10\,\mathrm{km/s}$) and an age of 50 Myr (age limit for young stars as defined in section 2.3.1).

sample criteria (Hipparcos star, $\pi - \sigma_\pi \leq 1/3$ mas, equation 2.2), i.e. are contained in the young star sample, were not identified as runaway stars here. They are listed in Table 2.4 along with the respective publication source.

The classical runaway HIP 102195 was not identified here since its peculiar spatial velocity is rather small ($v_{pec} = 16.6^{+2.9}_{-7.1}$ km/s). Note that [43] also quote a small velocity ($\approx$ 23 km/s). As proposed by [43], HIP 102195 apparently originated from the Lacerta OB1 association. However, using 3D data, this was not confirmed but instead found that in 10 % of 10,000 Monte Carlo runs the star's position is located within the boundaries of the Cygnus OB7 association $\approx$ 11 Myr in the past. This is also in excellent agreement with the association age of 13 Myr [511] and comparable to the derived stellar age of 18 ± 3 Myr (Table C.1). Hence, this star will be included into the runaway star sample.

Table 2.4: Runaway star candidates from Hipparcos proposed in the literature that were not yet identified as runaway stars in the previous sections.

HIP	Ref.
102195	[28, 43]
35412	[105]
40328	[105]
81736	[105]
18246	[471]
100214	[471]
114104	[471]
117221	[471]
67279	[298]
20330	[230]
38455	[230]
42038	[230]
46950	[230]
48943	[230]
69491	[230]
86768	[230]
92609	[230]
103206	[230]
69640	[355]
73720	[355]
80338	[355]
90074	[355]
104361	[355]
37074	[125]
97757	[125]

The twelve stars identified by [105, 355, 471] are not re-identified here because these authors used photometric distances which are systematically too large, thus generating large peculiar velocities (this can be directly seen from comparison between columns 5 and 6 of table 1 in [355]), whereas here parallactic distances were used to determine peculiar velocities. They are not considered runaway stars further.

HIP 67279 was regarded as runaway star by [298] owing to its large distance from the Galactic plane of $z = 1$ kpc (according to the author's definition of a runaway star z must be larger than 20 km/s times the main-sequence lifetime of the star, cf. footnote 24). The photometric distance of 1.17 kpc that the authors adopted from [273] is however too large and the actual distance from the Galactic plane derived from the parallax (parallactic distance 472^{+182}_{-103} pc) is $z = 397^{+80}_{-130}$ pc. With this z and an age $\tau_\star = 0.9 \pm 0.6$ Myr (Table C.1), HIP 67279 would need a vertical velocity component of $W \approx 300$ km/s to have originated from the Galactic plane. This value is high, however possible though. Hence, this star is included into the runaway star sample. [125] identified the two stars listed in Table 2.4 (HIP 37074, HIP 97757) only from their distance to the Galactic plane again using photometric distances. With the parallactic distances they do not satisfy the criterion applied by [125] ($z > 250$ pc).

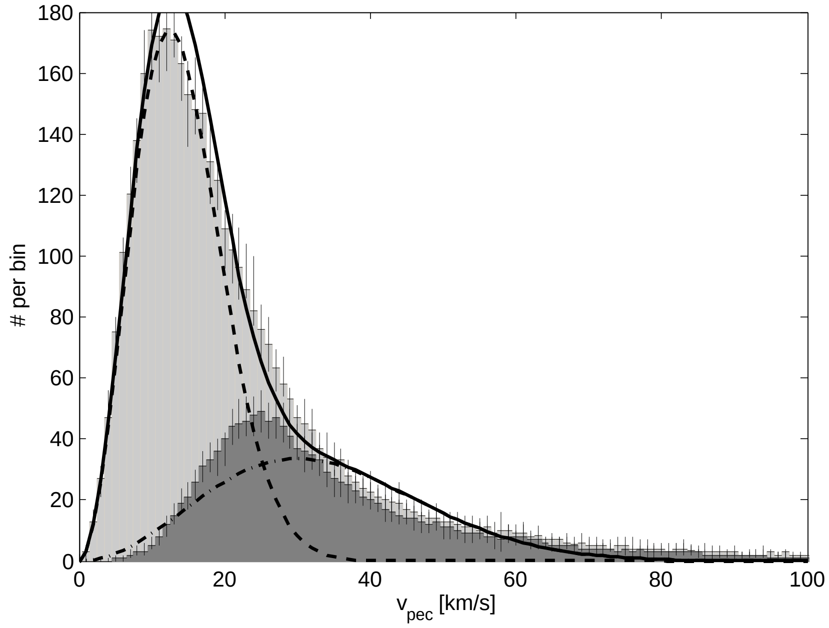
Four of the nine runaway candidates listed by [230] (HIP 20330, HIP 86768, HIP 92609, HIP 103206) were not recognised as runaway stars here due to different input data (especially π) as [230] used the old Hipparcos reduction [408] (smaller π in all four cases) whereas here, the latest published data by [518] was used. Since the old parallaxes are consistent within 1σ with the new ones for HIP 20330, HIP 86768 and HIP 92609, these stars are included into the catalogue. For HIP 42038, HIP 46950, HIP 48943 and HIP 69491, the radial velocities adopted by [230] differ from the values that were used here [from 251], resulting in different peculiar space velocities. HIP 42038, HIP 46950 and HIP 69491 are spectroscopic binaries [251]. Re-measuring their radial velocities by [251] revealed significantly different values than adopted by [230], questioning their runaway status. Since HIP 48943 is a suspected astrometric binary [330] (although no v_r signal was found by [251]), the radial velocity might be uncertain. Therefore, HIP 48943 was included into the sample of runaway star candidates. For another star, HIP 38455, [230] adopted $v_r = -31.0 \pm 5.0$ km/s. According to [206] HIP 38455 is a spectroscopic binary with a systemic radial velocity of $+29.5$ km/s. This significantly different radial velocity changes the peculiar spatial velocity dramatically ($v_r = -31$ km/s: $v_{pec} = 47$ km/s, $v_r = 29.5$ km/s: $v_{pec} = 14$ km/s), hence the star is not a runaway star. Moreover, [230] corrected the velocities for Solar motion using the LSR published by [127] which results in somewhat larger space velocities than the ones calculated here (which is also why some of their runaway stars were not identified here) but does not accurately reflect the motion of young stars relative to the Sun (see section 2.3.1). Another star, HIP 26241 (= ι Ori, highly eccentric spectroscopic binary), is included since it was very probably part of a former triple system [together with the classical runaways HIP 24575 (= AE Aur) and HIP 27204 (= μ Col)], thus ejected via DSS from the Trapezium cluster [e.g. 230] and a member of the high velocity group.

As indicated by the previous discussion, several problems may lead to mis- or non-identification of runaway stars. The major issue here is certainly the distance of a star that highly affects the calculated velocities. Hipparcos parallaxes were used in this work (while previous studies often used ground-based distances). These are precise up to ≈ 500 pc. More distant stars have less accurate parallaxes. However, runaway probabilities were derived that account for the errors on all observables, i.e. also the distance error in particular, instead of evaluating only a single velocity.

Another problem arises from the multiplicity of stars, e.g. 245 stars in the young star sample are spectroscopic binaries [404, 422]. Radial velocities were compiled from catalogues which typically list the systemic radial velocity, hence the calculated motions should reflect the motions of the stellar systems. In any case, for each association that is found between a runaway star and a NS, the runaway star will be studied in more detail to evaluate its runaway status.

2.3.2.6 Catalogue Summary

A total of 2038 runaway star candidates were identified (with a contamination of low velocity group members, i.e. normal Population I stars, of 20 % at most). Thus the runaway



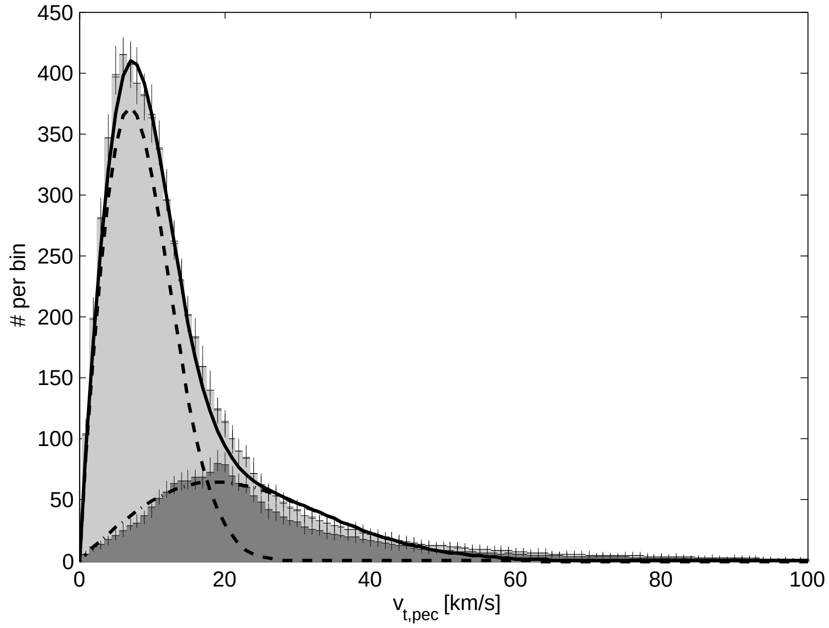


Figure 2.6: Distributions of v_{pec} (top panel) and $v_{t,pec}$ (bottom panel), as Fig. 2.3. Light grey histogramms represent the whole star sample whereas dark grey histogramms show the distributions of runaway star candidates. The velocity distributions of the high velocity group is drawn with dashed-dotted lines.

frequency among young stars is approximately 30 %, in agreement with the theoretical expectations. Fig. 2.6 shows the distribution of the peculiar space velocity v_{pec} and the peculiar tangential velocity $v_{t,pec}$ with the subsample of runaway star candidates in dark grey. The number of runaway star candidates is somewhat higher than the number of stars belonging to the high velocity group, especially in the range of medium velocities where the two curves intersect, as to be expected. However, with this somehow conservative selection, it was assured that no actual runaway Hipparcos star was missed. Using the combined selection, also runaway star candidates were identified with relatively low velocities which certainly exist but would have not been identified by investigating only one velocity component or the absolute velocity.

It should be noted that there are stars in the young star sample, hence in the runaway star sample, that are no true young stars. Either they lie close to the ZAMS in the HR diagram, where age estimation is difficult[25], or entered the list because of their luminosity class. In any case, each runaway star that comes into consideration as former companion candidate will be checked for whether it is sufficiently young.

The catalogue of young runaway Hipparcos stars includes also binary and triple runaway systems. It seems possible that a binary runaway can get ejected via BSS because in a hierarchical triple system the binary companion of an exploding primary star experiences the supernova as a system and should not get disrupted. On the contrary, runaway triple systems might not originate from BSS since in a hierarchical quadrupole system a single and a binary runaway should be ejected as one component star explodes in a supernova.

[25]Using improved ages compared to the first version of the catalogue (Tetzlaff et al. 2011 [486]), most of these stars with uncertain age were a priori removed from the young star sample.

3 Method

3.1 Procedure

There are different approaches for calculating trajectories of Galactic objects starting with the simple method of straight lines through space. Although this is sufficient for calculations up to ≈ 1 Myr, the effect of the Galactic potential needs to be taken into account for larger time spans. In this work, the Galactic potential is included applying an Euler-Cauchy algorithm with a fixed time step of 10^4 yr treating the vertical component of the Galactic potential which was adopted from [406],

$$\vec{F}_z = -4\pi G m \rho_\star z_\star \left(1 - e^{-\frac{|z|}{z_\star}}\right) \frac{\vec{z}}{|z|}, \tag{3.1}$$

where G is the gravitational constant, m is the stellar mass, $\rho_\star = 7.6 \cdot 10^{-2}\,\mathrm{M}_\odot \cdot \mathrm{pc}^{-3}$ is the local stellar mass density [104] that is assumed to be constant along the disk and $z_\star = 260\,\mathrm{pc}$ is the scale height of the disk [394]. This technique is fully sufficient for a treatment of some Myr and distances up to a few kpc and consistent with results applying more complex methods such as a Runge-Kutta numerical integration method (N. Tetzlaff, diploma thesis [483]).[26]

To investigate the origins of the NSs from the sample described in section 2.2, a similar approach was used as proposed by [230] but with a different treatment of the unknown radial velocity. Applying Monte Carlo simulations varying the parameters (parallax, proper motion and radial velocity) within their error intervals, the trajectories of the NSs and any association or cluster centre of the sample of young associations and clusters introduced in section 2.1 are calculated into the past (similarly for any runaway star from the catalogue of runaway star candidates accomplished in section 2.3). Since the radial velocity of NSs is not directly measurable so far, a reasonable probability distribution for the radial velocity is assumed in the simulations that is derived from the pulsar space velocity distribution by [221].[27] At every time step (10^4 up to $5 \cdot 10^6$ yr in steps of 10^4 yr), the separation

[26] A different approach utilises the epicycle approximation [e.g. 172, 302]. Then, the trajectories are calculated in a reference frame that is co-moving with the LSR. Since for the later investigations (chapter 4), it is more convenient to work in a resting coordinate system, the epicycle approximation was not used in this work.

[27] Using a different distribution, e.g. a velocity distribution with two Maxwellian components [9] instead of the one-component model used in this work [221] does generally not affect the overall results (N. Tetzlaff, diploma thesis [483]). This is not unexpected since the bimodal distribution is statistically not significant.

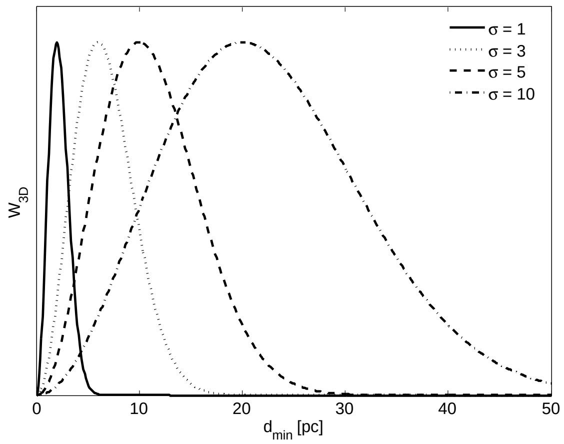


Figure 3.1: Distribution of absolute differences d between two 3D Gaussians for different standard deviations σ, see also [230] (in the limit $\sigma \to 0$, equation 3.3). For better view the maxima of the curves are normalised to the same height.

d between the association/cluster centre and the NS is calculated. Then, the minimum separation $d_{min}(\tau)$ and the associated time τ in the past are extracted.
All calculations of trajectories are performed in a right-handed rectangular coordinate system centred at the Sun at present. Solar motion is accounted for using an LSR of $(U, V, W)_{\odot} = (10.5 \pm 0.5, 11.8 \pm 0.4, 6.2 \pm 0.2)$ km/s (section 2.3.1), where U, V and W are the velocity components in x, y and z direction, respectively.

The distribution of separations d_{min} is supposed to obey a distribution of absolute differences of two 3D Gaussians with (μ_1, σ_1) and (μ_2, σ_2) being their expectation values and standard deviations (if the positional errors were Gaussian distributed), see [230],

$$W_{3D}(d) = \frac{d}{\sqrt{2\pi}\sigma\mu}\left\{\exp\left[-\frac{1}{2}\frac{(d-\mu)^2}{\sigma^2}\right] - \exp\left[-\frac{1}{2}\frac{(d+\mu)^2}{\sigma^2}\right]\right\}, \tag{3.2}$$

where d denotes the 3D separation between two objects (here, NS and association centre or NS and runaway star; $d = d_{min}$), $\mu = |\mu_1 - \mu_2|$ and $\sigma^2 = \sigma_1^2 + \sigma_2^2$; $\pi = 3.1459\ldots$.
When close encounters with runaway stars are investigated, it is searched for cases where the two stars once were at the same place, i.e. $\mu \to 0$. Then, equation 3.2 becomes

$$W_{3D,\mu\to 0}(d) = \frac{2d^2}{\sqrt{2\pi}\sigma^3}\exp\left[-\frac{d^2}{2\sigma^2}\right]. \tag{3.3}$$

Note that even in this case, there is a zero probability of finding a value of $d_{min} = 0$ in the Monte Carlo simulation.[28] However, near-zero values should be found after a sufficient number of runs (see appendix D.2). The peak of the distribution is shifted towards larger d_{min} depending upon σ (Fig. 3.1). As the actual (observed) case is different from this simple model (no 3D Gaussian distributed positions, due to e.g. the Gaussian distributed parallax that goes reciprocally into the position, complicated radial velocity distribution, etc.), the theoretical formulae will be adapted only to the first part of the d_{min} distribution

[28]The reason is that the objects are treated as infinite small points in the simulations. In three dimensions, there is a zero probability that two infinite "thin" trajectories cross each other.

(up to the peak plus a few more bins) such that the slope and peak can be explained.[29] The parameter μ then gives the positional difference between the two objects. The uncertainties on the separation are dominated by the kinematic uncertainties of the NS that are typically of the order of a few hundred km/s (because of the assumed radial velocity distribution). As a consequence, the distribution of separations d_{min} typically shows a large tail for larger separations. However, the first part of the d_{min} distributions (slope and peak) can still be explained well with equation 3.2 in most cases since the kinematic dispersion for only those runs is much smaller, typically a few tens of km/s for the NS, i.e. a few tens of pc after 1 Myr.

In general, 10^4 Monte Carlo runs (see appendix D.2 for justification of this number) for each NS/association pair and NS/runaway star pair are performed in a first step to find those associations and runaway stars that potentially crossed the past path of the NS, i.e. those for which the smallest d_{min} value found in the calculations is less than three times the association radius R_{assoc} or a critical association radius R_{crit}[30] if this is larger than $3R_{assoc}$ (for NS/association pairs). For NS/runaway star pairs, a threshold of $10-40$ pc (depending upon the flight time of the NS) is set (see appendix D.2 for justification of these thresholds). Those associations and runaway stars that fulfilled these conditions are then selected for a more detailed investigation (one to three million Monte Carlo runs, see appendix D.2 for justification of these numbers).

After this first selection, those associations and clusters are searched for, for which the NS could have been within the association/cluster boundaries R_{crit} in the past. For runaway stars, the smallest d_{min} value found after a few million runs should not exceed $1-3$ pc as those cases are searched for where both objects once were at the same place (appendix D.2). This criterion is applied to further reduce the number of candidate stars. Each selected case of an identified parent association as well as NS/runaway star pair is then investigated and discussed individually.

Those associations/clusters are treated as possible parents if the theoretically expected distribution of absolute differences between two objects (equation 3.3) predicts a position of the supernova which lies inside the respective association/cluster boundaries (R_{crit}). Instead, for runaway stars, those cases are looked for, for which the NS and the runaway star

[29] It is stressed that in the Monte Carlo simulations Gaussian distributed errors are used for the proper motion and parallax/distance as well as a reasonable distribution for the radial velocity of the NS. It was preferred not to assume a prior distribution for the separation (as it would be done with Bayesian statistics) but instead the problem was treated in a general way. The prior distribution is unknown and choosing a particular function would bias the outcome. It is remarkable, though, that the distributions for the separation obtained in the Monte Carlo simulations are in good agreement with the theoretical expectation (equation 3.2) although the formula is based on simple assumptions. The comparison of the obtained d_{min} distributions with equation 3.2 gives a good indication in favour for a particular association.

[30] The critical association radius R_{crit} is defined as the radius of the association/cluster plus the positional uncertainty due to the velocity errors of the association (typically a few km/s, hence a few pc/Myr). For small clusters, this criterion becomes important already for short flight times below 1 Myr, for large associations $R_{crit} \approx R_{assoc}$.

could have been at the same place in the past, hence the (slope of the) d_{min} distribution obeys a distribution of absolute differences of two 3D Gaussians at the same place (i.e. $\mu = 0$, equation 3.3). Then, the runaway star is selected to be a former companion candidate. Stars for which the d_{min} distribution does not allow a conclusion are still considered and should be further observed to improve their parameters (mainly for stars without radial velocity measurement, hence a broad d_{min} distribution).
Furthermore, for encounters with runaway stars, the significance of the findings is evaluated by comparing the "observed" distribution $P(d)$ (here, $d = d_{min}$ for clarity) with a reference distribution $P_0(d)$, see section 3.2.[31] Significant encounters between a runaway star and a NS are treated as likely associations. However, it is expected to have non-significant cases with encounters between the NS and the former companion candidate inside associations/clusters since the density of young NSs and runaway stars is higher in these regions of space (see section 3.2). Hence, also those non-significant identifications for which close encounters occurred inside one of the possible birth associations of the respective NS are considered former companion candidates.
The general procedure follows Fig. 3.2. Due to the limited number of pages of this work, only final results are presented in chapter 4 for most stars. More details can be found in appendix E. If special adjustments were made for a particular NS, they are introduced in each section.

Utilising this method allows the identification of $\approx 70\,\%$ of birth associations/clusters of young ($< 5\,$Myr) nearby (within $\approx 500\,$pc) NSs (section 3.2.3). Of those NSs for which the birth place can be recovered, the kinematic ages of $\approx 70\,\%$ of them should deviate by no more than $\approx 0.5\,$Myr from the true age. For $\approx 45\,\%$ of the NSs with recovered birth place, also the former companion can be identified. Then, the true age lies within 87 % confidence (corresponding to 1.5σ) for $\approx 90\,\%$ of the NSs.

3.2 Significance of Associations Between Neutron Stars and Runaway Stars

For about 60 % of the NSs in the sample, no parallax measurements (neither optical nor radio) are available and distances listed for them in the ATNF pulsar catalogue are mainly derived from dispersion measure. Usually, such distance estimates are very uncertain and the error on the distance is large. In addition, the radial velocity of NSs cannot be measured directly, hence is assumed in a probability distribution (section 1.4.3, see section 3.1 for the method). Moreover, these two quantities, distance and radial velocity, are strongly correlated since a larger distance can be compensated for by a larger radial velocity and vice versa.

[31] This method follows the idea of [87].

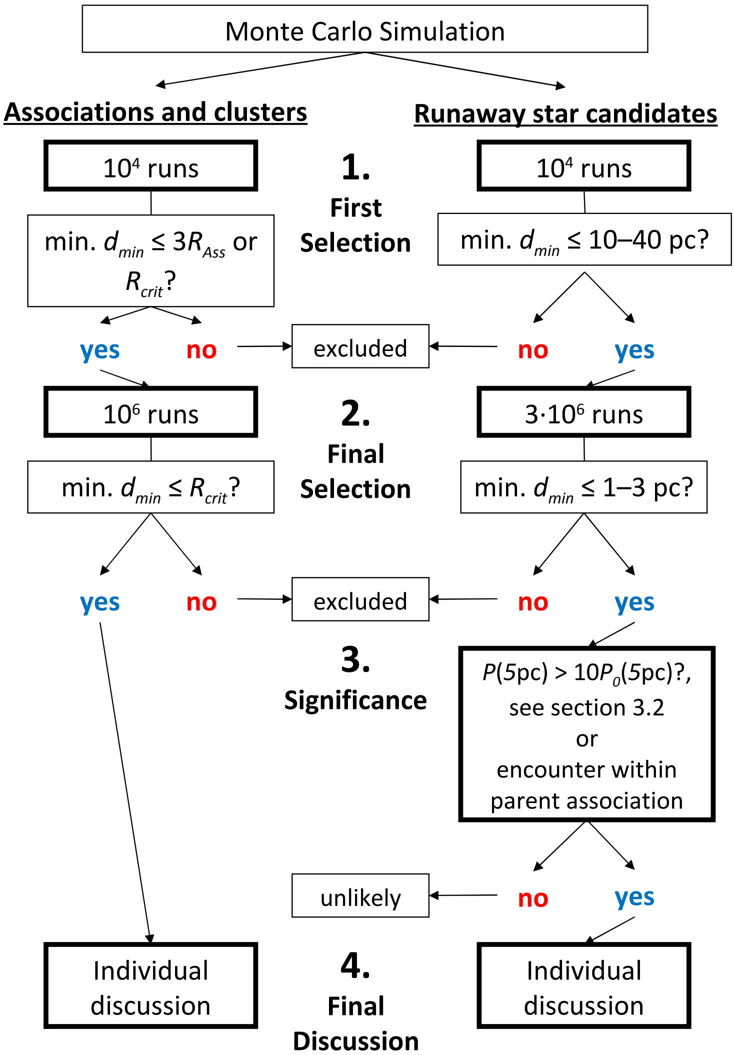


Figure 3.2: Sketch of the general procedure for identifying the parent association or cluster of a NS (left) and its former companion if it exists (right), see appendix D.2 for justification of the number of Monte Carlo runs and the d_{min} thresholds. The significance criterion $P\,(5\,\text{pc}) > 10P_0\,(5\,\text{pc})$ was chosen in order to achieve a significance of one order of magnitude.

Mainly these uncertainties lead to the identification of more than one possible birth association for one NS and also multiple former companion candidates. An identification of a possible parent association/cluster and/or former companion candidate can be a coincidence. For that reason, it is necessary to check whether the parent association of a NS as well as possible former companion stars that are now runaway stars can be identified. Therefore, a population synthesis was performed producing NSs and runaway stars (the former companions) that are ejected from their birth association or cluster (section 3.2.1). This population synthesis was used on the one hand to obtain spatial density distributions for young NSs and runaway stars to compare the probability of a possible encounter with a random one (see section 3.2.2). On the other hand, artificial NSs and runaway stars produced in the population synthesis were treated in the same way as the real stars to test whether the NS birth places can be recovered (section 3.2.3).

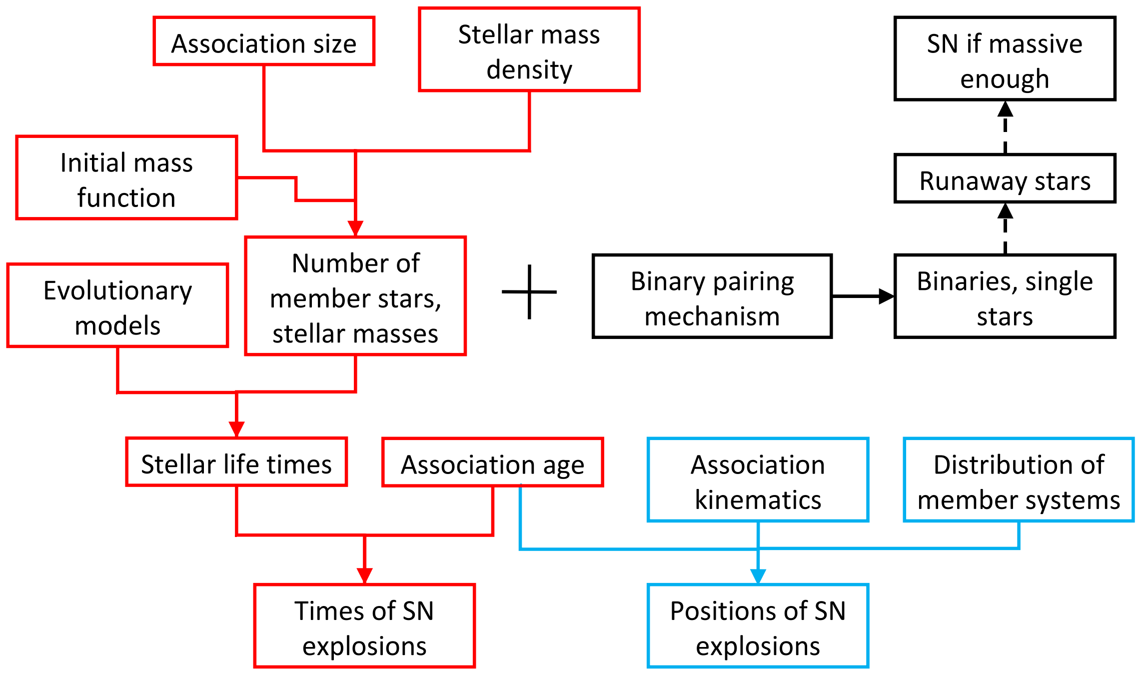


Figure 3.3: Scheme of the population synthesis.

3.2.1 Population Synthesis

To simulate supernova events in the Galaxy, 439 associations and clusters with ages below 100 Myr within ≈ 5 kpc from the Sun were chosen as the parent associations and clusters of supernova progenitors (see section 2.1). For those associations for which the existing kinematic data is incomplete, the kinematic properties of neighbouring associations or clusters were adopted. The Pleiades B1 moving group is left out here because its members belong to the Sco-Cen complex.

The number and masses of associations member stars are simulated as follows (see also Fig. 3.3): First, the total mass of an association or cluster is obtained from its initial size (appendix D.3) and the stellar mass density. For stellar clusters (diameters smaller than 15 pc)[32], a stellar mass density between 400 and 1000 $M_\odot/pc^3$ [33] and an initial diameter of 0.6 pc was assumed for these clusters [91, 286]. Stellar groups with initial diameters ranging from 15 to 50 pc were treated as sub-groups of stellar associations with typical stellar mass densities of 0.25 $M_\odot/pc^3$. This stellar mass density corresponds to the initial stellar mass density of Upper Scorpius [427] that is a sub-group of the large Scorpius OB2 association. There are several reasons for adopting the observed properties of Upper Scorpius. Upper Scorpius is well investigated in both, the high and low mass star regime, due to its proximity to Earth. The star formation process is already finished and it is still young enough (≈ 5 Myr) that almost all members are still present. Only one to two most

[32]The typical cluster radius in the sample of young clusters collected in section 2.1 is 10 ± 5 pc (see also [245] for typical cluster properties).

[33]The median cluster density from the cluster catalogue of [286] is $\approx 400\, M_\odot/pc^3$ and the median density of modelled clusters from [91] is $\approx 1000\, M_\odot/pc^3$.

massive members have already exploded in a supernova [425], hence only they and their possible former companions are missing. For those reasons, Upper Scorpius is optimal for studying the IMF (and association properties inferred from it) since its present mass function is (almost) identical to that. According to [427], the total initial mass was 2060 $M_\odot$ and the initial diameter of Upper Scorpius was 25 pc, hence the initial stellar mass density was 0.25 $M_\odot/pc^3$.

For extended associations (diameters larger than 50 pc up to a few hundred pc) a mass density of 0.04 $M_\odot/pc^3$ was adopted. This value corresponds to the stellar mass density in the Scorpius OB2 association. It was obtained by estimating the total mass in the three sub-groups Upper Scorpius, Upper Centaurus Lupus and Lower Centaurus Crux assuming that each of them has a stellar mass density of 0.25 $M_\odot/pc^3$ (see above). Averaging the total mass of the three sub-groups over the volume of the whole Scorpius OB2 association (its extension is taken from [126]), a stellar mass density for associations of 0.04 $M_\odot/pc^3$ is obtained. For YLA (section 2.1.2) the stellar mass density is lower than for normal (OB) associations (some YLA are called "moving group" rather than association). Therefore, the total initial mass of each of them was obtained from comparing their present mass functions with the IMF (section 2.1.2, Table 2.1) and the stellar mass density is calculated for each of them individually ranging from $10^{-5}\,M_\odot/pc^3$ (for the Octans association) to 0.05 $M_\odot/pc^3$ (for η Cha) (median density $4 \cdot 10^{-4}\,M_\odot/pc^3$).

From the initial size of an association or cluster and its initial stellar mass density, the total number of stars in this association/cluster as well as their individual masses are calculated using the IMF proposed by [284] (consistent with that of [425] for the Upper Scorpius association) over a mass range of 0.1 to 100 $M_\odot$ (equation 2.1).

As most stars form in multiple systems, binary systems (for simplicity, only binarity is included in the simulation) are drawn following the "special pairing" mechanism suggested by [534]. First, the stellar population is split randomly into primary (group P) and secondary stars (group S) and grouped into pairs. Among pairs for which the masses M_1 and M_2 of both components do not exceed 2 $M_\odot$ each, those pairs with $M_1 \geq M_2$ are retained as stellar binary systems. The stars of the low mass pairs ($M_1 \leq 2\,M_\odot$ and $M_2 \leq 2\,M_\odot$) that are left over, i.e. with $M_2 \leq M_1$, are treated as single stars.

For the remaining stars of group P ($M_1 \geq 2\,M_\odot$), the following approach is applied to create binary systems. This ensures that the mass ratio increases with increasing primary mass since observations reveal that massive stars more likely have massive companions [e.g. 178, 181, 276, 438]. For each star, a companion star is randomly selected from the remaining stars of group S. Then, it is evaluated whether the relation

$$M_2 \geq 3.1 \cdot 10^{-3}\,M_\odot^{-1} \cdot M_1^2 + 0.034 M_1 \qquad (3.4)$$

[534] is fulfilled (M in $M_\odot$). If it is not, a new secondary is drawn until no secondary is left with the required mass. If $M_2 > M_1$, the secondary becomes the new primary and

vice versa. The new secondary also has to fulfil equation 3.4. When no more pairs can be found, the condition equation 3.4 is relaxed by 20 %. If there are still stars, that cannot be assigned to a system, they remain single stars.

With these conditions, the simulated binary frequency among all stars was $\approx 45\,\%$. This is in good agreement with observations [4, 145]. Among massive stars ($M_1 \geq 8\,\mathrm{M}_\odot$) the binary frequency increases to $\approx 62\,\%$ consistent with observations [2, 349]. The member stars of an association or cluster are assumed to form contemporaneously[34] and move at a speed that is consistent with the association's/cluster's velocity dispersion. For the distribution of stellar masses within the association or cluster with radius R_{assoc} as well as the mass distribution, a Gaussian model with $\sigma = R_{assoc}/3$ is adopted.[35]

In the simulation, supernova progenitors, i.e. stars with masses $> 8\,\mathrm{M}_\odot$, explode according to their life time. Stellar life times are derived using evolutionary models from [277, 327, 494] (binary evolution is not considered). The time of a supernova event t_{SN} is then given as the difference between the age of the parent association or cluster, t_{assoc}, and the stellar life time t_*, $t_{SN} = t_{assoc} - t_*$. The spatial distribution of supernova positions is shown in Fig. 3.4 where stellar associations and clusters are clearly visible.

A supernova occurs if the progenitor mass M_{prog} exceeds $8\,\mathrm{M}_\odot$. Then, a NS is born if $M_{prog} < 30\,\mathrm{M}_\odot$, otherwise a black hole is released [214]. A new-born NS is provided with a velocity vector with random orientation and an absolute value according to the spatial velocity distribution for pulsars by [221]. Then, its trajectory is calculated until present[36] and the present parameters are logged, i.e. spatial position and kinematics.

If the progenitor star belonged to a binary system, the secondary is released as a runaway star with kinematic properties according to those derived for runaway stars from observations (section 2.3). The trajectory of the runaway star is then also calculated until present. If the runaway star is massive enough to also experience a supernova, the position of the supernova event lies on the path of the runaway star, i.e. probably outside any association or cluster. NSs that form from runaway stars retain their runaway velocity and obtain an additional NS kick velocity according to [221].

The supernova rate during the past 10 Myr derived in this simulation is $32 \pm 5\,\mathrm{Myr}^{-1}$ within 600 pc from the Sun and $330 \pm 9\,\mathrm{Myr}^{-1}$ within 3 kpc. The first value lies on the upper side of published supernova rates (for 10 Myr in the future) within 600 pc but is still consistent with them [195, 225, 228, 443]. For a maximum distance of 3 kpc, only a rough estimate of $365 \pm 22\,\mathrm{Myr}^{-1}$ was made by [225], almost in agreement with the value found here.

[34] This is justified and observed in many OB associations, because the first massive stars blow strong winds (and will soon experience a supernova). This removes most gas left in the cloud, so that star formation ceases.

[35] A Gaussian model with $\sigma = R_{assoc}/3$ is in good agreement with the widely adopted Plummer model, for which $m(r) \propto \left(1 + \frac{r^2}{R_{assoc}^2}\right)^{-\frac{5}{2}}$, with m being the enclosed mass at distance r of a star from the association/cluster centre [415].

[36] In this population synthesis, a fourth-order Runge Kutta integration is used to calculate past orbits since the time span exceeds a few Myr.

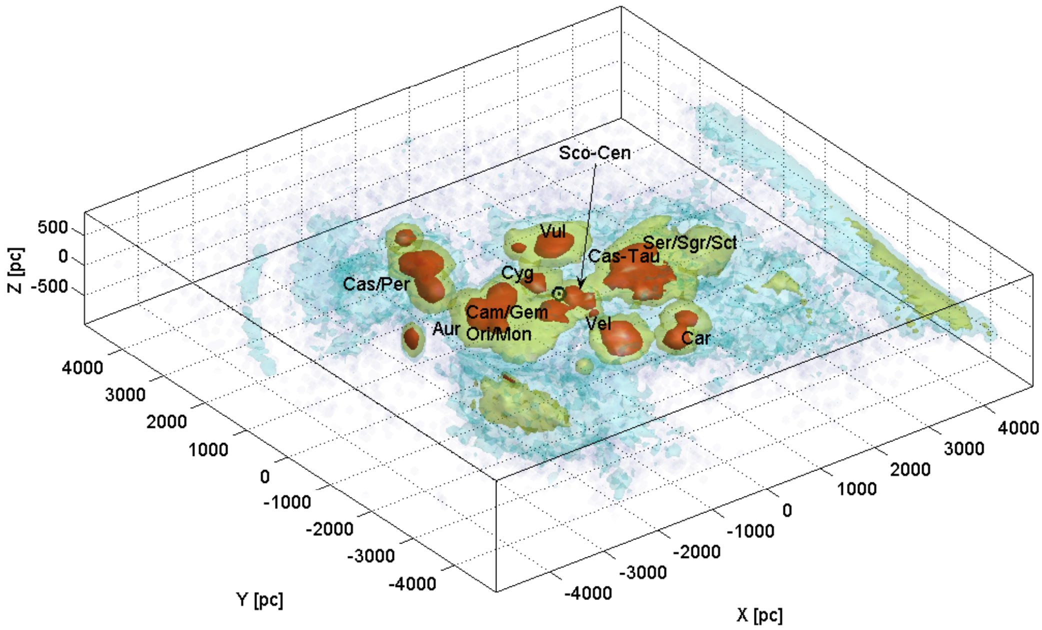


Figure 3.4: Supernova positions from population synthesis (for the past 50 Myr). The Sun (⊙) is in the centre of the coordinate system. The contour colour code is $0.0019/10^i$ SNe/pc^3 ($i = 1, 2, 3, 4$, corresponding to red, green, blue, purple). Note the positions of supernovae in Cas-Tau most of which occurred $5 - 30$ Myr after formation of the association, hence in a different area than occupied by Cas-Tau today.

The production of runaway stars due to gravitational interactions in the early phases of a cluster (DES runaways, see section 2.3) is neglected here as the focus is given to NSs. The efficiency of runaway production due to supernovae in multiple systems or dynamical interaction is still a matter of debate. The derived distribution of runaway stars is used in this work to evaluate the significance of encounters between NSs and runaway stars. The fact that no DES runaways are incorporated may lead to an overestimation of the significance (hence, a higher number of findings) and does not lead to missing possible pairs. Since also normal Population I stars can have runaway kinematics although they are no true runaway stars (section 2.3), additional stars with runaway properties are randomly added to the sample (20 % of the whole sample, section 2.3).

3.2.2 Significance Evaluation

Since multiple identifications of birth associations and possible former companion candidates are usually found for one NS, it is desirable to have a quantity that gives an estimation of their significance. The idea of a reference probability was developed by [87] and was adopted in this work and adapted to be adequate for the cases in this work.

The probability distribution $P(\rho)$ that is obtained from the Monte Carlo simulation (the

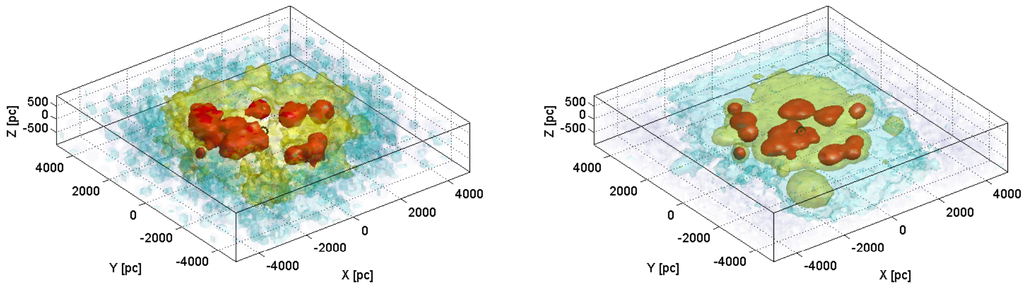


Figure 3.5: Spatial density distributions for young (< 5 Myr) NSs [left, contour colour code ($i = 1, 2, 3, 4$, corresponding to red, green, blue, purple): $6 \cdot 10^{-7}/10^{i}$ NSs/pc^3] and runaway stars [right, contour colour code ($i = 1, 2, 3, 4$, corresponding to red, green, blue, purple): $2 \cdot 10^{-6}/10^{i}$ runaways/pc^3] derived from a population synthesis (for the past 50 Myr, section 3.2.1).

probability that a separation between two objects is not larger than ρ, i.e. the number of runs satisfying that criterion divided by the the total number of runs) is compared with a reference probability $P_0(\rho)$ of two randomly chosen objects (one of each population) with a separation no larger than ρ.

To estimate the significance of a NS/runaway star association, the distribution of young pulsars and runaway stars in the Solar neighbourhood is needed.[37] Those distributions were derived from the population synthesis simulation described in section 3.2.1. It should be noted, however, that the number of NSs and runaway stars is underestimated outside a few kpc from the Sun as the association and cluster sample used as supernova hosts becomes less complete at larger distances (section 2.1). However, the focus of this work is on young nearby NSs within 500 pc that typically do not travel that far. The application of the simulated samples is hence satisfactory.

The simulated distribution of young ($\leq$ 5 Myr) NSs and runaway stars was binned into 20 pc $\times$ 20 pc $\times$ 20 pc ($x \times y \times z$) bins[38] and smoothed using the *smooth3* function available with MATLAB (with a box convolution kernel). The resulting density distributions for young NSs and runaway stars are displayed in Fig. 3.5. In comparison with Fig. 3.4, it can be clearly seen that the association boundaries get smeared out, i.e. the present positions of many NSs and runaway stars lie outside stellar associations. Owing to the larger NS velocities, this effect is stronger for NSs than for runaway stars.

From the Monte Carlo simulations, positions are taken where the two objects reach separations no larger than ρ. A volume with edge lengths ρ is drawn around each encounter position. Then, the expected number η of stars in each cell is calculated using the spatial density distributions for runaway stars and young NSs as derived earlier and an average

[37] [87] used a distribution for pulsars that reflects the mean pulsar density in the Galaxy, however does not account for an increased supernova rate in the Solar neighbourhood and includes also very old NSs (> Gyr). For that reason, this distribution was not used here.

[38] The bin size was chosen according to the positional uncertainties of the objects due to the dispersion of the parent association velocities of a few km/s to a few tens of km/s.

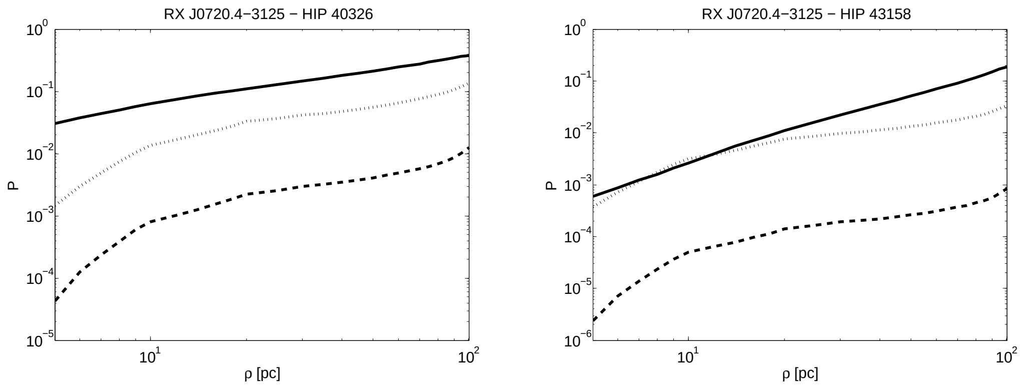


Figure 3.6: Significance evaluation for RX J0720.4−3125 and two runaway stars as exemplary cases. The solid line is the probability P obtained from the Monte Carlo simulation while the dashed line represents the reference probability distribution P_0. The dotted line shows the Poissonian error on P_0, i.e. $P_{0,upp}$. The encounter between RX J0720.4−3125 and HIP 40326 (left panel) is significant ($P > 10P_{0,upp}$) while the one with HIP 43158 is just not. However, the encounter with HIP 43158 is situated within an association (Tr 10, see section 4.1.2).

expected number $\bar{\eta}$ in a cell of size ρ is obtained. If the number of cells is sufficiently large, the probability of detecting N objects of population i (NSs or runaway stars) in a volume ρ^3 is given by a Poissonian distribution,

$$\hat{P}_0(\rho) = \sum_{n_i=0}^{N} \frac{\bar{\eta}_i^{n_i}}{n_i!} e^{-\bar{\eta}_i}. \tag{3.5}$$

The probability of detecting at least one NS and one runaway star by coincidence in a volume with size ρ^3 is then given by

$$P_0(\rho) = \left(1 - e^{-\bar{\eta}_{NS}}\right)\left(1 - e^{-\bar{\eta}_{run}}\right). \tag{3.6}$$

An upper limit $P_{0,upp}$ of P_0 can be derived from the Poissonian error on the calculated number of stars in each cell. The probability of occurrence of separations $d_{min} \leq \rho$ in the Monte Carlo simulations is $P(\rho)$. An association between a NS and a runaway star is regarded as significant if $P > 10P_{0,upp}$ (in order to achieve a significance of one order of magnitude) for small ρ (smaller than a few pc, a nominal value of 5 pc was adopted). Then, the encounter might be real. This criterion is used as an additional indicator in favour for a particular association. However, given the large number of NSs and/or runaway stars in certain regions in space (within a stellar association or cluster), a non-significant association should not be disregarded if it is situated within a possible parent association/cluster of the NS. It is expected that such findings are less significant because the density distribution for young NSs and runaway stars expectedly predict a higher number of stars inside or close to associations and clusters.[39] An example of a significant association as well as a non-significant association are given in Fig. 3.6.

[39] For the same reason, the significance for an identification of a possible parent association cannot be evaluated.

Table 3.1: Recovering birth places of artificial NSs.

No	parent	age [Myr]	# of possible parent assoc./cl.	τ_{kin} [Myr]	# of former comp. cand.	former comp. among cand.	τ_{kin} with former comp. [Myr]
1	UCL	0.34	14	0.2 – 3; nearby: 0.2 – 0.5	13	yes	$0.39^{+0.09}_{-0.09}$
2	UCL	0.44	2 (both nearby)	0.6 – 1.5	2	yes	$0.38^{+0.06}_{-0.05}$
3	Cyg OB7	0.17	1	0.4 – 0.6	1	yes	$0.15^{+0.03}_{-0.02}$
4	Lac OB1	1.80	5 (incl. Lac OB1)	0.6 – 2.7; Lac OB1: ≈ 2.2	2	no	–
5	Lac OB1	1.47	21 (incl. Lac OB1)	0.5 – 5; Lac OB1: ≈ 0.5	14	no	–
6	Cam OB1	2.89	6 (incl. Cam OB1)	1 – 4; Cam OB1: ≈ 2.5	31	no	–
7	Cam OB1	1.59	7 (incl. Cam OB1)	0.6 – 4.5; Cam OB1: ≈ 1.3	9	no	–
8	Cam OB1	1.86	9 (incl. Cam OB1)	0.6 – 5.0; Cam OB1: ≈ 1.4	20	no	–
9	Cam OB1	1.00	2 (incl. Cam OB1)	Cam OB1: ≈ 1; Cas-Tau: ≈ 0.5	3	no	–
10	Ori OB1	1.87	6 (incl. Ori OB1)	0.6 – 4.5; Ori OB1: ≈ 1.8	4	yes	$1.54^{+0.25}_{-0.17}$
11	Ori OB1	0.19	7 (incl. Ori OB1)	YLA: ≈ 0; Ori OB1: 0 – 3	4	does not exist	–
12	Ori OB1	0.91	5	0.5 – 1.8	3	no	–
13	Ori OB1	3.48	9 (incl. Ori OB1)	0.6 – 3; Ori: 2 – 3	17	no	–
14	Ori OB1	0.36	5 (incl. Ori OB1)	0.3 – 2; Ori OB1: ≈ 0.3	3	yes	$0.25^{+0.13}_{-0.07}$
15	Ori OB1	1.16	34 (incl. Ori OB1)	0.5 – 5; Ori OB1: ≈ 0.5	11	no	–
16	Ori OB1	1.49	33 (incl. Ori OB1)	0.5 – 4; Ori OB1: ≈ 1	2	no	–
17	Ori OB1	0.96	20 (incl. Ori OB1)	0.7 – 4; Ori OB1: ≈ 0.3	64	yes	$0.17^{+0.32}_{-0.07}$
18	Ori OB1	3.69	5 (incl. Ori OB1)	0.3 – 4, Ori OB1: ≈ 1	3	no	–
19	Ori OB1	2.11	11 (incl. Ori OB1)	0.5 – 2; Ori OB1: ≈ 1.8	8	yes	$1.25^{+0.86}_{-0.34}$
20	Ori OB1	2.04	21 (incl. Ori OB1)	0.5 – 3.5; Ori OB1: ≈ 3.2	17	no	–
21	Ori OB1	0.31	9 (incl. Ori OB1)	0.5 – 1.5; Ori OB1: ≈ 0.5	6	no	–
22	Ori OB1	0.31	12	0.4 – 4.5	5	does not exist	–
23	Ori OB1	1.49	5 (incl. Ori OB1)	0.3 – 3; Ori OB1: ≈ 1.1	4	no	–
24	Tr 10	1.24	14	0.2 – 3	2	no	–
25	Tr 10	1.24	10	0.7 – 4.5	12	yes	$0.94^{+0.22}_{-0.16}$

Column 2: birth association of the progenitor star in the population synthesis. Column 3: flight time of the ejected NS. Columns 4-5: number of possible parent associations found and associated range of kinematic ages. If the true birth place was recovered, it is noted in parentheses of Column 4. Columns 6: number of former companion candidates identified. Columns 7-8: note on whether the true former companion is among the candidates and associated kinematic age.

3.2.3 Identification of the Birth Association of Simulated NSs

To test whether the birth association or cluster of a random NS can be found, young nearby NSs created within a population synthesis (section 3.2.1) were analysed in this regard. The population synthesis produced 25 NSs with ages up to 5 Myr and current distances to the Sun smaller than 500 pc.[40] Applying the method introduced in section 3.1 to search for their parent association/cluster for 18 of them the birth place was recovered (Table 3.1). Hence, the method applied in this thesis is reliable. For 13 of these 18 cases, the kinematic ages differ from the true age by less than 0.5 Myr, for only two the difference is larger than 1 Myr. As for real NSs, the number of possible parent associations/clusters is large in many cases (cf. chapter 4). For eight NSs, also the former companion is among the former companion candidates. If the former companion can be identified, the true NS age lies within 68 % confidence (corresponding to 1σ) of the kinematic age for ≈ 60 % of the cases, for ≈ 90 % within 87 % confidence (corresponding to 1.5σ).

[40]Note that this number is comparable to the size of the NS subsample with similar selection criteria (section 2.2). However, they come only from a limited number of associations, possibly because sequential star formation was neglected in the population synthesis. Therefore, the real number of young nearby NSs should be larger. In the ATNF database the number of NSs within 1 kpc (allowing for a 500 pc distance uncertainty) and spin-down ages up to 50 Myr (cf. section 2.2) is approximately 40 (≈ 30 % with unknown proper motion).

4 Results and Discussion

This section incorporates the results and discussion for the sample of NSs introduced in section 2.2. 20 NSs with best distances (see section 2.2) were analysed in great detail (sections 4.1 to 4.4). For further 85 young NSs with proper motion measurements and distance estimates available in the ATNF pulsar database, preliminary results are given in appendix F. Further investigation of those objects is needed to restrict the number of possible parent associations and clusters and enable the search for possible former companions. As the procedure and analysis of the outcome is basically the same for all cases, as examples, the results are explicitly described for four (very different) NSs. RX J1856.5−3754 is outstanding among the M7 in the way that its radial velocity is restricted due to the detection of a bow shock (section 4.1.1). Another member of the M7, RX J0720.4−3125, is an example for a NS with relatively uncertain distance (section 4.1.2). One of the "Three Musketeers", PSR J0659+1414, was associated with a supernova remnant, namely the Monogem Ring (section 4.2.2). The Guitar Pulsar (PSR J2225+6535) has an extraordinary high transverse velocity (section 4.4.8).
For the other cases investigated in this thesis, the results are presented in a compact form. More details can be found in appendix E.

4.1 The Magnificent Seven

The M7 are young isolated radio quiet NSs (see section 1.4). For three of them, RX J1856.5−3754, RX J0720.4−3125 and RX J1605.3+3249, detailed investigations of their birth places and possible former companion stars are feasible and presented in this section.
The results were published in their first versions in *Monthly Notices of the Royal Astronomical Society*, Volume 417 (Tetzlaff et al. 2011 [484]; sections 4.1.1, 4.1.2) and *Publications of the Astronomical Society of Australia*, Volume 29 (Tetzlaff et al. 2012 [488]; section 4.1.3).

4.1.1 RX J1856.5−3754

4.1.1.1 Identifying the Parent Association of RX J1856.5−3754

Given its proper motion and distance (123^{+15}_{-11} pc [526]), the transverse velocity of RX J1856.5−3754 is $v_t = 192^{+17}_{-21}$ km/s. [517] found the inclination i of the bow shock which RX J1856.5−3754 creates in the ISM to be $i = 60° \pm 15°$ (with respect to the line of sight) or even closer to 90°, depending on the model.[41] A lower limit on i of 45° implies a maximum radial velocity modulus of ≈ 250 km/s (limit adopting $3\sigma\ v_t$).

For 13 associations and clusters close encounters consistent with the critical association/cluster boundaries (R_{crit}, section 3.1) were found after one million Monte Carlo runs. Most of them (Tuc-Hor, β Pic-Cap, AB Dor, Her-Lyr, Sgr OB5, Sco OB4, Tr 27, NGC 6383, Bochum 13, Pismis 24, NGC 6396) are excluded because in these cases the radial velocity of RX J1856.5−3754 needs to be $|v_r| \gtrsim 300$ km/s (larger than the maximum v_r inferred from the bow shock, see above). The theoretically expected distribution for absolute differences between two objects (with Gaussian 3D positions, equation 3.2) was adapted to the first part of the d_{min} distributions (d_{min} is the smallest separation between the two stars of each Monte Carlo run, see section 3.1) such that the slope and peak can be adjusted (see also Fig. 4.1 for an example). The obtained expectation values μ and standard deviations σ suggest that RX J1856.5−3754 could have been inside the two remaining association: Ext. R CrA ($\mu = 0$, $\sigma = 4.5$ pc) or Upper Scorpius (US, $\mu = 7.8$ pc, $\sigma = 2.4$ pc).

For Ext. R CrA, small separations between RX J1856.5−3754 and the association centre are found for 0.04 ± 0.02 Myr in the past. This is not surprising because the present position of RX J1856.5−3754 lies within the association and it would need up to $\approx 2 \cdot 10^5$ yr to cross it (assuming a maximum space velocity of 350 km/s, i.e. $3\sigma\ v_t$ and $v_{r,max} = 250$ km/s, and a diameter of Ext. R CrA of ≈ 62 pc [160]). Hence, Ext. R CrA is not the parent association of RX J1856.5−3754 unless the NS is only a few 10 kyr old, however, then, a SNR would probably still be visible (there is no SNR known in this area, [192]; A. Poghosyan, priv. comm.).

The only association that fits to being the parent association of RX J1856.5−3754 is US (as suggested before by [527] using a much simpler calculation and Tetzlaff et al. 2010 [487] using a larger distance). Table 4.1 (column a) summarises the derived NS parameters and the position and time of the supernova (for the deduction of the properties see appendix D.4). The displacement between RX J1856.5−3754 and the US centre would be ≈ 8 pc as inferred from equation 3.2. The d_{min} distribution and the distribution of the corresponding flight times τ are shown in Fig. 4.1, left panel. The supernova would have occurred well within US that has a (critical) radius of ≈ 17 pc (section 3.1). The radial velocity of RX J1856.5−3754 is found to be probably very small (indicated by both, the identified parent association and the bow shock) although utilizing the velocity distribution

[41] High resolution imaging of the bow shock of RX J1856.5−3754 was proposed for VLT/FORS (Vogt, Walter, Eisenbeiß) and Gemini/GMOS (Vogt, Walter, Tetzlaff) in 2009. The VLT/FORS observation was scheduled in visitor mode; unfortunately the observation could not be carried out due to bad weather. In 2010 the re-submitted VLT/FORS proposal (Vogt, Walter, Eisenbeiß) was rejected. Therefore, in 2011, it was proposed again to VLT/FORS (Vogt, Walter, Eisenbeiß, Neuhäuser) and Gemini/GMOS (Vogt, Hohle, Tetzlaff). Both proposals were not approved. Proposals were also submitted for the Hubble Space Telescope in 2011 and 2012 (Walter, Lattimer, Neuhäuser, Eisenbeiß, Tetzlaff), however were also not approved.

Table 4.1: Predicted current parameters of RX J1856.5−3754 if it was born in US using as input for the radial velocity (a) a probability distribution obtained from the distribution for pulsar space velocities [221] and (b) a uniform distribution in the range of $v_r = -250 \ldots + 250$ km/s.

Predicted present-day parameters of RX J1856.5−3754		
	(a)	(b)
v_r [km/s]	29^{+28}_{-20}	6^{+19}_{-20}
π [mas]	$7.0^{+0.6}_{-0.2}$	$8.1^{+0.4}_{-0.6}$
μ^*_α [mas/yr]	325.9 ± 2.3	325.9 ± 2.3
μ_δ [mas/yr]	-59.4 ± 2.1	-59.3 ± 2.1
v_{sp} [km/s]	219^{+16}_{-12}	195^{+10}_{-14}
Predicted supernova position and time		
$d_{\odot,SN}$ [pc]	146^{+5}_{-5}	148^{+6}_{-6}
$d_{\odot,today}$ [pc]	151^{+5}_{-5}	156^{+3}_{-8}
l [°]	$349.2^{+0.2}_{-0.5}$	$348.8^{+0.6}_{-0.4}$
b [°]	$19.7^{+0.8}_{-1.1}$	$18.8^{+1.7}_{-1.1}$
d_{US} [pc] (μ, σ)	$(7.8, 2.4)$	$(8.5, 2.5)$
τ [Myr]	$0.42^{+0.07}_{-0.06}$	$0.48^{+0.04}_{-0.06}$

Predicted NS parameters: heliocentric radial velocity v_r, parallax π, proper motion μ^*_α, μ_δ, peculiar space velocity v_{sp}; Predicted supernova position: distance of the supernova to Earth at the time of the supernova ($d_{\odot,SN}$) and as seen today ($d_{\odot,today}$), Galactic coordinates (Galactic longitude l, Galactic latitude b, J2000.0) as seen from the Earth today, distance of the supernova to the centre of US (d_{US}); Predicted time of the supernova in the past τ. For the deduction of the parameters see appendix D.4. The distance of the supernova to the US centre was obtained by adapting equation 3.2 to the slope of the d_{min} distribution, see also Fig. 4.1.

for pulsar velocities gives priority to larger values since v_t (≈ 200 km/s) is smaller than the peak of the probability distribution for NS space velocities (≈ 400 km/s, section 1.4.3).

Since both, the radial velocity and the parallax are strongly correlated as a larger distance can be compensated for by a larger radial velocity, parallaxes may be slightly biased towards smaller values (since larger radial velocities are preferred in the calculations). Therefore, the Monte Carlo calculation was repeated assuming a uniform distribution of the radial velocity of RX J1856.5−3754 in the range of $v_r = -250 \ldots + 250$ km/s (see above discussion on the bow shock; note that no priority is given to $v_r = 0$ km/s). The results are summarised in Table 4.1 (column b). Indeed, the current parallax turns out to be somewhat larger (smaller distance) and the current radial velocity tends to be close to zero. The derived values (Table 4.1, column b) for the proper motion and radial velocity imply an inclination of the motion of RX J1856.5−3754 of $i = 88 \pm 6\,^\circ$ (with respect to the line of sight), consistent with the observation of the bow shock, see above. The displacement between RX J1856.5−3754 and the US centre would be ≈ 9 pc as inferred from equation 3.2. The d_{min} distribution and the distribution of the corresponding flight times τ are shown in Fig. 4.1, right panel.

The mass of the progenitor star can be derived from its lifetime using evolutionary models. Assuming contemporary star formation, the lifetime of the progenitor star of

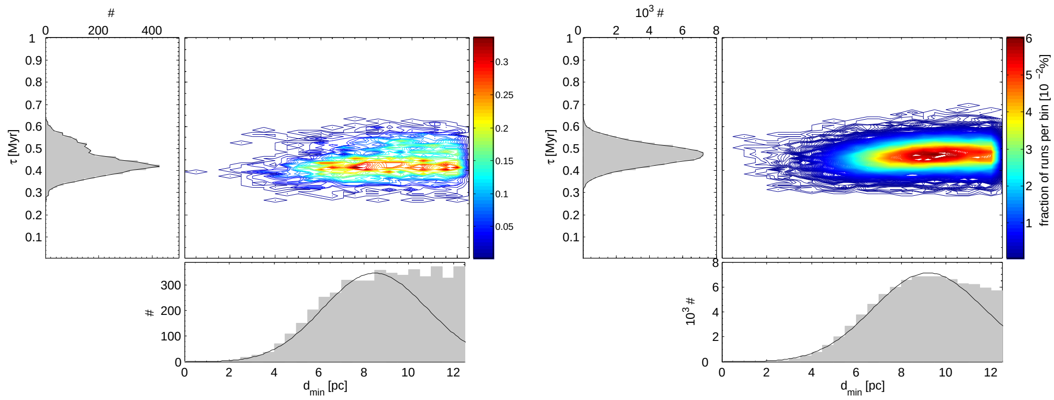


Figure 4.1: Distributions of minimum separations d_{min} and corresponding flight times τ for encounters between RX J1856.5−3754 and US, derived for different v_r distributions: a probability distribution obtained from the distribution for pulsar space velocities [221] (left panel) and a uniform distribution in the range of $v_r = -250 \ldots +250$ km/s (right panel). Solid curves in the d_{min} histogram represent the theoretically expected distribution (equation 3.2), adapted to the first part of each histogram, $(\mu, \sigma) = (7.8\,\text{pc}, 2.4\,\text{pc})$ (left panel) and $(\mu, \sigma) = (8.5\,\text{pc}, 2.5\,\text{pc})$ (right panel), respectively.
This indicates that the closest approach between RX J1856.5−3754 and the US centre was $8-9$ pc about half a million years ago.

RX J1856.5−3754 is given as the age of US (5 ± 2 Myr, e.g. [45, 119, 136, 425, 426, 428]) minus the time since the potential supernova (≈ 0.5 Myr). Using evolutionary models from [277, 327, 494], this corresponds to a progenitor mass of $45 \pm 3\,M_\odot$, $43^{+21}_{-9}\,M_\odot$ and $37^{+27}_{-9}\,M_\odot$, respectively, corresponding to a main-sequence spectral type of O5 to O7 [444]. The progenitor star of RX J1856.5−3754 should have an earlier spectral type than the earliest present member of US which has spectral type B0 (HIP 81266 [324]). Although NSs are believed to form from progenitors with masses of $\lesssim 30\,M_\odot$ [e.g. 214] it is known that in binary systems also more massive stars, $\approx 50-80\,M_\odot$, may produce NSs [e.g. 29, 171]. Then, the supernova should also have ejected a runaway star. Alternatively, most recently, [403] suggest that the age of US is 11 ± 2 Myr. This would decrease the estimated progenitor mass to $26 \pm 6\,M_\odot$, $16^{+5}_{-1}\,M_\odot$ and $16 \pm 2\,M_\odot$ for each evolutionary model (corresponding spectral types O7 to B0) which is in better agreement with standard NS formation.
As the predicted supernova would have been very recent (≈ 0.5 Myr ago) and nearby (≈ 150 pc), it is expected to find γ ray emission from ^{26}Al decay [136] (see section 1.2). In the COMPTEL 1.8 MeV map [136, 416] there is a feature centred at $(l, b) \approx (352°, 19°)$. According to SNR expansion theory (section 1.3), a SNR expanding into the ISM with a volume density of $n = 1\,\text{cm}^{-3}$ would have a radius of ≈ 47 pc after 0.5 Myr. At a distance of 150 pc, this translates into an angular radius of the SNR of $\approx 17°$. Integrating the flux over a circle with 17° radius around the feature[42] and subtracting emission from the Galactic centre, a total flux of $\approx 2 \cdot 10^{-5}$ photons $\cdot$ cm$^{-2} \cdot$ s^{-1} is obtained (see appendix D.1). With a half-life of ^{26}Al of 0.72 Myr [432, 490], this yields a mass of ^{26}Al of $1.2 \cdot 10^{-4}\,M_\odot$ that

[42] Due to the large size of the circle there is no significant difference when centering the area at the derived supernova position $(l, b) = (349°, 19°)$, compared to the centre of the emission. Moreover, the spatial resolution of COMPTEL is $\approx 1\,\text{deg}^2$ which is similar to the difference between the centre of the feature and the derived supernova position.

got ejected during the supernova. Compared to theoretical ^{26}Al yields (from core-collapse supernovae) by [301, 548] (Fig. 1.2), this corresponds to a mass of the progenitor star of $\gtrsim 30\,M_\odot$ which is higher than the estimates from the progenitor lifetime if US is ≈ 11 Myr old but comparable to the estimates assuming an US age of ≈ 5 Myr.
Most recently, [369] confirmed the birth place of RX J1856.5−3754 using similar calculations as performed here. They conclude that the NS was born in US 0.42 ± 0.08 Myr ago. This is in excellent agreement with the results obtained in this thesis.

4.1.1.2 Searching for a Former Companion of RX J1856.5−3754

From the previous analysis (section 4.1.1.1), it can be assumed that US is the parent association of RX J1856.5−3754. Then, the current radial velocity of the NS is small ($v_r = 6^{+19}_{-20}$ km/s). For the following analysis $v_r = 0 \pm 50$ km/s was adopted.[43]
15 runaway stars with full 3D kinematics were found for which close encounters with RX J1856.5−3754 are possible in the past 5 Myr. After three million runs, seven of them showed a smallest separation to the NS of less than 1 pc (see appendix D.2 for justification of this limit). For two of them, HIP 81741 and HIP 88294, $P\,(5\,\mathrm{pc}) > 10 P_{0,upp}\,(5\,\mathrm{pc})$, i.e. the encounters are significant (section 3.2.2, note footnote 43). For another star, HIP 78681, the encounter could have happened inside US, the potential birth associaton of RX J1856.5−3754.[44]
The positions of the potential supernovae are overplotted onto the COMPTEL 1.8 MeV map [136, 416] (Fig. 4.2). The predicted encounter positions are situated in regions with enhanced γ emission, Sco-Cen or close to the Galactic plane, hence no further conclusion can be drawn at this point.
To evaluate the encounter separation of the NS and the runaway star, the d_{min} distributions are compared with the theoretically expected distribution (equations 3.2, 3.3). For two cases, HIP 78681 and HIP 81741, the NS and the runaway star could have been at the same place at the same time in the past.
For the other candidate, HIP 88294, no close encounters were found inside the US boundaries but occur at distances of 75 ± 5 pc to the US centre. Choosing runs from the simulation where both stars were within that distance to US, the d_{min} distribution shows a clear peak. However, equation 3.2 suggests that both stars experienced a close fly-by ($\mu = 1.4$ pc, $\sigma = 0.3$ pc) $0.13^{+0.01}_{-0.01}$ Myr ago (equation 3.3, i.e. $\mu = 0$, cannot be adapted to the distribution), see Fig. 4.3.

In the case of HIP 78681, in 1835 Monte Carlo runs the distance of both, the runaway star and RX J1856.5−3754, to the US centre was less than 17 pc, the critical radius of the

[43] However, for evaluating the significance of encounters with runaway stars, the Monte Carlo simulations were repeated adopting the v_r distribution derived from the 3D velocity distribution by [221] for RX J1856.5−3754 to make the data comparable to the population synthesis data (section 3.2.1). Otherwise, the significance would be overestimated.

[44] In the published analysis (Tetzlaff et al. 2011 [484]), another star was considered former companion candidate to RX J1856.5−3754, HIP 74717. There, it was already discussed that this star is probably

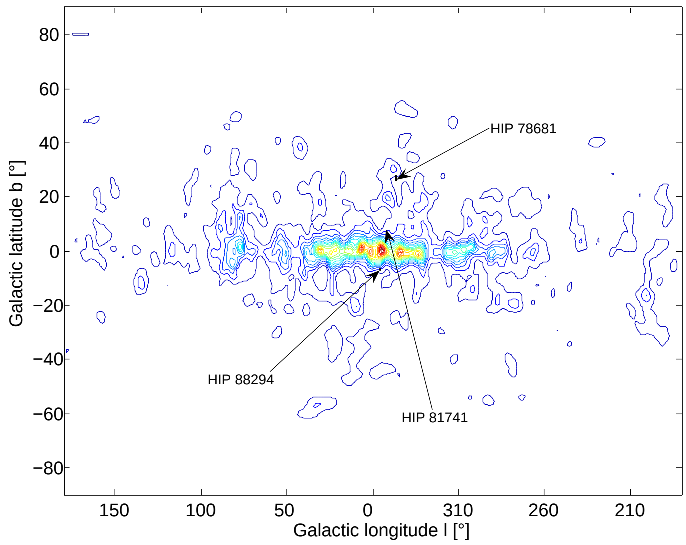


Figure 4.2: Encounters between RX J1856.5−3754 and three runaway stars overlaid onto the COMPTEL 1.8 MeV map [136, 416]. The lowest value contour line (darkest blue) represents an emission level of $8 \cdot 10^{-5}\,\mathrm{cm^{-2}s^{-1}sr^{-1}}$ (levels in steps of $8 \cdot 10^{-5}\,\mathrm{cm^{-2}s^{-1}sr^{-1}}$, increasing from blue to red).

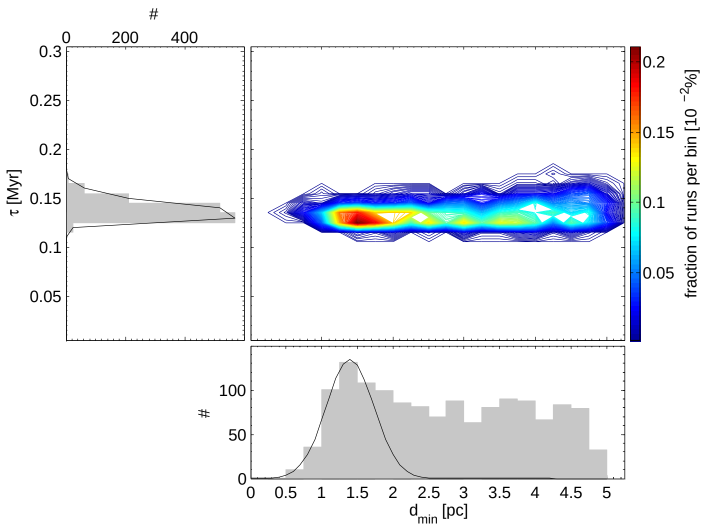


Figure 4.3: Panels as in Fig. 4.1 for encounters between RX J1856.5−3754 and HIP 88294. Only those 1394 Monte Carlo runs are shown used for which both stars were within 75 ± 5 pc from the US centre and not farther than 5 pc from each other (to select the d_{min} peak and avoid contamination of runs yielding large d_{min}). The solid curve drawn in the d_{min} histogram (bottom panel) represents the theoretically expected distribution (equation 3.3) with $\mu = 1.4$ pc and $\sigma = 0.3$ pc, adapted to the first part of the histogram.

association, and no farther than 10 pc from each other. For the first bins of the d_{min} histogram, equation 3.2 suggests that both objects could have been at the same place ($\mu = 0$) $0.52^{+0.05}_{-0.04}$ Myr in the past (Fig. 4.4).

In the Simbad database, HIP 78681 is listed with spectral type G7II which is why it was included in the sample of potentially massive, hence young stars, whereas [423] list it as barium star[45] (G8IIIBa1). Moreover, HIP 78681 is a single-lined spectroscopic binary. Hence, the system is probably old with the companion of HIP 78681 being a white dwarf as widely accepted for SB1 barium stars [55].

For HIP 81741, no encounters were found inside the US boundaries but 60 ± 5 pc outside US. Considering runs were both stars were at a distance to the US centre of 60 ± 5 pc,

too old. Due to the updated age estimation, it was a priori excluded from the runaway star catalogue (section 2.3).

[45] Barium stars are late type giants with an overabundance of s-process elements [39]. It is generally believed that they are the result of mass transfer in a binary system. The primary that is now a white dwarf transferred mass onto its companion that is now observed in its giant phase [352]. Most barium stars are binary systems. In many systems the white dwarf companion is detected [254]. Thus, these systems are old.

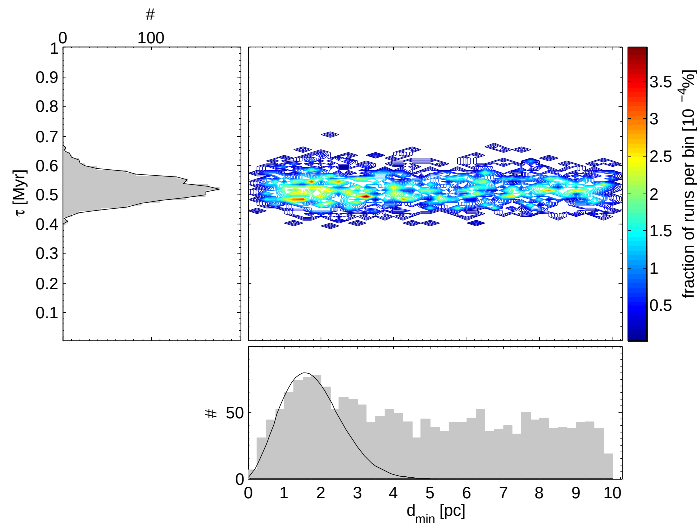


Figure 4.4: Panels as in Fig. 4.1 for encounters between RX J1856.5−3754 and HIP 78681, only those 1835 Monte Carlo runs are shown for which both stars were within 17 pc from the US centre and not farther than 10 pc from each other (to select the d_{min} peak and avoid contamination of runs yielding large d_{min}). The solid curves drawn in the d_{min} histograms (bottom panel) represent the theoretically expected distribution (equation 3.3) with $\mu = 0$ and $\sigma = 1.2$ pc, adapted to the first part of the histogram.

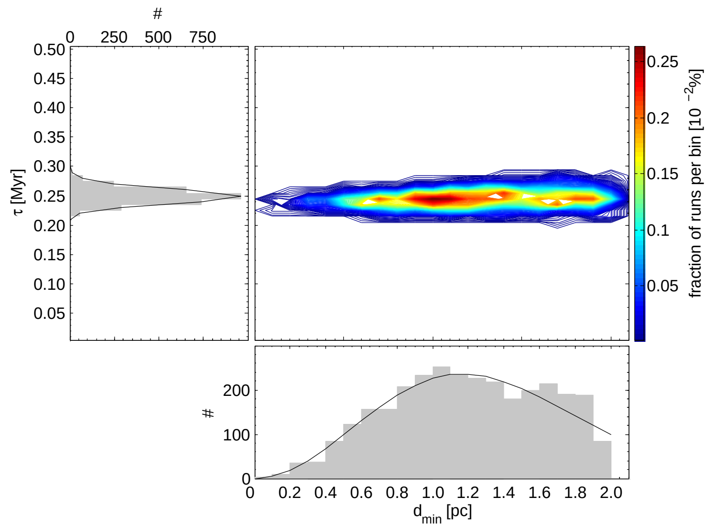


Figure 4.5: Panels as in Fig. 4.1 for encounters between RX J1856.5−3754 and HIP 81741, only those 3027 Monte Carlo runs are shown for which both stars were within 60 ± 5 pc from the US centre and not farther than 2 pc from each other (to select the d_{min} peak and avoid contamination of runs yielding large d_{min}). The solid curves drawn in the d_{min} histograms (bottom panel) represent the theoretically expected distribution (equation 3.3) with $\mu = 0$ and $\sigma = 0.8$ pc, adapted to the first part of the histogram.

equation 3.3 suggests that both stars could have been at the same place ($\mu = 0$, Fig. 4.5) $0.25^{+0.01}_{-0.02}$ Myr in the past. In the Hipparcos catalogue the single star HIP 81741 [147] is listed as a G1II star [231], hence possibly massive (young). A more recent source gives a spectral type of G3III [223]. Hence, the star is probably an evolved old low-mass star.

Thus, no convincing runaway star was found in the sample of runaway star candidates with full kinematics (section 2.3) to be a suitable former companion candidate for RX J1856.5−3754.

Note, that the classical runaway star HIP 81377 (=ζ Ophiuchi) was again not found to be the former companion to RX J1856.5−3754 as it was suggested by [525] but excluded by [230] and Tetzlaff et al. 2010 [487] (the smallest separation found here was 18.8 pc after three million Monte Carlo runs).

Since there are also 597 runaways in the catalogue of runaway star candidates (section 2.3) without radial velocities, it was also examined whether one of those could have been close to RX J1856.5−3754 in the past. The radial velocity for those stars was varied randomly within ±500 km/s (the largest radial velocity moduli among all catalogue stars are ≈ ±400 km/s).

Seven stars showed d_{min} values smaller than 1 pc after three million runs (for justification of the chosen limits see appendix D.2). The distribution of the peculiar spatial velocities of the population of young runaway stars is well represented by a Maxwellian distribution with a velocity dispersion of $\sigma = 21$ km/s (section 2.3) and a maximum at 30 km/s. Extraordinary high velocities are unlikely although possible for individual cases. The derived spatial velocities of all seven stars that are necessary for an encounter with RX J1856.5−3754 deviate from the distribution maximum by more than 6σ.[46]
Concluding, no convincing former companion candidate was found for RX J1856.5−3754. Either RX J1856.5−3754 was a single star or the former companion is a yet unknown runaway star.

4.1.2 RX J0720.4−3125

4.1.2.1 Identifying the parent association of RX J0720.4−3125

For 19 associations and clusters, close encounters consistent with the association/cluster boundaries (R_{crit}) were found after 10^6 Monte Carlo runs. The critical radius of each of them was compared with the putative separation between RX J0720.4−3125 and the association/cluster centre inferred from equation 3.2 (Table 4.2, column 2). For nine associations and clusters $\mu - \sigma$ was consistent with the association boundaries, hence they are possible birth sites of RX J0720.4−3125: TWA, Tuc-Hor, β Pic-Cap, the HD 141569 group, AB Dor, Col 140, Tr 10 and the Carina (CarA) and Argus associations. In Table 4.2 the position of the supernova and the current properties of RX J0720.4−3125, if it was born in the respective association, are given.
[160] suggest that a few supernovae occurred recently in one of the YLA and give Tuc-Hor and Ext. R CrA as the best candidates. Although, within 1.5σ the present mass functions of all YLA suggest that there might have formed at least one supernova progenitor (section 2.1.2), only Tuc-Hor shows direct evidence as there are currently two early B type stars present (α Pav: B2IV, α Eri: B3Vpe [160]). Considering their present mass functions (section 2.1.2), it is unlikely that RX J0720.4−3125 was born in TWA, β Pic-Cap, AB Dor, CarA or Argus.
Tr 10 is listed as sparse open cluster with a diameter of ≈ 3 pc (29' at 366 pc) in the Open Cluster Catalogue [132]. However, [61, 126] suggest that it is actually an association with a diameter of ≈ 50 pc (8° at 366 pc) rather than a cluster. The 23 members found by [126] are all B3 to A0 type stars. Since early B type stars are still present in Tr 10, it is plausible that the association already experienced a supernova.
Close encounters between RX J0720.4−3125 and Col 140 were found for $\tau = 40 \pm 20$ kyr in the past. In this case, the SNR might still be visible; however there is no known SNR in

[46] In Tetzlaff et al. 2011 [484] three stars were proposed after the first selection, i.e. at this point. They are excluded from the updated version of the runaway star catalogue (section 2.3) due to their uncertain age.

Table 4.2: Present-day parameters of RX J0720.4−3125 and supernova position and time for possible parent associations.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
TWA	(0.0, 2.4)	$0.41^{+0.09}_{-0.06}$	376^{+156}_{-28}	-92.8 ± 1.4	55.3 ± 1.7	416^{+110}_{-74}	$4.4^{+0.5}_{-0.5}$	58^{+2}_{-5}	59^{+3}_{-4}	$291.6^{+2.2}_{-2.5}$	$19.9^{+1.6}_{-0.9}$	$10-35$
Tuc-Hor	(45.6, 2.7)	$0.28^{+0.04}_{-0.04}$	529^{+91}_{-59}	-92.8 ± 1.4	55.3 ± 1.7	540^{+70}_{-85}	$5.4^{+0.6}_{-0.4}$	33^{+3}_{-4}	33^{+5}_{-3}	$284.0^{+4.0}_{-4.9}$	$16.7^{+1.8}_{-2.8}$	$7-29$
β Pic-Cap	34^{+8}_{-8}	$0.44^{+0.01}_{-0.11}$	485^{+113}_{-144}	-92.8 ± 1.4	55.3 ± 1.7	521^{+112}_{-125}	$5.2^{+0.9}_{-0.9}$	32^{+12}_{-5}	33^{+8}_{-8}	$313.8^{+5.3}_{-3.0}$	$28.6^{+1.2}_{-1.4}$	$7-35$
HD 141569	(16.5, 1.7)	$0.61^{+0.19}_{-0.07}$	396^{+107}_{-41}	-92.9 ± 1.4	55.1 ± 1.7	424^{+81}_{-65}	$4.1^{+0.5}_{-0.5}$	102^{+8}_{-3}	92^{+8}_{-2}	$9.4^{+2.7}_{-5.9}$	$30.5^{+1.3}_{-0.8}$	$39-46$
AB Dor	55^{+13}_{-16}	$0.37^{+0.07}_{-0.06}$	478^{+110}_{-60}	-92.8 ± 1.4	55.3 ± 1.7	491^{+87}_{-81}	$4.8^{+0.8}_{-0.3}$	36^{+10}_{-9}	39^{+7}_{-14}	$316.4^{+5.5}_{-3.9}$	$29.0^{+1.6}_{-1.1}$	$4-9$
Col 140	(1.8, 0.8)	$0.04^{+0.02}_{-0.02}$	$-650 - +600$	-92.8 ± 1.4	55.3 ± 1.7	448^{+128}_{-187}	$3.2^{+0.3}_{-0.2}$	301^{+1}_{-3}	301^{+1}_{-3}	$244.8^{+0.2}_{-0.1}$	$-7.7^{+0.1}_{-0.1}$	$7-8$
Tr 10	(22.9, 2.7)	$0.50^{+0.05}_{-0.05}$	274^{+151}_{-43}	-92.7 ± 1.4	55.6 ± 1.6	390^{+112}_{-60}	$1.9^{+0.2}_{-0.1}$	373^{+10}_{-9}	379^{+11}_{-8}	$261.1^{+0.9}_{-0.6}$	$3.4^{+0.5}_{-0.6}$	$7-13$
CarA	(33.9, 1.1)	$0.34^{+0.06}_{-0.06}$	404^{+146}_{-74}	-92.7 ± 1.4	55.5 ± 1.6	427^{+118}_{-104}	$4.1^{+0.9}_{-0.4}$	79^{+7}_{-3}	83^{6}_{-3}	$266.0^{+2.5}_{-3.0}$	$5.5^{+2.2}_{-1.4}$	$8-9$
Argus	(35.1, 1.1)	$0.35^{+0.08}_{-0.08}$	388^{+158}_{-65}	-92.7 ± 1.4	55.6 ± 1.6	390^{+135}_{-90}	$4.0^{+0.5}_{-0.6}$	103^{+6}_{-3}	106^{+8}_{-1}	$262.4^{+3.3}_{-1.4}$	$4.2^{+1.8}_{-1.4}$	$7-8$

Column 2: predicted distance of the encounter to the association centre (expectation value μ and standard deviation σ inferred from equation 3.2 or peak value ±68 % if equation 3.2 was not adaptable). Column 3: encounter time τ ($= \tau_{kin}$). Columns 4-8: Predicted present NS parameters (heliocentric radial velocity v_r, proper motion μ_α^* and μ_δ, peculiar space velocity v_{sp}, parallax π). Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity. Columns 9-12: Predicted supernova position (supernova distance $d_{\odot,SN}$, at the time of the supernova; supernova distance $d_{\odot,today}$ and Galactic coordinates, l and b, J2000.0, as seen from Earth at present). Error bars denote 68 % confidence (appendix D.4). Column 13: estimated progenitor mass M_{prog} derived from the progenitor lifetime (age of the parent association, see Table A.1, minus the time τ since the potential supernova) using evolutionary models from [277, 327, 494].

this area ([192]; A. Poghosyan, priv. comm.).

Hence, Tuc-Hor, HD 141569 and Tr 10 are the best parent association candidates although all of the nine candidates listed in Table 4.2 are still possible birth associations of RX J0720.4−3125 (note also the discussion on a nearby origin in section 4.3.3).

Note that for RX J0720.4−3125 several possible birth associations were found. This is mainly due to the large distance error (cf. RX J1856.5−3754, section 4.1.1, where only one possible birth association was identified).

4.1.2.2 Searching for a former companion of RX J0720.4−3125

For 23 runaway stars with complete 3D kinematic data and 17 further without radial velocity measurement, the smallest separation to RX J0720.4−3125 found was less than 1 pc (assuming reasonable space velocities for those stars without v_r measurement; see appendix D.2 for justification of the d_{min} threshold). Four encounters are significant (section 3.2.2).[47] Possible close encounters between RX J0720.4−3125 and 12 stars are found to have occurred inside one or more of the nine possible parent associations/clusters (Table 4.2, although unlikely, the YLA are kept here). Altogether, there are 14 candidates that are given in Table 4.3 along with the respective association(s)/cluster(s) in which the encounter may have occurred (if available), their spectral type, $v \sin i$ value and notes regarding peculiarities and binarity for each star.

[47] In those cases where v_r for the runaway stars is unknown, a velocity distribution according to the velocity distribution of runaway stars (section 2.3) was adopted to not underestimate the significance (as it would when adopting $v_r = -500 - +500$ km/s).

Table 4.3: Properties of stars that might have experienced a close encounter with RX J0720.4−3125.

HIP	Assoc./cl.	SpT	$v \sin i$ [km/s]	notes	Refs.
37017^s	–	sd:O		hot subdwarf	1, [183]
39121	CarA	A3II/III		astrometric binary	1, [331]
40326^s	CarA	K1II/III		spectroscopic, astrometric binary	1, [244]
40430	CarA, Argus	O9nne		nova-like star, cataclysmic variable, binary	1, [184], [531], [384]
43158	Tr 10	B0II/III	96 ± 15	single star	1, [405], [507]
47267	CarA, Argus	G8II		barium star (wd+G8IIBa ?)	1, [30]
50417	TWA, CarA	A2III			1
59803	TWA, β Pic-Cap	B8III	40	expanding circumstellar shell, single star	1, [509], [147], [433]
60134^s	TWA, CarA	A4II		λ Bootis star	1, [191]
63972	CarA, Argus	K0II-III		variable, single, old disk star	1, [147], [146]
76304	β Pic-Cap	G2V	5	pre-main sequence star, suspected spectroscopic binary	1, [229], [278], [168]
78078	TWA, β Pic-Cap	A2Ib/II	110 ± 5	λ Bootis star	1, [435], [399]
84345^s	–	M5Iab		binary	1, [495]
84794	Tuc-Hor, β Pic-Cap, AB Dor	M4	1.00 ± 1.00	flare star, binary, Hyades moving group member (?)	1, [307], [299], [383]

A superscript ^{s} in Column 1 denotes stars for which the possible encounter is significant compared to a reference probability, section 3.2.2. Column 2: possible host association of the encounter (if existing; only possible parent associations of RX J0720.4−3125 are considered, Table 4.2). Column 3: spectral type of the runaway star. Column 4: projected rotational velocity $v \sin i$ of the runaway star if available in the literature. Column 5: information on e.g. peculiarities of the runaway star or binarity as given in the literature. Column 6: references; reference no. 1 is Simbad.

Apparently, one can exclude the O type subdwarf[48] HIP 37017, the cataclysmic variable[49] HIP 40430 and the barium star (see footnote 45) HIP 47267. The latter has been included in the young star sample (section 2.3) owing to its luminosity class. HIP 63972 is also excluded because it has been classified as old disk star [146] and entered the young star sample due to its (uncertain) luminosity class.

At this stage, binary systems are not excluded since it is not clear whether a former binary companion could have survived the supernova explosion.

To further reduce the number of former companion candidates, the distributions d_{min} were compared with the theoretically expected distribution (equations 3.2, 3.3).[50]

Four stars may have possibly been at the same place as RX J0720.4−3125 (i.e. $\mu = 0$): HIP 43158, HIP 60134, HIP 76304 and HIP 84345.[51] In Table 4.4 the four candidates are discussed individually. For two of those stars, HIP 43158 and HIP 76304, rotational velocities ($v \sin i$) are published (Table 4.3). They are rather small compared to those of known BSS runaway stars such as ζ Ophiuchi ($v \sin i = 348$ km/s [405]) and ξ Persei ($v \sin i = 204$ km/s [405]). If one of them originated from a supernova in a multiple system, this may indicate a small inclination angle i.

[48] O type subdwarfs probably form from white dwarf mergers or accretion from a white dwarf companion [256]. Another model is the "late hot flasher scenario" (delayed He core flashes, after the star has left the red giant branch) [213]. Hence, stars of this class are relatively old.

[49] Cataclysmic variables experience strong irregular brightness changes. They are binary systems containing a white dwarf that accretes matter from its companion [38], hence old systems.

[50] For those stars, where the encounter falls within a possible parent association of RX J0720.4−3125, those Monte Carlo runs were selected for which the distance to the association centre of both, RX J0720.4−3125 and the runaway star, was smaller than the association radius.

[51] Note that it is not found that HIP 40326 once could have been at the same place as RX J0720.4−3125 although the encounter is significant. The two stars possibly experienced a close fly-by in the past. In contrast, the two stars HIP 43158 and HIP 76304 are still considered former companion candidates although the encounters are not significant, however they could have occurred inside an association. It is expected that such encounters are less or not significant, see section 3.2.2.

Table 4.4: Discussion on possible former companion candidates to RX J0720.4−3125.

HIP	Properties and conclusion
43158	This B0 giant is a single star [147] with an age of $\approx$ 15 Myr (section 2.3). This is consistent with an origin in Tr 10 (age 15−35 Myr [126, 269, 304]).
60134	This A4II star is a λ Bootes star[52] with unknown v_r.
76304	This G2V star is an X-ray source that is listed as T Tauri star in the catalogue of T Tauri stars in Sco-Cen by [278]. [229] give an age of 3.5 to 5.9 Gyr derived from isochrone fitting (not assuming a pre-main sequence star) which would be far too old to be associated with Sco-Cen. Since it is an X-ray source, a pre-main sequence star with an age of $\approx$ 9 Myr (section 2.3) seems more plausible. Then its age would be consistent with that of β Pic-Cap (8 − 34 Myr [26, 330, 564]), the potential host association of the supernova.
84345	This M5 supergiant has at least one companion [495].

In Table 4.5 the time and position of the supernova and the present properties of RX J0720.4−3125 are given assuming that one of the four remaining runaway stars is the former companion of the NS progenitor. Where possible, in the last two columns of that table estimations of the mass of the progenitor star are given derived from the progenitor lifetime (age of the runaway star minus the time τ since the potential supernova) using evolutionary models from [277, 327, 494]. In the case of HIP 43158 the predicted current radial velocity of RX J0720.4−3125 is found to be rather small. For that reason, the calculations were repeated adopting a uniform radial velocity distribution in the range of $-300 \ldots +300$ km/s. For HIP 43158, the results for both radial velocity distributions are given in Table 4.5.

Considering the proposed parallax RX J0720.4−3125 would currently have in each case, HIP 76304 is a less good candidate since the predicted NS parallax is inconsistent (5.6−6.8 mas) with the measured value (3.6 ± 1.6 mas [150]). Although, in the cases of HIP 60134 and HIP 84345, the predicted parallaxes are consistent within the error bars with the measured value, the analysis favours a scenario in that RX J0720.4−3125 was born in a supernova 0.9 ± 0.2 Myr ago as a former member of Tr 10 with HIP 43158 being the possible former companion. It has been suggested that BSS runaway stars should be blue stragglers due to mass transfer during binary evolution, i.e. they appear younger, hence bluer, than their parent association (see also [230] for other examples). In Fig. 4.6, the positions of HIP 43158 and Tr 10 member stars from [126] are shown in a $(B - V)_0$ versus M_V diagram along with isochrones for 15 Myr and 35 Myr taken from [344]. If Tr 10 is only as young as 15 Myr, HIP 43158 is not a blue straggler; however, Tr 10 might be as old as 35 Myr [126, 304]. In this case HIP 43158 would be a blue straggler.

[52] λ Bootes stars are late-B to early-F type stars with an extreme underabundance of iron-peak elements. Different theories are discussed to explain their characteristics: loss of the outer He zone (diffusion/mass-loss model), accretion of ISM material (accretion/diffusion model) and merging of binaries, see [398] for a review.

Table 4.5: Present-day parameters of RX J0720.4−3125 and supernova position and time for former companion candidates and the respective parent association/cluster.

HIP	Assoc./cl.	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
		[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
43158*	Tr 10	$1.0^{+0.2}_{-0.2}$	-100^{+25}_{-5}	-92.6 ± 1.3	55.9 ± 1.7	160^{+10}_{-10}	$3.6^{+0.8}_{-0.2}$	370^{+4}_{-18}	380^{+14}_{-6}	$259.0^{+0.7}_{-0.4}$	$1.9^{+0.8}_{-0.5}$	7 − 15
43158#	Tr 10	$0.9^{+0.2}_{-0.2}$	-76^{+34}_{-17}	-92.8 ± 1.4	55.5 ± 1.6	163^{+3}_{-8}	$3.5^{+0.3}_{-0.3}$	375^{+4}_{-16}	383^{+10}_{-10}	$259.5^{+0.3}_{-0.8}$	$2.4^{+0.4}_{-0.8}$	7 − 15
60134^s	TWA, CarA	$0.4^{+0.1}_{-0.1}$	363^{+176}_{-95}	-92.8 ± 1.4	55.3 ± 1.6	395^{+149}_{-112}	$4.6^{+0.8}_{-1.2}$	49^{+24}_{-8}	51^{+17}_{-13}	$279.9^{+3.9}_{-1.4}$	$13.8^{+3.0}_{-0.1}$	9 − 35
76304	β Pic-Cap	$0.6^{+0.1}_{-0.2}$	309^{+27}_{-69}	-92.8 ± 1.4	55.2 ± 1.6	338^{+29}_{-81}	$5.8^{+1.0}_{-0.2}$	52^{+4}_{-2}	46^{+4}_{-1}	$340.5^{+2.6}_{-2.7}$	$32.0^{+2.3}_{-2.0}$	19 − 33
84345^s	–	$0.6^{+0.2}_{-0.1}$	454^{+108}_{-77}	-92.8 ± 1.4	55.3 ± 1.7	463^{+107}_{-80}	$4.5^{+0.6}_{-0.6}$	126^{+17}_{-13}	117^{+14}_{-14}	$29.6^{+1.2}_{-3.6}$	$25.5^{+2.9}_{-2.6}$	–

A superscript ^{s} in Column 1 denotes stars for which the possible encounter is significant compared to a reference probability, section 3.2. Column 2: potential birth association. Column 3: predicted supernova time in the past τ. Columns 4-8: predicted present NS parameters (heliocentric radial velocity v_r, proper motion μ_α^* and μ_δ, peculiar space velocity v_{sp}, parallax π). Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity. Columns 9-12: predicted supernova position (supernova distance $d_{\odot,SN}$, at the time of the supernova; supernova distance $d_{\odot,today}$ and Galactic coordinates, l and b, J2000.0, as seen from Earth at present). Column 13: estimation of the mass of the progenitor star derived from the progenitor lifetime (age of the runaway star minus the time τ since the potential supernova) using evolutionary models from [277, 327, 494]. For HIP 84345, no age estimation was possible (hence, no M_{prog}). It was considered young because of its luminosity class (section 2.3.1).

For HIP 43158 results are shown for a v_r distribution derived from the one of pulsar spatial velocities [221] (superscript *) as well as a uniform distribution in the range $v_r = -300 \ldots + 300$ km/s (superscript #), see text.

The predicted heliocentric radial velocity v_r of HIP 60134, which has no v_r measured yet, would be $v_{r,run} = 77^{+50}_{-53}$ km/s.

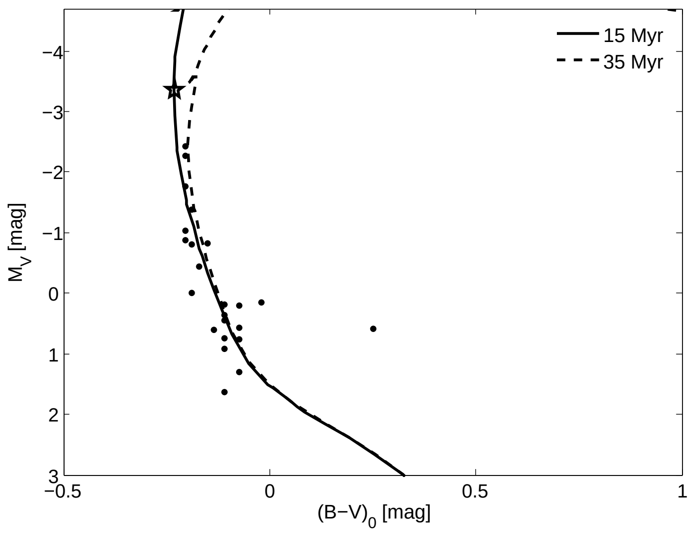


Figure 4.6: $(B-V)_0$ versus M_V diagram of Tr 10 (filled circles show member stars according to [126], the star marks HIP 43158). The solid and dashed lines represent the 15 Myr and 35 Myr isochrones from [344] (for solar metallicity; http://stev.oapd.inaf.it/cgi-bin/cmd). $(B-V)_0$ of the Tr 10 member stars and HIP 43158 are derived from their spectal types according to [444]. M_V are calculated from B and V magnitudes and parallactic distances (taking also into account the extinction A_V which was determined from $(B-V)$ and $(B-V)_0$).

The mass of the progenitor star would have been 13−14 M$_\odot$ (for an age of Tr 10 of 15 Myr) or 7 − 9 M$_\odot$ (for an age of Tr 10 of 35 Myr; at the lower limit for supernova progenitors) corresponding to a spectral type of B1 to B2/3 on the main-sequence. This is consistent with the progenitor star of RX J0720.4−3125 having an earlier spectral type than the earliest current member of Tr 10 (four B3 stars [126]). Tr 10 has been previously suggested to host the birth place of RX J0720.4−3125 by [380] who considered the general direction of the NS's motion and [264] who investigated the probability of close approaches of the NS to nearby OB associations given in [126]. They varied the parallax within 2.8 ± 0.9 mas and the radial velocity in the range $v_r = \pm 0.935 v_t$ (0.935 corresponds to 1σ in v_r for random orientation, v_t is the transverse velocity) and found a separation between the NS and the centre of Tr 10 of 17 pc 0.7 Myr ago for $v_r \approx -20 \ldots + 50$ km/s, not inconsistent with the more complete calculations presented in this thesis.

Table 4.6: Present-day parameters of RX J1605.3+3249 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	d_{NS}^a	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[pc]	[pc]	[pc]	[°]	[°]	[$M_\odot$]
Ext. R CrA	(33.4, 2.3)	$0.42^{+0.07}_{-0.04}$	577^{+123}_{-76}	-43.9 ± 1.7	148.4 ± 2.6	612^{+128}_{-72}	303^{+30}_{-33}	104^{+7}_{-12}	103^{+4}_{-17}	$344.7^{+2.3}_{-1.4}$	$-5.1^{+1.8}_{-1.4}$	12 – 18
Sco OB4[b]	(42.7, 18.4)	$3.4^{+0.3}_{-0.6}$	-21^{+19}_{-10}	-42.3 ± 1.3	149.8 ± 2.5	266^{+38}_{-33}	385^{+50}_{-62}	983^{+30}_{-12}	944^{+29}_{-11}	$351.6^{+0.6}_{-0.7}$	$2.5^{+1.0}_{-0.3}$	42 – 89
Octans	(103.5, 25.7)	$0.53^{+0.09}_{-0.08}$	548^{+159}_{-34}	-43.6 ± 1.7	148.6 ± 2.6	664^{+87}_{-107}	370^{+44}_{-35}	140^{+6}_{-19}	139^{+7}_{-19}	$326.3^{+1.9}_{-7.5}$	$-26.7^{+2.7}_{-5.4}$	10 – 11

[a]Instead of the current parallax π (as in Table 4.2) the current distance of RX J1605.3+3249 is given here since no parallax was measured.

[b]Using the [221] distribution for NS space velocities in the case of Sco OB4 it was found that the absolute radial velocity v_r of RX J1605.3+3249 is small. To achieve better statistics and a clear peak in the d_{min} distribution to be able to adapt the theoretical curves, the calculations were repeated assuming a uniform v_r distribution. The results for the latter are given here. They did not change significantly.

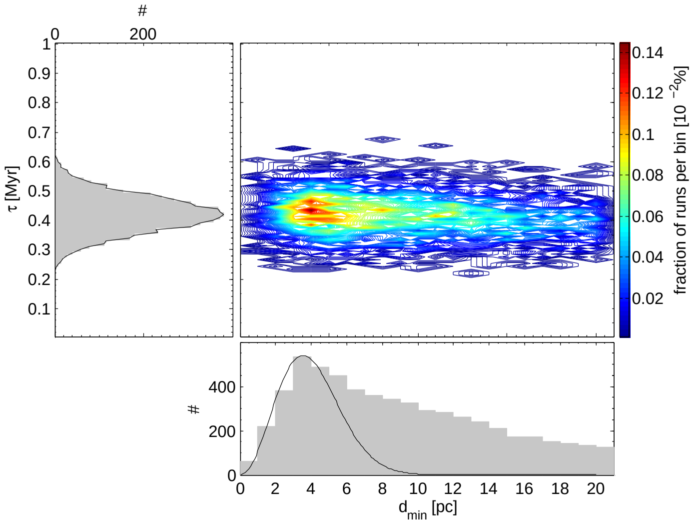


Figure 4.7: Panels as in Fig. 4.1 for encounters between RX J1605.3+3249 and HIP 89394 that occurred inside the Octans association. The solid curves drawn in the d_{min} histograms (bottom panel) represent the theoretically expected distribution (equation 3.3) with $\mu = 0$ and $\sigma = 2.5$, adapted to the first part of the histogram.

Since the radial velocity of RX J0720.4−3125 would be rather small if it originated from Tr 10, it might be possible to detect a bow shock (see section 4.1.1 for another example), hence, further constrain v_r.[53]

4.1.3 RX J1605.3+3249

Three associations/clusters were found that could have hosted the supernova in which RX J1605.3+3249 was born: Ext. R CrA, Sco OB4 and the Octans association. In Table 4.6, the position of the supernova and the properties RX J1605.3+3249 would currently have if it was born in the respective association are given. In the last column an estimate of the mass of the progenitor star derived from the lifetime of the progenitor star is given. Note that although the proposed progenitor mass of 42 – 89 $M_\odot$ in the case of Sco OB4 is rather high and black holes are expected to form above ≈ 30 $M_\odot$ [214] rather than NSs, in binary systems, NS are expected to form for masses higher than ≈ 40 – 80 $M_\odot$ [29]. Hence, all three associations are still possible parent associations although the present mass

[53]High resolution imaging at VLT/FORS (proposal by Vogt, Hohle, Eisenbeiß) were carried out in 2011/2012 and are currently being analysed by M. Hohle and T. Schmidt.

function of the Octans association shows only least evidence that a supernova progenitor was formed in this association.

One former companion candidate was identified, namely HIP 89394 (see appendix E.12). The proposed encounter supports a nearby origin of RX J1605.3+3249 (possibly in Octans) ≈ 0.4 Myr in the past (Fig. 4.7).

HIP 89394 was classified as F0II star by [232], and revised by [395] to be Am, i.e. it is metal-rich. It is treated as a possible former companion candidate here. The predicted current parameters of RX J1605.3+3249 and the predicted supernova position and time are summarised in Table 4.7.

Table 4.7: Predicted current parameters of RX J1605.3+3249 and supernova position and time if HIP 89394 was the former companion.

Predicted present-day parameters of RX J1605.3+3249	
v_r [km/s]	626^{+209}_{-56}
d_{NS} [pc]	303^{+54}_{-40}
μ^*_α [mas/yr]	-43.7 ± 1.7
μ_δ [mas/yr]	148.6 ± 2.6
v_{sp} [km/s]	657^{+183}_{-84}
Predicted supernova pos. and time	
$d_{\odot,SN}$ [pc]	93^{+17}_{-16}
$d_{\odot,today}$ [pc]	93^{+15}_{-16}
l [°]	$335.6^{+2.7}_{-1.0}$
b [°]	$-16.7^{+2.7}_{-1.6}$
τ [Myr]	$0.42^{+0.07}_{-0.06}$

Designations are as in Table 4.1. Note that the NS distance d_{NS} is given instead of π. The predicted radial velocity v_r of HIP 89394, which has no v_r measured yet, is $v_{r,run} = 117^{+99}_{-34}$ km/s.

The predicted supernova would have been very recent (≈ 0.4 Myr ago) and nearby (≈ 100 pc). Its position is not far from the Galactic plane; however, in the COMPTEL 1.8 MeV map [136] there is a feature centred at $(l, b) = (334.^\circ5, -16.^\circ6)$ (Fig. 4.8). According to SNR expansion theory (section 1.3), a SNR expanding into the ISM with a volume density of $n = 1\,\mathrm{cm}^{-3}$ would have a size of ≈ 46 pc after 0.43 Myr. At a distance of 100 pc, this corresponds to an angular size of the SNR of $\approx 25°$.[54] Integrating the flux over a circle with 25° diameter around the feature[55] and subtracting emission from the Galactic centre, a total flux of $\approx 9 \cdot 10^{-6}$ photons $\cdot\,\mathrm{cm}^{-2} \cdot \mathrm{s}^{-1}$ is obtained (see appendix D.1). This yields an ejected mass of ^{26}Al in the supernova of $\approx 2.4 \cdot 10^{-5}\,\mathrm{M}_\odot$ corresponding to a mass of the progenitor star of $\approx 12 - 14\,\mathrm{M}_\odot$ [301, 548] (Fig. 1.2).

The progenitor mass derived from the lifetime of the progenitor star is $10 - 11\,\mathrm{M}_\odot$. This is in rough agreement with the estimates from ^{26}Al. This mass corresponds to spectral type B1 on the main sequence. All high probability Octans members in the list by [498] are F to K type stars, hence very low mass stars. From the Octans present mass function it might be possible within 1.5σ that there was one $10\,\mathrm{M}_\odot$ star in Octans (section 2.1.2).

To confirm or reject its BSS status, a proposal for high resolution spectroscopy of HIP 89394 was submitted to VLT/UVES to detect an overabundance of α elements as supernova debris material (Neuhäuser, Dincel, Przybilla, Tetzlaff, Hohle).

[54] Note that a distance of 100 pc might be close to the edge of the Local Bubble. If the supernova position was inside the Local Bubble, the SNR would be larger than 100 pc in radius.

[55] Due to the large size of the circle there is not significant difference when centering the area at the derived supernova position $(l, b) = (336.^\circ6, -16.^\circ7)$.

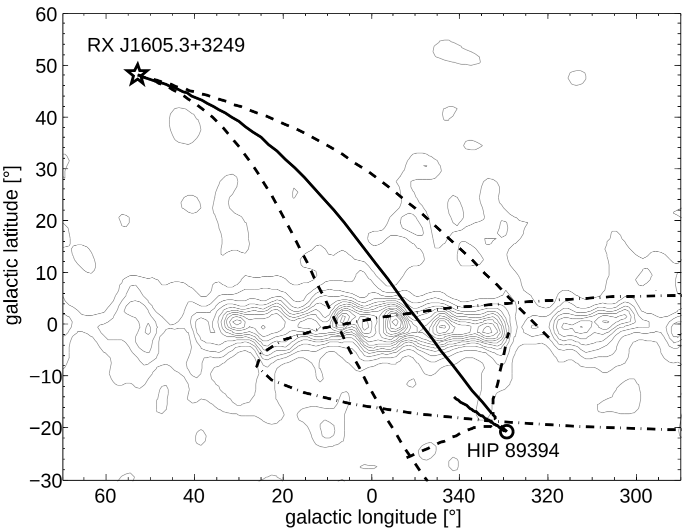


Figure 4.8: Past trajectories for RX J1605.3+3249 and the former companion candidate HIP 89394 projected on a Galactic coordinate system. Symbols mark present positions, dashed lines 1σ error bars. The dashed-dotted line indicates the boundaries of the Octans association. Contour lines show the COMPTEL 1.8 MeV map [136]. A marginal feature close to the encounter position is situated at $(l, b) = (334.^{\circ}5, -16.^{\circ}6)$.

4.2 The Three Musketeers

The "Three Musketeers" [27] are three young ($\tau_{char} \approx 10^5$ yr) pulsars. Their X-ray spectra are best modeled with two blackbodies with different normalisations and a power law [121], where the power law is dominant above energies of $1 - 2$ keV [122, 226].

4.2.1 PSR J0633+1746 – The Geminga Pulsar

The transverse velocity of the Geminga Pulsar (PSR J0633+1746) is $v_t = 214^{+73}_{-58}$ km/s. A bow shock was first detected in XMM observations and the inclination angle to the line of sight was constrained to $i > 60^{\circ}$ [73].[56] This lower limit on i implies a maximum radial velocity modulus of $|v_r| \lesssim 250$ km/s (for 3σ v_t).

The Orion OB1 association was found to be the only plausible parent association for the Geminga Pulsar (possible birth place inside the association, R_{crit}, and NS v_r consistent with the bow shock). Ori OB1 was first suggested by [458] as the birth place of Geminga using a set of different distances and radial velocities for Geminga and a proper motion of $(\mu^*_{\alpha}, \mu_{\delta}) = (140, 100)$ mas/yr [40] available at that time (differing in μ_{δ} by 6σ from the most recent value by [156]). For a distance of Geminga of 400 pc (i.e. too large, the parallactic distance is 250^{+120}_{-61} pc [156]) and reasonable radial velocity (≈ -100 km/s), they found that Geminga could be the remnant of a runaway star that was ejected from Ori OB1a or was born in the λ Ori (also known as Collinder 69) association ≈ 0.35 Myr ago. Using the most recent distance of Geminga (250^{+120}_{-61} pc [156]), a current radial velocity of ≈ -300 km/s is required for an origin in the λ Ori association, being inconsistent with the v_r values estimated from the bow shock (see above).

Ori OB1 was divided into four groups of different ages [44] with Ori OB1a being the oldest (≈ 11 Myr) [61]. The group Ori OB1d which is also known as the Trapezium cluster is only

[56] Note that the published limit on the inclination angle of $< 30^{\circ}$ is given with respect to the plane of the sky.

Table 4.8: Present-day parameters of the Geminga Pulsar and supernova position and time for possible parent associations. Column designations are as in Table 4.2. For case * a radial velocity distribution derived from the one for pulsar space velocities by [221] was used, for cases # a uniform v_r distribution in the range of -300 to $+300$ km/s was adopted.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[$M_\odot$]
Ori OB1*	(51.9, 3.1)	≈ 0.4	187^{+171}_{-58}	142.1±1.2	107.5±1.2	417^{+143}_{-32}	$2.1^{+0.2}_{-0.1}$	376^{+23}_{-8}	400^{+13}_{-14}	$199.7^{+0.2}_{-0.1}$	$-19.0^{+0.5}_{-0.5}$	$\gtrsim 15$
	(51.8, 5.7)	≈ 0.7	-170^{+56}_{-28}	142.2±1.2	107.5±1.2	262^{+13}_{-16}	$4.1^{+0.5}_{-0.5}$	385^{+8}_{-10}	410^{+4}_{-6}	$199.6^{+0.6}_{-0.3}$	$-17.5^{+2.2}_{-1.9}$	$\gtrsim 16$
Ori OB1#	(50.7, 4.7)	$0.58^{+0.22}_{-0.15}$	-127^{+70}_{-94}	142.2±1.2	107.5±1.2	263^{+29}_{-24}	$4.0^{+0.6}_{-1.2}$	386^{+12}_{-16}	399^{+11}_{-15}	$199.8^{+0.4}_{-0.5}$	$-19.1^{+2.9}_{-1.5}$	$\gtrsim 16$
Ori OB1a#	(8.7, 1.4)	$0.58^{+0.14}_{-0.17}$	-113^{+117}_{-29}	142.1±1.2	107.6±1.2	219^{+35}_{-12}	$3.9^{+0.8}_{-0.8}$	323^{+4}_{-4}	336^{+6}_{-2}	$199.9^{+0.3}_{-0.2}$	$-18.7^{+0.5}_{-0.4}$	16 − 26

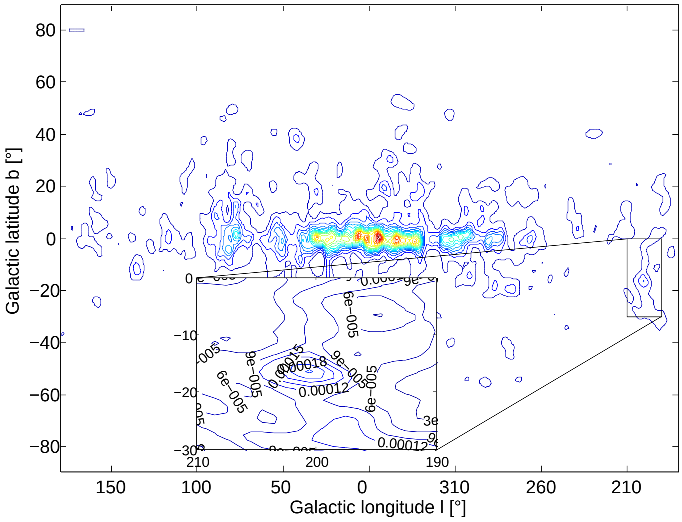


Figure 4.9: Proposed region of the supernova of the Geminga progenitor in the COMPTEL 1.8 MeV map [136, 416] (the unit of the contours is $cm^{-2}s^{-1}sr^{-1}$). The derived supernova centre at $(l, b) \approx (200°, -19°)$ (Table 4.8) is close to the brightest feature in the Orion region centred at $(l, b) \approx (201°, -17°)$.

1 Myr old [61], hence too young to have already experienced a supernova. It contains too few stars to determine its distance [62]. For those reasons, it was not further regarded as potential birth place of Geminga. The Geminga Pulsar approaches closest to group a, for groups b and c no encounters were found. The present NS parameters in case it was born in Ori OB1a are given in Table 4.8. The current radial velocity needed is ≈ -100 km/s and well within the v_r range estimated from the bow shock.

It can be concluded that Ori OB1a is the parent association of the Geminga Pulsar. From the lifetime of the progenitor star, i.e. the difference between the association age (11 Myr) and flight time of the NS ($\tau_{char} \approx 0.6$ Myr), the progenitor mass is estimated to be $\approx 16-26\,M_\odot$ using evolutionary models from [277, 327, 494].

In the COMPTEL 1.8 MeV map [136, 416] there is a well pronounced feature at $(l, b) \approx (201°, -17°)$ (brightest feature in Orion, Fig. 4.9). The SNR (if expanding into an ISM with a volume density of $n = 1\,cm^{-3}$) would have a radius of ≈ 50 pc after 0.6 Myr (section 1.3). At a distance of ≈ 320 pc, this translates into an angular radius of the SNR of $\approx 9°$. Integrating the flux over a circle with 9° radius around the feature, a total flux of $\approx 6.8 \cdot 10^{-6}$ photons $cm^{-2}\,s^{-1}$ is obtained (see appendix D.1). This corresponds to a mass of ^{26}Al of $\approx 2 \cdot 10^{-4}\,M_\odot$ that was ejected during the supernova translating into a progenitor

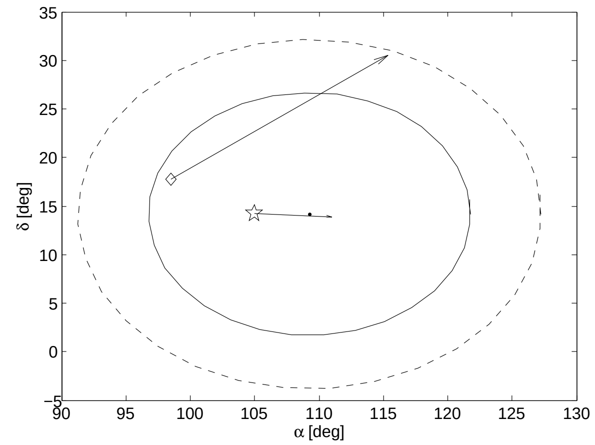


Figure 4.10: Nearby young NSs located inside an 18° circle (dashed) around the centre of the Monogem SNR (solid circle), PSR J0659+1414 (star) and Geminga (diamond). Arrows represent the scaled transverse velocities ($v_t = 4.74\mu/\pi$)

mass of $\approx 30\,M_\odot$ [548] (or $\approx 50 - 60\,M_\odot$ [301]), in rough agreement with the estimate from the progenitor lifetime.[57]

Doubts for this association could be raised because the kinematic age of the Geminga Pulsar of $0.58^{+0.14}_{-0.17}$ Myr is larger than its characteristic age of 0.34 Myr [243], however the characteristic age only gives an estimate of the order of magnitude and depends upon different assumptions such as the braking index (emission mechanism) and birth spin period (section 1.4). Moreover, if the braking index n is smaller than 3 (this is the case for e.g. the Vela Pulsar [320]) as it could be due to pulsar winds [550, 551], the real pulsar age is larger than its characteristic age. Assuming an initial spin period of 20 ms as estimated for the Crab Pulsar [341], the braking index of the Geminga Pulsar would be $n \approx 2.1$ if it was ≈ 0.6 Myr old.

No plausible former companion candidate was found for the Geminga Pulsar (appendix E.4). [458] suggested that Geminga is the remnant of an O or B type star that was ejected from the Orion complex, hence a runaway star itself. As it was found that the supernova can easily be placed into the Ori OB1a association, this scenario is not necessary, but not ruled out.

4.2.2 PSR J0659+1414

PSR J0659+1414 is the central source of the 25° diameter SNR G203.0+12.0 centred at $(l, b) \approx (203°, 12°)$ that is called the Monogem Ring [65, 393, 414]. The pulsar PSR J0659+1414 has been associated with the SNR [393, 491, 492] due to its closeness to the apparent centre of the ring, the agreement in distance (PSR: 288^{+33}_{-27} pc [60], SNR: 300 − 600 pc [414]) and age (PSR: $\tau_{char} = 0.11$ Myr [222], and expansion age of the SNR: 0.08 − 0.2 Myr [414]), see also [492]. However, since the proper motion vector of PSR J0659+1414 points towards the centre of the ring (Fig. 4.10), there have been doubts about the association.

[57] Probably multiple (earlier) supernovae contributed to the presently seen 1.8 MeV emission, hence it is expected to derive a slightly higher ejected ^{26}Al mass.

Assuming typical NS velocities of $100 - 500$ km/s (here, only transverse component) and a distance of 300 pc, a NS would have travelled up to $\approx 18^\circ$ within 0.2 Myr. In the ATNF pulsar database, however, only one other pulsar with a characteristic age up to a few Myr (to allow for a one order of magnitude uncertainty for an expected SNR age of a few 10^5 yr) and distance up to 1 kpc lies inside an 18° circle around the SNR centre, the Geminga Pulsar. However, Geminga is located far from the centre of the ring (Fig. 4.10). Moreover, the most probable birth place of the Geminga Pulsar is the Ori OB1a association (section 4.2.1). Hence, it is unlikely that Geminga is connected with the Monogem Ring. Although very young, the size of the Monogem Ring is large, at 300 pc distance, its diameter is ≈ 130 pc. This can be explained if the explosion occurred in a medium of low density ($n \approx 5{\cdot}10^{-2}$ cm^{-3} if standard explosion energy assumed, $E = 10^{51}$ erg). Another possibility might be an extremely high explosion energy ($\approx 10^{52} - 10^{53}$ erg in normal ISM with $n = 1$ cm^{-3}); see also [414]. Probably, the released energy depends upon the mass of the progenitor star such that it increases for higher mass stars [170]. Then, a black hole might have formed that is not visible. However, there is indication that the explosions of lower mass ($\approx 8 - 12\,M_\odot$) and very high mass stars ($\gtrsim 20\,M_\odot$, black hole progenitors) release less energy than the intermediate mass ones ([510]; T. Janka, priv. comm.).

To exclude or propose other possible formation sites of the pulsar, it was investigated whether it could have been born within a young association or cluster. The analysis and discussion are presented in appendix E.5. If PSR J0659+1414 was not born in the supernova that created the Monogem Ring SNR, Mon OB1 and the YLA Tuc-Hor, β Pic-Cap, AB Dor and the Columba (ColA) and Argus associations remain as possible parent associations (although the YLA seem less likely due to their present mass functions, see section 2.1.2). However, it seems most likely that the Monogem SNR and PSR J0659+1414 are associated because they agree in distance and roughly in age. That the pulsar is located somewhat off-set the nominal centre of the X-ray SNR and apparently moving towards it is not inconsistent with that because the SNR shell is highly distorted. In the X-ray image (right panel of Fig. 4.11) an apparent blowout away from the Galactic plane is seen, indicating a lower density of the surrounding medium whereas on the opposite side the remnant seems less expanded indicating a higher ISM density. This agrees well with the 1.8 MeV γ intensity (COMPTEL, ^{26}Al, left panel of Fig. 4.11) that is lower in the direction of the blowout (less dense swept up ISM material) than in the opposite direction (denser swept up ISM material). Since it is not possible to derive the true centre of the SNR, i.e. the position of the explosion, from those images, it is plausible to accept PSR J0659+1414 as the associated pulsar.[58]

Counting the COMPTEL 1.8 MeV flux within a 25° diameter circle around the past position of the pulsar yields an ejected ^{26}Al mass of $\approx 1.5{\cdot}10^{-4}\,M_\odot$ (see appendix D.1) corresponding to a progenitor mass of $\approx 14\,M_\odot$ [301] to $\approx 30\,M_\odot$ [548] (Fig. 1.2).

[58] Moreover, supernova explosions are asymmetric [50, 137, 209, 246, 441, 546].

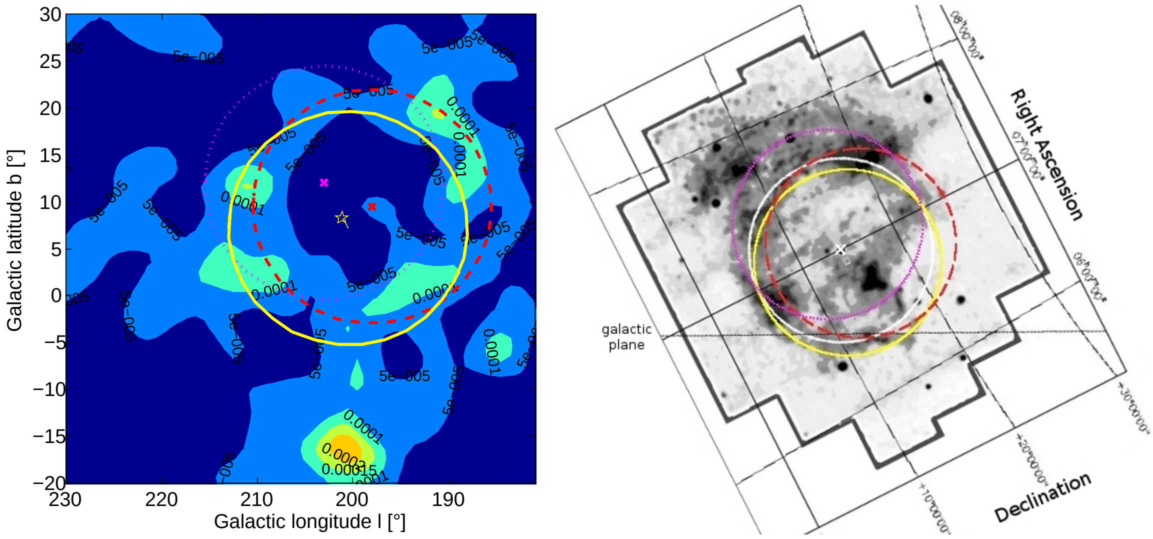


Figure 4.11: The Monogem Ring as seen in γ rays (left panel, COMPTEL 1.8 MeV, ^{26}Al, the unit of the contours is $cm^{-2}s^{-1}sr^{-1}$) and X-rays (right panel, ROSAT all-sky survey, 0.25 – 0.75 keV, figure taken from [492]). PSR J0659+1414 is marked with a yellow star in the left image and a white cross in the right image, respectively. The yellow 25° circle shows the remnant centred on the pulsar position 0.1 Myr ago [τ_{char}, end point of the yellow solid line, $(l, b) = (201°, 7°)$]. The red and magenta circles of the same size show the SNR in 1.8 MeV γ rays [centred at $(l, b) = (198°, 10°)$] and X-rays [centred at $(l, b) = (203°, 12°)$ [414]], respectively (the white circle in the right image is centred on the present pulsar position). Note the discussion on the morphology of the ring in the text.

To strengthen the association between the Monogem SNR and PSR J0659+1414 it was searched for a former companion, if existing, that is now a runaway star. No runaway star was found to have possibly experienced a close encounter with PSR J0659+1414 inside the Monogem Ring $\approx$ 0.1 Myr in the past. However, this is consistent with the NS progenitor being a single runaway star itself since the supernova position (Monogem Ring) lies outside any young stellar association. The progenitor star might have been ejected from the nearby Orion complex.

It was also checked whether a runaway could be connected with PSR J0659+1414 if the NS was born outside the Monogem Ring, i.e. that would support a non-association between the SNR and the pulsar. Four possible former companion candidates were found that support an origin in the YLA 0.4 – 1.1 Myr ago (appendix E.5). However, the association between PSR J0659+1414 and the Monogem Ring SNR is considered more likely.

4.3 Other Neutron Stars – Possible Supernovae Within 500 Parsecs

4.3.1 PSR J0034–0721

If it is younger than 5 Myr (although the characteristic age is 36.6 Myr), PSR J0034–0721 was possibly born in the Argus association although it is questionable whether the Argus association could have hosted a supernova (section 2.1.2). Furthermore, the predicted

Table 4.9: Predicted current parameters of PSR J0034−0721 if it was born in the Argus association.

Predicted present-day parameters of PSR J0034−0721	
v_r [km/s]	504^{+96}_{-87}
π [mas]	$0.9^{+0.1}_{-0.1}$
μ^*_α [mas/yr]	10.4 ± 0.1
μ_δ [mas/yr]	-11.1 ± 0.2
v_{sp} [km/s]	512^{+94}_{-87}
Predicted supernova pos. and time	
$d_{\odot,SN}$ [pc]	163^{+18}_{-32}
$d_{\odot,today}$ [pc]	130^{+19}_{-24}
l [°]	$81.5^{+1.4}_{-0.7}$
b [°]	$6.9^{+1.7}_{-2.0}$
τ [Myr]	$1.85^{+0.47}_{-0.36}$
d_{Argus} [pc] (μ, σ)	$(78.8, 31.3)$

Designations are as in Table 4.1.

supernova position lies at the association edge at ≈ 80 pc from the Argus centre (nominal association radius 74 pc [498], Table A.1; $R_{crit} = 76$ pc). Nevertheless, a nearby recent origin is possible for that NS. If so, PSR J0034−0721 would have present properties as given in Table 4.9.

Five former companion candidates were found (appendix E.1) – HIP 52093, HIP 97198, HIP 101938, HIP 115263 and HIP 115755. The present parameters of PSR J0034−0721 if the respective runaway star was the former companion are given in Table 4.10. In that table, for two cases the mass of the supernova progenitor M_{prog} derived from progenitor lifetime (here: age of the runaway star minus the time τ since the potential supernova; HIP 52093: 10 ± 7 Myr, HIP 101938: 7 ± 3 Myr, section 2.3) are given. Since the stellar ages are rather uncertain, only lower limits on M_{prog} were obtained. Note that the stellar ages are much smaller than the age of the Argus association (40 Myr [498]), however very uncertain.

4.3.2 PSR J0835−4510 – The Vela Pulsar

PSR J0835−4510, the Vela Pulsar, is the central source of the Vela SNR [288]. There is no doubt about the association between the pulsar and the remnant ([11, 16]; S. Popov, priv. comm.) although the projected pulsar path does not cross the geometrical centre of the remnant. However, it is unlikely that the SNR expands symmetrically (cf. Monogem Ring SNR, section 4.2.2). Furthermore, distance ($\approx 250 - 280$ pc for the SNR [54, 78], 290 pc for the pulsar [138]) and age (≈ 0.01 Myr for the SNR [72, 90], $\tau_{char} = 0.0113$ Myr for the pulsar, [139]) of both objects are in excellent agreement.

Table 4.10: Present-day parameters of PSR J0034−0721 and supernova position and time for former companion candidates and the respective parent association/cluster. Column designations are as in Table 4.5.

HIP	Assoc./cl.	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
52093	Argus	$1.73^{+0.30}_{-0.42}$	732^{+116}_{-175}	10.4 ± 0.1	-11.1 ± 0.2	726^{+111}_{-169}	$1.0^{+0.1}_{-0.1}$	113^{+19}_{-16}	101^{+8}_{-21}	$81.5^{+3.2}_{-2.3}$	$11.4^{+15.3}_{-18.4}$	$\gtrsim 9$
97198	Argus	$1.28^{+0.20}_{-0.17}$	786^{+92}_{-79}	10.4 ± 0.1	-11.1 ± 0.2	811^{+71}_{-101}	$1.0^{+0.1}_{-0.1}$	101^{+8}_{-13}	83^{+7}_{-10}	$78.1^{+1.3}_{-1.2}$	$33.5^{+8.1}_{-1.9}$	–
101938	Argus	$1.53^{+0.19}_{-0.28}$	605^{+128}_{-40}	10.4 ± 0.1	-11.1 ± 0.2	606^{+119}_{-51}	$1.0^{+0.1}_{-0.1}$	113^{+16}_{-12}	92^{+13}_{-11}	$82.9^{+0.7}_{-0.9}$	$7.5^{+1.3}_{-1.8}$	$\gtrsim 18$
115263^s	–	$1.64^{+0.37}_{-0.28}$	555^{+48}_{-93}	10.4 ± 0.1	-11.1 ± 0.2	533^{+95}_{-47}	$0.9^{+0.1}_{-0.1}$	183^{+14}_{-19}	168^{+15}_{-15}	$89.4^{+0.7}_{-0.8}$	$-34.2^{+2.1}_{-1.4}$	–
115755	Argus	$1.37^{+0.13}_{-0.12}$	663^{+75}_{-150}	10.4 ± 0.1	-11.1 ± 0.2	692^{+74}_{-125}	$1.0^{+0.1}_{-0.1}$	122^{+6}_{-12}	105^{+6}_{-10}	$86.7^{+1.0}_{-0.9}$	$-15.3^{+1.4}_{-3.4}$	–

Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.
The predicted radial velocities v_r of HIP 52093, HIP 97198 and HIP 101938, which have no v_r measured yet, would be $v_{r,HIP52093} = 113^{+116}_{-51}$ km/s, $v_{r,HIP97198} = 55^{+20}_{-23}$ km/s and $v_{r,HIP101938} = 40^{+17}_{-15}$ km/s, respectively.
For some runaway stars, no age estimation was possible (hence, no M_{prog}). They are considered young stars because of their luminosity class (section 2.3.1).

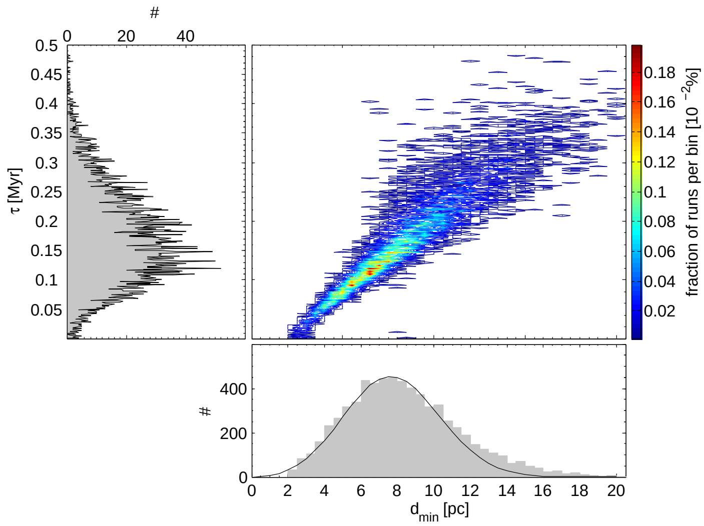


Figure 4.12: Panels as in Fig. 4.1 for encounters between the Vela Pulsar and HIP 42041. Only those runs are shown for which both stars were within 21 pc from the nominal centre of the Vela SNR (21 pc corresponds to an angular radius of 4° at a distance of 300 pc). The solid curve drawn in the d_{min} histogram (bottom panel) represents the theoretically expected distribution (equation 3.3) with $\mu = 6.6$ pc and $\sigma = 2.8$ pc, adapted to the first part of the histogram. The encounter time is $\tau = 0.12^{+0.10}_{-0.05}$ Myr.

To improve the pulsar and SNR ages, it is searched for a runaway star that could be the former companion of the Vela Pulsar progenitor if it exists.
For only one star from the Hipparcos runaway star catalogue (section 2.3), HIP 42041, close encounters with the Vela Pulsar within the past 10^5 yr (note that this is $10\tau_{char}$) are possible (assuming reasonable v_r values for the runaway star which has no measured v_r yet). However, the distribution of separations d_{min} suggests a recent fly-by of the two stars rather than a former binary system ($\mu = 6.6$ pc, Fig. 4.12).
While searching for early type runaway stars within SNRs, [8] found two stars within the boundaries of the Vela SNR, namely the candidate found also here, HIP 42041, and another star, HIP 42007. The latter is a B8/9V star with an age of 150 ± 14 Myr (section 2.3), hence too old to be associated with the young Vela Pulsar. However, the Vela region is populated with many SNRs making it difficult to apply the method of [8] (B. Dincel, priv. comm.).
The overall results do not change when adopting a broad v_r distribution (uniform or according to [221] in the range of $-1500 - +1500$ km/s) or a narrow one with $v_r = 60 \pm 50$ km/s

Table 4.11: Present-day parameters of PSR J0630−2834 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
TWA	(12.2, 3.8)	$0.64^{+0.27}_{-0.19}$	466^{+80}_{-67}	-46.3 ± 1.0	21.3 ± 0.5	460^{+94}_{-52}	$3.0^{+0.4}_{-0.3}$	52^{+6}_{-6}	54^{+6}_{-6}	$284.1^{+3.3}_{-2.5}$	$28.9^{+1.7}_{-2.3}$	10 − 37
Tuc-Hor	(61.2, 10.9)	$0.54^{+0.10}_{-0.10}$	466^{+80}_{-67}	-46.3 ± 1.0	21.3 ± 0.5	460^{+94}_{-52}	$3.0^{+0.4}_{-0.3}$	52^{+6}_{-6}	54^{+6}_{-6}	$278.0^{+3.5}_{-3.6}$	$23.8^{+2.7}_{-3.0}$	7 − 30
β Pic-Cap	(50.0, 14.2)	$0.61^{+0.11}_{-0.13}$	494^{+103}_{-119}	-46.3 ± 1.0	21.3 ± 0.5	513^{+101}_{-117}	$3.2^{+0.3}_{-0.4}$	50^{+9}_{-10}	46^{+11}_{-8}	$299.4^{+3.2}_{-3.6}$	$36.9^{+1.6}_{-1.6}$	7 − 36
HD 141569	(4.7, 2.8)	$0.88^{+0.13}_{-0.09}$	419^{+87}_{-20}	-46.3 ± 1.0	21.3 ± 0.5	447^{+65}_{-43}	$3.0^{+0.2}_{-0.2}$	109^{+3}_{-4}	96^{+4}_{-3}	$12.5^{+2.6}_{-3.9}$	$42.3^{+0.9}_{-1.1}$	42 − 50
Columba	(58.4, 11.2)	$0.45^{+0.07}_{-0.09}$	458^{+163}_{-59}	-46.3 ± 1.0	21.3 ± 0.5	535^{+82}_{-139}	$3.2^{+0.3}_{-0.4}$	84^{+5}_{-3}	93^{+4}_{-5}	$253.2^{+1.7}_{-3.4}$	$-0.2^{+2.1}_{-3.3}$	8 − 9
Carina	(40.1, 1.5)	$0.53^{+0.13}_{-0.07}$	471^{+82}_{-80}	-46.3 ± 1.0	21.3 ± 0.5	478^{+81}_{-81}	$3.0^{+0.4}_{-0.3}$	71^{+6}_{-3}	79^{+5}_{-4}	$258.3^{+2.8}_{-2.2}$	$6.0^{+2.5}_{-2.7}$	8 − 9
Octans	(52.8, 2.2)	$0.73^{+0.21}_{-0.11}$	364^{+54}_{-76}	-46.2 ± 1.0	21.3 ± 0.5	345^{+76}_{-54}	$2.8^{+0.4}_{-0.3}$	98^{+7}_{-6}	108^{+6}_{-7}	$261.5^{+2.1}_{-1.8}$	$9.1^{+2.2}_{-2.1}$	7 − 8
Argus	(71.7, 17.1)	$0.63^{+0.13}_{-0.13}$	462^{+135}_{-81}	-46.3 ± 1.0	21.3 ± 0.5	489^{+110}_{-105}	$3.1^{+0.4}_{-0.3}$	56^{+10}_{-11}	54^{+8}_{-14}	$314.8^{+7.1}_{-4.6}$	$42.9^{+1.6}_{-1.4}$	10 − 11
Col 140[a]	(0, 3.8)	$0.82^{+0.12}_{-0.19}$	74^{+57}_{-15}	-46.3 ± 1.0	21.3 ± 0.5	87^{+64}_{-16}	$2.8^{+0.3}_{-0.3}$	291^{+7}_{-5}	305^{+5}_{-5}	$245.1^{+0.5}_{-0.4}$	$-7.8^{+0.6}_{-0.4}$	7 − 8
Col 132[a]	(0, 4.1)	$1.01^{+0.21}_{-0.14}$	-50^{+20}_{-28}	-46.4 ± 1.0	21.2 ± 0.5	91^{+9}_{-4}	$3.0^{+0.2}_{-0.2}$	386^{+4}_{-3}	406^{+2}_{-3}	$243.4^{+0.6}_{-0.3}$	$-9.3^{+0.5}_{-0.3}$	8 − 9

[a] The radial velocity found is very small. Therefore, the Monte Carlo simulation was repeated adopting a uniform radial velocity distribution (−1500 − +1500 km/s). The results for the latter are given here. They did not change significantly. Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.

of the Vela Pulsar. The latter is based on that it has been argued that the axis of rotation of the Vela Pulsar is aligned with its motion [74, 138, 216]. Although this might not be exactly true (the position angles of the proper motion and rotation axes are $\approx 302°$ and $\approx 310°$, respectively [138, 216]), the offset of the two axes is small. This offers the opportunity to estimate the pulsar's space velocity, hence its radial velocity. Given its proper motion and parallax, the transverse velocity of the Vela Pulsar is $v_t = 79^{+5}_{-4}$ km/s. Adopting the angle between the rotation axis (hence approximately axis of motion) and the line of sight given by [216] as $\approx 53°$, this yields a (low) space velocity of ≈ 100 km/s, hence radial velocity of ≈ 60 km/s.

4.3.3 PSR J0630−2834 and PSR J0953+0755

For PSR J0630−2834 and PSR J0953+0755, it was found that the birth places of both stars probably lie in the Solar neighbourhood (see below), if they were born not earlier than 5 Myr ago. The characteristic ages of PSR J0630−2834 and PSR J0953+0755 are 17.5 Myr and 2.77 Myr (ATNF pulsar database), respectively. PSR J0953+0755 could well be older than 5 Myr.

Ten associations and clusters were found to be birth place candidates for PSR J0630−2834. Eight of them are YLA with distances no farther than ≈ 150 pc, the other two lie at $\approx 300 - 400$ pc from the Sun. For the latter a very small spatial NS velocity is predicted, Table 4.11. Although such small kick velocities are possible for individual cases, they are unlikely. An origin of PSR J0630−2834 in the Solar neighbourhood is also supported by the identification of eight runaway stars that are former companion candidates to the NS (appendix E.3). All of these putative encounters could have occurred within the YLA.

Table 4.12: Present-day parameters of PSR J0630−2834 and supernova position and time for former companion candidates and the respective parent association/cluster. Column designations are as in Table 4.5.

HIP	Assoc./cl.	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
37385	Octans	$0.69^{+0.13}_{-0.12}$	290^{+109}_{-39}	-46.4 ± 1.0	21.1 ± 0.5	279^{+91}_{-50}	$2.7^{+0.3}_{-0.2}$	178^{+4}_{-8}	188^{+5}_{-8}	$248.0^{+1.0}_{-0.6}$	$-5.3^{+1.1}_{-0.4}$	$\gtrsim 16$
39121^s	ColA, CarA, Oct	$0.52^{+0.14}_{-0.13}$	420^{+162}_{-54}	-46.3 ± 1.0	21.3 ± 0.5	422^{+146}_{-60}	$3.1^{+0.3}_{-0.4}$	78^{+16}_{-23}	75^{+26}_{-16}	$255.0^{+3.3}_{-2.2}$	$2.1^{+3.1}_{-2.8}$	–
40326^s	ColA, CarA, Oct	$0.37^{+0.03}_{-0.03}$	528^{+137}_{-35}	-46.3 ± 1.0	21.2 ± 0.5	550^{+97}_{-74}	$3.2^{+0.4}_{-0.2}$	88^{+4}_{-4}	94^{+5}_{-5}	$248.0^{+0.9}_{-0.8}$	$-5.6^{+1.1}_{-0.8}$	–
47018	Octans	$1.15^{+0.32}_{-0.18}$	230^{+46}_{-49}	-46.3 ± 1.0	21.3 ± 0.5	200^{+71}_{-24}	$2.6^{+0.4}_{-0.3}$	124^{+32}_{-6}	146^{+23}_{-14}	$264.1^{+0.9}_{-0.6}$	$12.1^{+0.8}_{-0.8}$	–
47155	CarA, Oct	$0.57^{+0.21}_{-0.16}$	476^{+75}_{-98}	-46.2 ± 1.0	21.3 ± 0.5	459^{+88}_{-85}	$3.2^{+0.2}_{-0.6}$	58^{+12}_{-10}	61^{+13}_{-11}	$271.0^{+5.9}_{-1.2}$	$18.9^{+3.0}_{-2.8}$	–
48745	Octans	$1.17^{+0.30}_{-0.22}$	194^{+63}_{-34}	-46.3 ± 1.0	21.3 ± 0.5	202^{+51}_{-44}	$2.8^{+0.3}_{-0.5}$	136^{+29}_{-17}	165^{+15}_{-33}	$264.3^{+0.8}_{-0.8}$	$12.1^{+0.9}_{-0.6}$	–
50901	TWA, CarA, Oct	$0.57^{+0.25}_{-0.15}$	444^{+142}_{-72}	-46.3 ± 1.0	21.3 ± 0.5	440^{+139}_{-67}	$3.1^{+0.3}_{-0.3}$	45^{+18}_{-6}	45^{+15}_{-8}	$294.1^{+5.5}_{-5.7}$	$31.5^{+4.8}_{-1.5}$	–
53759	TWA, CarA, Oct	$0.57^{+0.29}_{-0.15}$	502^{+103}_{-95}	-46.3 ± 1.0	21.3 ± 0.5	431^{+128}_{-67}	$3.3^{+0.2}_{-0.6}$	43^{+15}_{-7}	45^{+15}_{-8}	$292.7^{+4.7}_{-4.5}$	$34.6^{+1.2}_{-4.1}$	–

Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.
For some runaway stars, no age estimation was possible (hence, no M_{prog}). They are considered young stars because of their luminosity class (section 2.3.1).
The predicted radial velocities v_r of HIP 47155, HIP 50901 and HIP 53759, which have no v_r measured yet, would be $v_{r,HIP47155} = 157^{+55}_{-43}$ km/s, $v_{r,HIP50901} = 118^{+27}_{-62}$ km/s and $v_{r,HIP53759} = 203^{+59}_{-77}$ km/s, respectively.

Table 4.13: Present-day parameters of PSR J0953+0755 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ,σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
TWA	(34.1, 2.8)	$0.53^{+0.24}_{-0.12}$	353^{+90}_{-92}	-2.1 ± 0.1	29.5 ± 0.1	305^{+115}_{-63}	$3.8^{+0.1}_{-0.1}$	34^{+6}_{-3}	40^{+8}_{-4}	$259.4^{+3.6}_{-4.0}$	$6.6^{+7.4}_{-5.3}$	10 – 25
Tuc-Hor	(8.8, 2.1)	$0.69^{+0.13}_{-0.07}$	365^{+62}_{-30}	-2.1 ± 0.1	29.5 ± 0.1	358^{+61}_{-31}	$3.8^{+0.1}_{-0.1}$	38^{+3}_{-3}	39^{+5}_{-3}	$313.4^{+8.3}_{-3.8}$	$-52.8^{+1.9}_{-2.3}$	7 – 30
β Pic-Cap	(0, 25.4)	$0.54^{+0.05}_{-0.11}$	344^{+170}_{-121}	-2.1 ± 0.1	29.5 ± 0.1	337^{+175}_{-114}	$3.8^{+0.1}_{-0.1}$	25^{+10}_{-5}	26^{+4}_{-6}	$296.6^{+9.9}_{-10.5}$	$-43.8^{+7.9}_{-7.1}$	7 – 36
AB Dor	(31.7, 5.2)	$0.50^{+0.05}_{-0.10}$	432^{+157}_{-47}	-2.1 ± 0.1	29.5 ± 0.1	425^{+156}_{-47}	$3.8^{+0.1}_{-0.1}$	22^{+3}_{-5}	25^{+5}_{-5}	$291.4^{+9.1}_{-6.0}$	$-37.9^{+5.0}_{-7.8}$	4 – 9
ColA	(55.5, 1.7)	$0.91^{+0.24}_{-0.12}$	245^{+15}_{-21}	-2.1 ± 0.1	29.5 ± 0.1	246^{+10}_{-27}	$3.8^{+0.1}_{-0.1}$	39^{+4}_{-3}	49^{+5}_{-3}	$277.7^{+0.4}_{-1.8}$	$-21.6^{+1.3}_{-1.6}$	8 – 9
CarA	(8.3, 1.5)	$1.59^{+0.11}_{-0.06}$	156^{+4}_{-9}	-2.1 ± 0.1	3.8 ± 0.1	149^{+7}_{-5}	$3.8^{+0.1}_{-0.1}$	60^{+4}_{-1}	78^{+4}_{-3}	$274.2^{+0.8}_{-1.2}$	$-17.8^{+1.2}_{-1.5}$	8 – 9
Octans	(39.4, 2.8)	$2.31^{+0.28}_{-0.27}$	110^{+24}_{-14}	-2.1 ± 0.1	29.5 ± 0.1	119^{+9}_{-23}	$3.8^{+0.1}_{-0.1}$	76^{+19}_{-4}	98^{+25}_{-6}	$268.0^{+0.7}_{-1.2}$	$-9.9^{+1.5}_{-0.9}$	10 – 12
Argus	(34.5, 5.9)	$0.57^{+0.05}_{-0.12}$	344^{+165}_{-99}	-2.1 ± 0.1	29.5 ± 0.1	337^{+168}_{-93}	$3.8^{+0.1}_{-0.1}$	32^{+6}_{-3}	32^{+9}_{-4}	$301.8^{+24.0}_{-11.7}$	$-58.6^{+10.7}_{-0.5}$	7 – 8

Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.

The present parameters of PSR J0630−2834 if the respective runaway star was the former companion are given in Table 4.12.

Eight possible parent associations were found for PSR J0953+0755, all of them belong to the YLA. In either case, PSR J0953+0755 was born in a nearby supernova if it is not older than 5 Myr. The present parameters of PSR J0953+0755 if it was born in one of the YLA are given in Table 4.13. Also for PSR J0953+0755 an origin in the Solar neighbourhood is supported by the finding of eight former companion candidates (appendix E.8). The present NS parameters and time and place of the supernova for each case are given in Table 4.14. If PSR J0953+0755 was born inside the YLA, HIP 75769 and HIP 94899 might be excluded as former companion candidates since they are too young to be associated with the YLA although they could be blue stragglers as expected for BSS runaway stars. However, then their true age must be by a factor of a few larger than their apparent age.

Table 4.14: Present-day parameters of PSR J0953+0755 and supernova position and time for former companion candidates. Most of the possible encounters could have occurred inside any of the possible parent associations, hence nearby. Therefore, the listing of associations is omitted here. Column designations are as in Table 4.5.

HIP	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
		v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
33774	$1.79^{+0.26}_{-0.22}$	157^{+24}_{-15}	-2.1 ± 0.1	29.5 ± 0.1	158^{+19}_{-19}	$3.8^{+0.1}_{-0.1}$	79^{+12}_{-10}	90^{+13}_{-12}	$297.7^{+2.1}_{-1.7}$	$-42.9^{+1.1}_{-1.7}$	–
40929	$0.67^{+0.08}_{-0.13}$	372^{+9}_{-48}	-2.1 ± 0.1	29.5 ± 0.1	365^{+5}_{-52}	$3.8^{+0.1}_{-0.1}$	35^{+3}_{-3}	43^{+3}_{-3}	$259.2^{+0.7}_{-0.9}$	$7.0^{+1.1}_{-1.2}$	–
47904	$0.95^{+0.30}_{-0.27}$	126^{+106}_{-19}	-2.1 ± 0.1	29.5 ± 0.1	157^{+41}_{-66}	$3.8^{+0.1}_{-0.1}$	100^{+25}_{-14}	114^{+26}_{-19}	$246.1^{+2.1}_{-1.5}$	$26.1^{+1.5}_{-4.1}$	–
53557	$0.70^{+0.15}_{-0.09}$	309^{+44}_{-25}	-2.1 ± 0.1	29.5 ± 0.1	303^{+47}_{-20}	$3.8^{+0.1}_{-0.1}$	34^{+4}_{-3}	42^{+5}_{-3}	$261.8^{+0.8}_{-0.9}$	$2.6^{+1.6}_{-1.1}$	–
60134	$0.62^{+0.16}_{-0.09}$	360^{+37}_{-57}	-2.1 ± 0.1	29.5 ± 0.1	321^{+69}_{-24}	$3.8^{+0.1}_{-0.1}$	32^{+5}_{-3}	40^{+5}_{-4}	$258.9^{+1.1}_{-0.5}$	$6.1^{+2.2}_{-0.5}$	–
66057	$0.48^{+0.18}_{-0.13}$	316^{+30}_{-11}	-2.1 ± 0.1	29.5 ± 0.1	310^{+32}_{-7}	$3.8^{+0.1}_{-0.1}$	29^{+2}_{-2}	38^{+1}_{-4}	$276.8^{+1.5}_{-1.6}$	$-20.8^{+2.4}_{-1.9}$	–
75769	$0.97^{+0.11}_{-0.09}$	261^{+28}_{-31}	-2.1 ± 0.1	29.5 ± 0.1	252^{+11}_{-44}	$3.8^{+0.1}_{-0.1}$	36^{+6}_{-3}	46^{+8}_{-3}	$270.5^{+2.4}_{-0.3}$	$-14.5^{+2.2}_{-1.7}$	18 – 38
94899	$1.11^{+0.06}_{-0.05}$	298^{+9}_{-8}	-2.1 ± 0.1	29.5 ± 0.1	292^{+9}_{-8}	$3.8^{+0.1}_{-0.1}$	86^{+5}_{-4}	85^{+4}_{-3}	$351.5^{+2.6}_{-2.9}$	$-58.4^{+0.2}_{-0.2}$	$\gtrsim 50$

Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.
For some runaway stars, no age estimation was possible (hence, no M_{prog}). They are considered young stars because of their luminosity class (section 2.3.1).
The predicted radial velocities v_r of HIP 40929, HIP 53557, HIP 60134 and HIP 66057, which have no v_r measured yet, would be $v_{r,HIP40929} = 162^{+14}_{-22}$ km/s (peculiar spatial velocity $v_{pec,HIP40929} = 150^{+17}_{-17}$ km/s), $v_{r,HIP53557} = 180^{+48}_{-49}$ km/s, $v_{r,HIP60134} = 84^{+21}_{-13}$ km/s and $v_{r,HIP66057} = 131^{+10}_{-25}$ km/s, respectively.

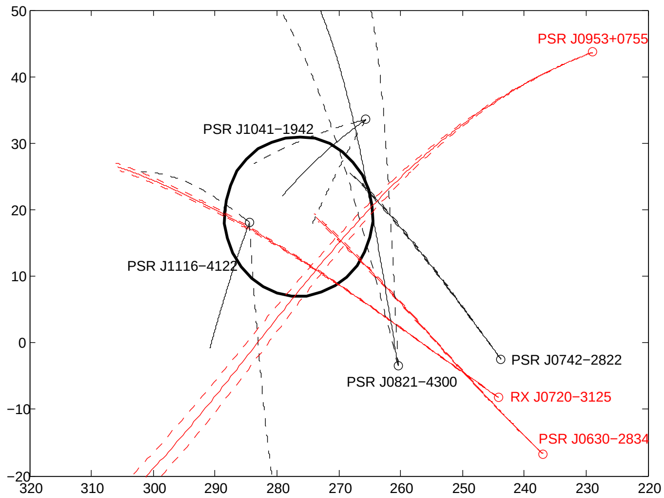


Figure 4.13: The Antlia SNR (thick circle) and the projected past flight paths of seven NSs (calculated back in time for 5 Myr assuming $v_r = 0$ km/s for six stars and $v_r = 100$ km/s for PSR J0953+0755 [as 353]; dashed lines indicate the 1σ error on the proper motion). The four NSs drawn in black are too distant (≈ 2 kpc) for a common origin with the Antlia SNR. The three NSs drawn in red are candidates for a common origin with the Antlia SNR.

[353] found a nearby old SNR in the constellation Antlia Pneumatica located at $(l, b) = (276.^\circ5, 19^\circ)$ with a projected diameter of 24°. It was later confirmed as a SNR by [450]. [353] estimated the distance to the Antlia remnant as $d_{Antlia} \lesssim 500$ pc with a preference for smaller distances, $d_{Antlia} \approx 100$ pc. They suggested the pulsar PSR J0953+0755 as the NS born in the supernova that formed the Antlia remnant but only considered eight nearby pulsars listed by [230]. Hence, it is worthwhile to consider a larger sample of NSs.

The projected past paths of seven NSs from the sample introduced in section 2.2 cross the Antlia SNR during the past 5 Myr, Fig. 4.13. Four of them are too distant (≈ 2 kpc) and were not closer than a few hundred pc to the remnant. Among the other three is RX J0720.4−3125 which was probably born in the Tr 10 association ≈ 1 Myr ago but still should be considered as a candidate for an origin in the Solar neighbourhood (see also

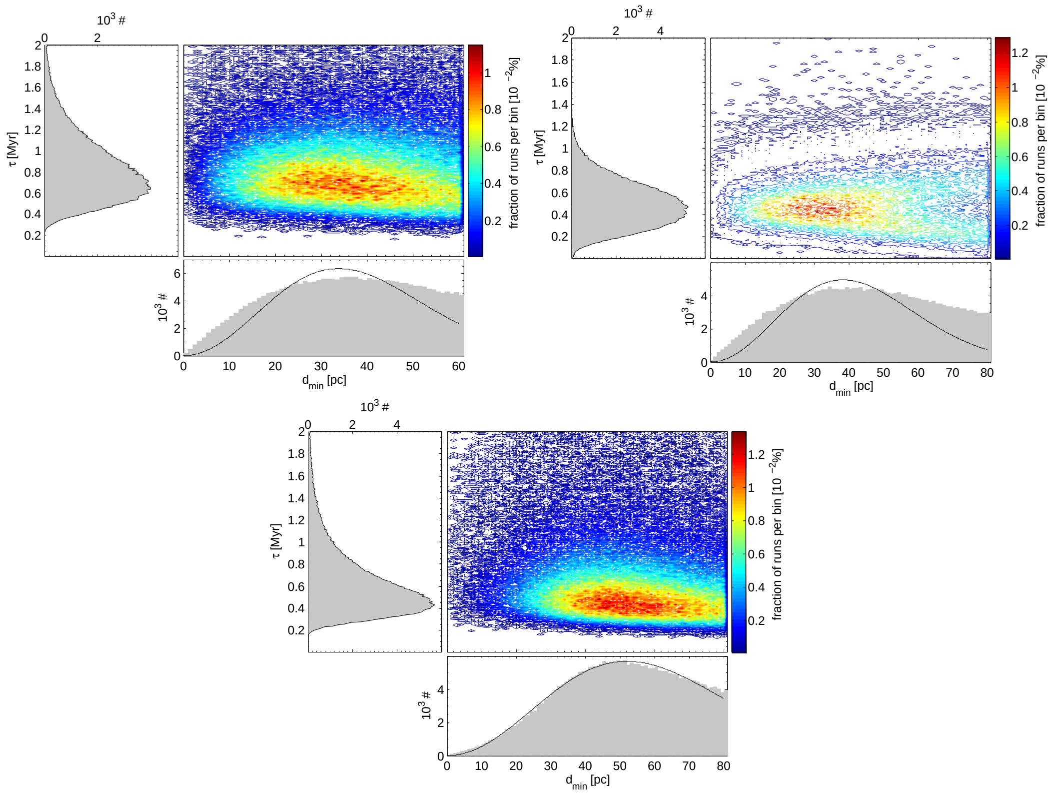


Figure 4.14: Distributions of minimum separations d_{min} and corresponding flight times τ for encounters between the Antlia SNR and three NSs, PSR J0630−2834 (top left panel), RX J0720.4−3125 (top right panel) and PSR J0953+0755 (bottom panel). The solid curves drawn in the d_{min} histograms (bottom panels) represent the theoretically expected distributions (equation 3.2), adapted to the first part of each histogram: For PSR J0630−2834 $\mu = 0$, $\sigma = 23.9$ pc; for RX J0720.4−3125 $\mu = 0$, $\sigma = 27.1$ pc; for PSR J0953+0755 $\mu = 0$, $\sigma = 36.9$ pc. The encounter times are $\tau = 0.64^{+0.36}_{-0.21}$ Myr for PSR J0630−2834, $\tau = 0.47^{+0.20}_{-0.22}$ Myr for RX J0720.4−3125 and $\tau = 0.43^{+0.31}_{-0.15}$ Myr for PSR J0953+0755, respectively. One of these stars might be associated with the Antlia SNR.

section 4.1.2). The remaining two are PSR J0630−2834 and PSR J0953+0755. For each of them an origin in the Solar neighbourhood is very likely (see above).

The distance to the Antlia SNR is uncertain. In the Monte Carlo simulations distances $\lesssim 500$ pc were adopted and the past separation between the Antlia SNR and the three NSs PSR J0630−2834, PSR J0953+0755 and RX J0720.4−3125 were evaluated, Fig. 4.14.[59] For PSR J0953+0755 equation 3.3 ($\mu = 0$) fits well the d_{min} distribution. Note that the obtained encounter time of ≈ 0.5 Myr is considerably smaller than the one claimed by [353] ($\tau \approx 2-4$ Myr). An encounter time of ≈ 2 Myr is obtained if $v_r = 50 \pm 50$ km/s is assumed for the pulsar (comparable to the range [353] adopted). However, then a theoretical curve with $\mu = 48.2$ pc and $\sigma = 25.8$ pc fits well the d_{min} distribution rather than $\mu = 0$. It is still possible that PSR J0953+0755 was inside the Antlia SNR, however less likely. Moreover, the resulting space velocity of the pulsar would be very small, ≈ 80 km/s, which is unlikely but not impossible though.

For the calculation using a reasonable space velocity distribution for PSR J0953+0755 [from

[59] The Antlia remnant was assumed to be moving on a constant orbit around the Galactic centre.

Table 4.15: Present-day parameters and encounter position and time for three NSs that might be associated with the Antlia SNR. Column designations are as in Table 4.2.

NS	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position			
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]
PSR J0630−2834	(0, 23.9)	$0.64^{+0.36}_{-0.21}$	365^{+136}_{-94}	-46.3 ± 1.0	21.2 ± 0.5	375^{+131}_{-84}	$2.9^{+0.5}_{-0.3}$	62^{+24}_{-17}	72^{+21}_{-26}	$268.4^{+17.6}_{-14.0}$	$16.7^{+14.2}_{-12.7}$
RX J0720.4−3125	(0, 27.1)	$0.47^{+0.20}_{-0.22}$	432^{+92}_{-187}	-92.8 ± 1.4	55.3 ± 1.7	352^{+172}_{-100}	$4.1^{+0.8}_{-1.4}$	67^{+56}_{-22}	75^{+47}_{-35}	$269.9^{+16.4}_{-10.2}$	$10.9^{+9.9}_{-6.2}$
PSR J0953+0755	(0, 36.9)	$0.43^{+0.31}_{-0.15}$	442^{+88}_{-139}	-2.1 ± 0.1	29.5 ± 0.1	435^{+86}_{-139}	$3.8^{+0.1}_{-0.1}$	50^{+28}_{-17}	57^{+17}_{-28}	$250-290$[a]	$-60-+25$[a]

[a] For PSR J0953+0755 the distributions for l and b are very broad with no clear peak, thus an interval is given.
Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.

221], the present NS parameters and position of the encounter are given in Table 4.15. As already expected from Fig. 4.13, the predicted encounter position is only marginally consistent with the observed position of the Antlia SNR.

Table 4.16: Predicted current parameters of PSR J0630−2834 and supernova position and time for those runs where PSR J0630−2834 and HIP 47155 were within the Antlia SNR. Note that the parameters are consistent with that given in Table 4.12.

Predicted present-day parameters of PSR J0630−2834	
v_r [km/s]	395^{+166}_{-37}
π [mas]	$2.9^{+0.5}_{-0.3}$
μ_α^* [mas/yr]	46.3 ± 1.0
μ_δ [mas/yr]	21.3 ± 0.5
v_{sp} [km/s]	475^{+62}_{-141}
Predicted supernova pos. and time	
$d_{\odot,SN}$ [pc]	60^{+15}_{-17}
$d_{\odot,today}$ [pc]	66^{+15}_{-20}
l [°]	$274.0^{+1.5}_{-5.5}$
b [°]	$20.3^{+1.7}_{-4.2}$
τ [Myr]	$0.55^{+0.29}_{-0.12}$

Designations are as in Table 4.1. The predicted radial velocity v_r of HIP 47155, which has no v_r measured yet, is $v_{r,run} = 170^{+99}_{-49}$ km/s.

Although the d_{min} distributions in the cases PSR J0630−2834 and RX J0720.4−3125 are not well presented by equations 3.2 or 3.3 (probably because the parallax error is large in both cases, 14 % for PSR J0630−2834, 44 % for RX J0720.4−3125, whereas for PSR J0953+0755 it is only 2 %), they suggest that both objects could have been at the same place at the same time in the past. In the case of RX J0720.4−3125, the predicted encounter position is again only marginally consistent with the observed SNR centre (also seen in Fig. 4.13). Whereas for PSR J0630−2834 it is consistent with the observed coordinates of the Antlia SNR centre, making it the best candidate for the pulsar that can be associated with the Antlia SNR. The inferred ages of the pulsar and the SNR if they originated from the same supernova event are ≈ 0.6 Myr, again considerably smaller than the SNR age claimed by [353]. As a further argument for an age of a few Myr [353] give an estimation of the ejected mass of ^{26}Al and compare it with theoretical yields. They obtain an age range of 1.1 − 2.5 Myr. However, their derived ejected mass is a factor of two too small because they did not take into account that only half of the flux is observed (the part that is emitted towards the observer.). Therefore their age estimate must be halved. Then it is in agreement with ≈ 0.6 Myr obtained when accepting the pulsar PSR J0630−2834 as the stellar remnant.

This scenario is supported by the identification of the former companion candidate HIP 47155 for which the encounter position with PSR J0630−2834 coincides with the Antlia SNR (appendix E.3, Table 4.16).

4.3.4 PSR B1929+10

Given its proper motion and parallax, the transverse velocity of PSR B1929+10 (PSR J1932+1059) is $v_t = 177^{+4}_{-4}$ km/s. [238] analysed its bow shock and obtained an inclination of $i \gtrsim 40\,^\circ$ (with respect to the line of sight).[60] This implies $|v_r| \lesssim 250$ km/s (for a 3σ upper limit on v_t).

Encounters with seven nearby associations/stellar groups (US, TWA, β Pic-Cap, CarA, Octans, Argus, Pleiades B1) could be placed inside the respective association boundaries (R_{crit}). In all cases, the predicted pulsar space velocity is close to the peak of the distribution for pulsar space velocities by [221] adopted in the calculations ($|v_r| \approx 400$ km/s) with a positive radial velocity. In three cases (β Pic-Cap, CarA, Argus) v_r exceeds 1000 km/s; in the other cases $v_r \approx 300 - 400$ km/s. Apparently, this result contradicts the smaller v_r estimate from the bow shock. However, larger v_r values are more likely to occur in the simulations and might be compensated for by a smaller predicted kinematic age. Nonetheless, this result leads to the conclusion that there is a non-zero positive pulsar v_r of a few hundred km/s (cf. RX J1856.5−3754, section 4.1.1 where a near-zero v_r was found). To achieve a more precise kinematic pulsar age, $v_r = 150 \pm 100$ km/s was adopted for PSR B1929+10, consistent with the bow shock estimation.

Table 4.17: Predicted current parameters of PSR B1929+10 if it was born $\approx 100 \pm 20$ pc from US.

Predicted present-day parameters of PSR B1929+10	
v_r [km/s]	167^{+31}_{-12}
π [mas]	$2.8^{+0.1}_{-0.1}$
μ^*_α [mas/yr]	94.1 ± 0.1
μ_δ [mas/yr]	43.0 ± 0.2
v_{sp} [km/s]	252^{+21}_{-13}
Predicted supernova pos. and time	
$d_{\odot,SN}$ [pc]	247^{+8}_{-20}
$d_{\odot,today}$ [pc]	248^{+21}_{-8}
l [°]	$359.6^{+1.9}_{-1.5}$
b [°]	$25.0^{+0.7}_{-0.8}$
τ [Myr]	$1.18^{+0.04}_{-0.08}$

Designations are as in Table 4.1.

Even so, no clear identification of a birth association could be made. US and the Pleiades B1 moving group remain possible birth places of PSR B1929+10. However, the potential birth place is not close to the centre of any of this groups (Fig. 4.15). Concluding, the birth place lies near the Sco-Cen region, ≈ 100 pc from the US centre. The kinematic pulsar age is then ≈ 1.2 Myr. The predicted current NS parameters as well as time and location of the supernova are given in Table 4.17.

A similar result was already found by [230]. However, they used a pulsar distance of ≈ 170 pc [71] which is half the precise parallactic distance of 361^{+9}_{-9} pc recently obtained

[60] Note that in their paper they give the inclination angle with respect to the plane of the sky, $\lesssim 50\,^\circ$.

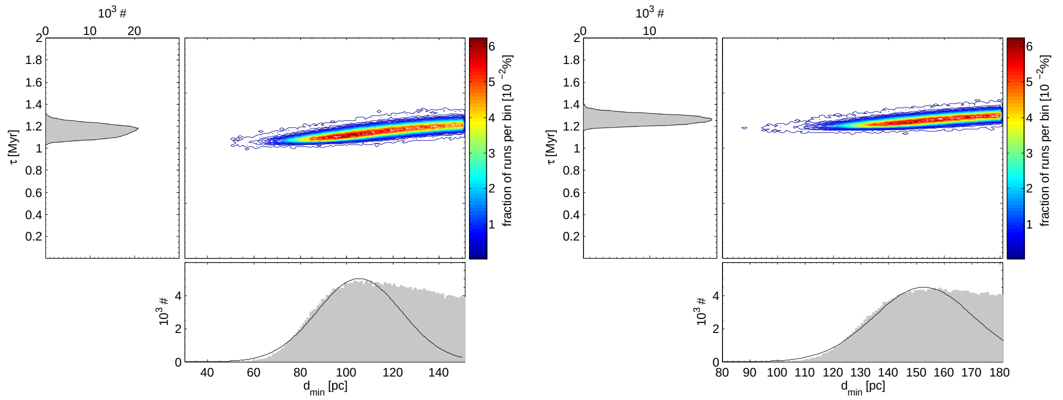


Figure 4.15: Distributions of minimum separations d_{min} and corresponding flight times τ for encounters between PSR B1929+10 and US (left) and the Pleiades B1 group (right), respectively. Only those runs are shown for which $|v_r| \leq 250$ km/s. The solid curves drawn in the d_{min} histograms (bottom panels) represent the theoretically expected distributions (equation 3.2), adapted to the first part of each histogram: For US $\mu = 102.2$ pc, $\sigma = 18.5$ pc; for the Pleiades B1 group $\mu = 150.5$ pc, $\sigma = 18.1$ pc. The encounter times are $\tau = 1.18^{+0.04}_{-0.08}$ Myr for US and $\tau = 1.26^{+0.04}_{-0.04}$ Myr for the Pleiades B1 group, respectively.
This indicates that the birth place of PSR B1929+10 lies near the Sco-Cen region ≈ 100 pc from the US centre.

Table 4.18: Present-day parameters of PSR B1929+10 and supernova position and time for former companion candidates and the respective parent association/cluster. Column designations are as in Table 4.2. For all cases, the position of the predicted supernova lies in the vicinity of US. Since all stars are giants for which age determination is difficult (hence they entered the young star sample owing to their luminosity class), no progenitor mass could be estimated from their lifetimes.

HIP	τ	Predicted present-day NS parameters					Predicted supernova position			
		v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b
	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]
77471	$1.20^{+0.14}_{-0.14}$	179^{+29}_{-29}	94.1±0.1	43.0±0.2	250^{+32}_{-13}	$2.8^{+0.1}_{-0.1}$	255^{+22}_{-27}	241^{+24}_{-22}	$352.4^{+0.6}_{-0.7}$	$27.9^{+0.2}_{-0.3}$
78171	$1.02^{+0.22}_{-0.11}$	173^{+73}_{-31}	94.1±0.1	43.0±0.2	260^{+54}_{-23}	$2.8^{+0.1}_{-0.1}$	204^{+50}_{-22}	193^{+56}_{-23}	$350.6^{+3.8}_{-1.6}$	$28.4^{+0.7}_{-1.3}$
85015	$0.85^{+0.14}_{-0.14}$	201^{+52}_{-31}	94.1±0.1	43.0±0.2	281^{+34}_{-32}	$2.8^{+0.1}_{-0.1}$	236^{+19}_{-30}	218^{+21}_{-26}	$6.9^{+3.1}_{-2.0}$	$21.8^{+0.9}_{-1.8}$

The predicted radial velocities v_r of HIP 78171 and HIP 85015, which have no v_r measured yet, would be $v_{r,HIP78171} = 144^{+100}_{-144}$ km/s and $v_{r,HIP85015} = 50^{+101}_{-58}$ km/s, respectively.

by [84]. Using the smaller distance value they concluded that PSR B1929+10 was ejected from US.

Three former companion candidates to PSR B1929+10 were found (appendix E.13): HIP 77471, HIP 78171 and HIP 85015. The predicted NS parameters and time and place of the respective supernova event are given in Table 4.18.

Another possibility is that the progenitor of PSR B1929+10 was a single (runaway) star that was ejected from Sco-Cen. The result that no clear birth association was found supports this scenario.

Note that the previously proposed former companion ζ Ophiuchi (HIP 81377) [230] was not recovered. It was already noted by [84] that the association between PSR B1929+10 and ζ Oph is unlikely with the improved proper motion and parallax of the pulsar. It was also shown by [51] and Tetzlaff et al. 2010 [487] that it is necessary to increase the error bars

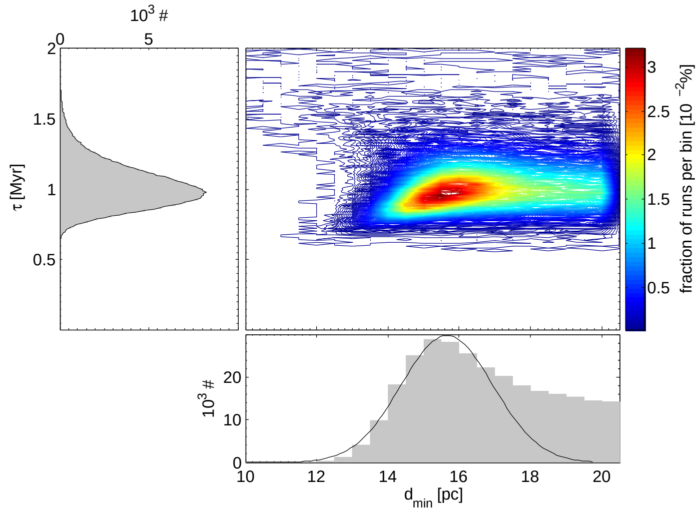


Figure 4.16: Panels as in Fig. 4.1 for encounters between PSR B1929+10 and HIP 86768. The solid curves drawn in the d_{min} histograms (bottom panel) represent the theoretically expected distribution (equation 3.3) with $\mu = 15.8$ pc and $\sigma = 1.3$ pc, adapted to the first part of the histogram.

of the pulsar proper motion and parallax by one order of magnitude to associate the two stars with each other. Using the nominal error bars as published by [84], PSR B1929+10 and ζ Oph do not approach each other closer than a few parsecs. Furthermore, the radial velocity of the NS for close approaches is required to be $\approx 550 \pm 70$ km/s.

[51] also propose the star HIP 86768 as a former companion candidate. This star was not considered runaway star in this work (section 2.3) due to different input parameters (parallax and radial velocity). The radial velocity used by [51] of 19.0 ± 4.3 km/s (referenced [188], however not given in this reference; adopted by mistake, V. Bobylev, priv. comm.) differs significantly from the published value of -26 km/s [188, 541]. Surprisingly, this does not change the overall result because the positive radial velocity used by [188] is compensated for by a larger initial distance (smaller parallax) in the calculations which is possible due to the parallax error of this star ($\pi = 3.00 \pm 0.54$ mas [518]). However, [51] increased the error bars of the pulsar proper motion and parallax by one order of magnitude (as in the case of ζ Oph). It can already be seen from their Figure 5 (pulsar parameters for which encounters between PSR B1929+10 and HIP 86768 are possible) that the pulsar proper motion and parallax values necessary for an association between the two stars are barely consistent with the measured values. Indeed not increasing the error bars yields a separation between PSR B1929+10 and HIP 86768 of ≈ 16 pc at ≈ 1 Myr in the past (Fig. 4.16), hence inconsistent with that both stars were ejected in the same supernova event.

4.3.5 PSR J2313+4253

Three associations were identified as possible birth places of PSR J2313+4253: US, UCL and Ser OB1. However, for US and UCL the required space velocity of the NS is about $700 - 1000$ km/s. Although this could be possible, it appears less likely, hence preferring an origin in Ser OB1. The predicted present NS parameters as well as time and position of the supernova are given in Table 4.19. The young age of Ser OB1 of $8 - 13$ Myr (Table A.1) and predicted time of the supernova infer a high progenitor mass of $17 - 63\,M_\odot$ [277, 327, 494].

Table 4.19: Predicted current parameters of PSR J2313+4253 if it was born in Ser OB1.

Predicted present-day parameters of PSR J2313+4253	
v_r [km/s]	247^{+33}_{-17}
π [mas]	$0.9^{+0.1}_{-0.1}$
μ^*_α [mas/yr]	24.1 ± 0.1
μ_δ [mas/yr]	6.0 ± 0.1
v_{sp} [km/s]	282^{+30}_{-17}
Predicted supernova pos. and time	
$d_{\odot,SN}$ [pc]	524^{+45}_{-17}
$d_{\odot,today}$ [pc]	486^{+52}_{-13}
l [°]	$264.7^{+1.4}_{-2.8}$
b [°]	$35.9^{+0.4}_{-1.1}$
τ [Myr]	$4.03^{+0.41}_{-0.35}$
d_{SerOB1} [pc] (μ, σ)	$(77.9, 6.9)$

Designations are as in Table 4.1.

Table 4.20: Present-day parameters of PSR J2313+4253 and supernova position and time for former companion candidates. All encounters would have occurred outside any association or cluster.

HIP	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
		v_r	μ^*_α	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[$M_\odot$]
70574	$2.10^{+0.22}_{-0.24}$	622^{+50}_{-55}	24.1±0.1	5.9±0.1	643^{+52}_{-55}	$1.0^{+0.1}_{-0.1}$	391^{+18}_{-26}	366^{+28}_{-14}	$322.9^{+1.0}_{-0.9}$	$16.7^{+0.2}_{-0.3}$	10 – 12
70586	$1.93^{+1.14}_{-0.49}$	460^{+156}_{-69}	24.2±0.1	6.0±0.1	563^{+104}_{-107}	$0.9^{+0.1}_{-0.1}$	258^{+109}_{-22}	326^{+50}_{-90}	$331.2^{+30.6}_{-12.2}$	$14.8^{+2.4}_{-5.3}$	–
88981	$2.32^{+0.28}_{-0.34}$	454^{+41}_{-61}	24.2±0.1	5.9±0.1	492^{+56}_{-45}	$0.9^{+0.1}_{-0.1}$	294^{+28}_{-22}	281^{+12}_{-36}	$8.2^{+1.0}_{-0.7}$	$7.7^{+0.5}_{-0.3}$	–
93051	$2.48^{+0.24}_{-0.26}$	350^{+35}_{-35}	24.2±0.1	6.0±0.1	390^{+41}_{-29}	$0.9^{+0.1}_{-0.1}$	363^{+32}_{-16}	342^{+28}_{-21}	$41.4^{+0.4}_{-0.5}$	$-2.3^{+0.3}_{-0.3}$	–

For some runaway stars, no age estimation was possible (hence, no M_{prog}). They are considered young stars because of their luminosity class (section 2.3.1).
The predicted radial velocity v_r of HIP 70586, which has no v_r measured yet, would be $v_{r,HIP} = 23^{+256}_{-118}$ km/s.

Four former companion candidates were found (appendix E.15) – HIP 70574, HIP 70586, HIP 88981 and HIP 93051. The present parameters of PSR J2313+4253 if the respective runaway star was the former companion are given in Table 4.20.

4.3.6 PSR J2330−2005

Four possible parent associations/clusters were found for PSR J2330−2005: the YLA HD 141569, Ext. R CrA, Argus and the cluster IC 4725. Considering the present YLA mass functions and content of stars, it is possible (although unlikely) that a NS progenitor was formed in one of these associations (section 2.1.2). [268] give an age for IC 4725 of ≈ 70 Myr. However, several early B stars still belong to that cluster (the earliest present member is the B1.5V star CPD-19 6854 with a lifetime of $\approx 15 - 18$ Myr [277, 327, 494]), hence possibly several stages of star formation happened or the cluster is younger. The present parameters of PSR J2330−2005 if it was born in the respective association or cluster

Table 4.21: Present-day parameters of PSR J2330−2005 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	d_{SN} [a]	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[pc]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
HD 141569	(0, 5.3)	$0.69^{+0.09}_{-0.08}$	608^{+90}_{-64}	74.6±1.9	5.0±2.7	631^{+80}_{-74}	388^{+41}_{-16}	112^{+4}_{-8}	100^{+5}_{-6}	$10.7^{+2.1}_{-3.5}$	$38.9^{+2.7}_{-2.0}$	39 − 47
Ext. R CrA	(35.6, 3.5)	$0.62^{+0.10}_{-0.10}$	568^{+96}_{-79}	74.6±1.9	5.8±2.6	580^{+98}_{-76}	404^{+35}_{-39}	102^{+10}_{-11}	94^{+9}_{-11}	$20.9^{+1.9}_{-2.2}$	$-12.2^{+1.9}_{-2.9}$	12 − 30
Argus	(100.3, 26.6)	$0.77^{+0.14}_{-0.17}$	637^{+156}_{-122}	74.5±1.9	4.8±3.0	615^{+182}_{-95}	358^{+55}_{-26}	89^{+3}_{-15}	81^{+4}_{-12}	$20.4^{+2.3}_{-2.2}$	$-10.1^{+2.8}_{-2.2}$	7 − 8
IC 4725[b]	(0, 53.3)	$3.61^{+0.52}_{-0.35}$	48^{+22}_{-14}	74.5±1.9	8.3±2.0	147^{+22}_{-22}	455^{+33}_{-63}	582^{+53}_{-16}	582^{+36}_{-30}	$16.9^{+0.9}_{-1.9}$	$-6.1^{+1.0}_{-0.9}$	5 − 6[c]

[a]Instead of the current parallax π (as in Table 4.2) the current distance of PSR J2330−2005 is given here since no parallax was measured.
[b]Since a small v_r of the NS was predicted, the calculations were repeated using a uniform v_r distibution in the range 1500−+1500 km/s. These results are given here. They did not change significantly.
[c]Although the nominal age of the cluster of 68 Myr [268] is rather high, there are sill several early B stars that belong to it. The derived progenitor mass should therefore be seen as a lower limit.
Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.

Table 4.22: Present-day parameters of PSR J2330−2005 and supernova position and time for former companion candidates and the respective parent association/cluster. Column designations are as in Table 4.5.

HIP	Assoc./cl.	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	d_{SN} [a]	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
		[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[pc]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
78131	HD 141569	$0.78^{+0.43}_{-0.24}$	608^{+101}_{-53}	74.6±1.9	5.5±2.5	620^{+106}_{-48}	416^{+38}_{-31}	109^{+5}_{-9}	94^{+11}_{-4}	$11.8^{+2.1}_{-3.0}$	$34.5^{+1.6}_{-3.1}$	$\gtrsim 50$
81007	–	$0.86^{+0.13}_{-0.10}$	510^{+89}_{-32}	74.7±1.9	4.6±2.8	530^{+72}_{-47}	435^{+41}_{-35}	141^{+12}_{-9}	129^{+12}_{-7}	$11.1^{+3.0}_{-2.7}$	$34.6^{+3.6}_{-1.6}$	–
89828	Argus	$0.57^{+0.07}_{-0.05}$	650^{+68}_{-84}	74.4±1.8	4.3±2.6	598^{+119}_{-40}	400^{+35}_{-30}	83^{+4}_{-4}	75^{+4}_{-4}	$19.3^{+1.1}_{-3.3}$	$2.5^{+1.8}_{-1.6}$	–
94391	Ext. R CrA	$0.68^{+0.15}_{-0.13}$	443^{+183}_{-163}	74.8±1.9	4.9±2.8	369^{+232}_{-105}	435^{+65}_{-35}	109^{+56}_{-42}	116^{+43}_{-48}	$19.8^{+2.7}_{-1.5}$	$-3.2^{+0.7}_{-4.2}$	–
101608	Argus	$0.45^{+0.05}_{-0.05}$	630^{+160}_{-50}	74.4±1.8	4.6±2.6	708^{+112}_{-75}	370^{+47}_{-25}	74^{+6}_{-3}	71^{+4}_{-5}	$23.5^{+1.8}_{-1.9}$	$-22.8^{+1.6}_{-3.5}$	–

[a]Instead of the current parallax π (as in Table 4.2) the current distance of PSR J2330−2005 is given here since no parallax was measured.
Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.
For some runaway stars, no age estimation was possible (hence, no M_{prog}). They are considered young stars because of their luminosity class (section 2.3.1).
The predicted radial velocity v_r of HIP 78131 and HIP 94391, which have no v_r measured yet, would be $v_{r,HIP78131} = 38^{+33}_{-35}$ km/s and $v_{r,HIP94391} = -59^{+59}_{-35}$ km/s, respectively.

are given in Table 4.21. For IC 4725 a near-zero radial velocity was found. For that reason the analysis was repeated adopting a uniform radial velocity. These results are given in the table. However, since the transverse velocity of PSR J2330−2005 is small this scenario appears less likely although the supernova kick velocity could have been small.

Five former companion candidates were found (appendix E.16) – HIP 78131, HIP 81007, HIP 89828, HIP 94391 and HIP 101608. No clear conclusion can be drawn at this point. The present parameters of PSR J2330−2005 if the respective runaway star was the former companion are given in Table 4.22. HIP 78131 currently lies on the main-sequence. It's derived age of 1.6 ± 0.6 Myr (section 2.3) therefore corresponds to the age on the ZAMS. The deduced progenitor mass (lifetime of the progenitor star equals lifetime of former companion candidate minus flight time) should therefore be treated with caution.

Table 4.23: Present-day parameters of PSR J0454+5543 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[$M_\odot$]
Per OB1	(73.0, 18.5)	$1.94^{+0.24}_{-0.30}$	-293^{+48}_{-32}	53.3±0.1	−17.6±0.1	428^{+20}_{-18}	$0.8^{+0.1}_{-0.1}$	1890^{+33}_{-26}	1843^{+16}_{-32}	$135.5^{+1.0}_{-1.1}$	$-3.9^{+0.6}_{-0.8}$	17 − 40
Cam OB1	(16.6, 3.5)	$0.64^{+0.05}_{-0.08}$	530^{+119}_{-59}	53.3±0.1	−17.6±0.1	617^{+105}_{-62}	$0.9^{+0.1}_{-0.1}$	811^{+6}_{-9}	803^{+5}_{-7}	$141.9^{+0.5}_{-0.4}$	$-0.1^{+0.3}_{-0.2}$	13 − 39

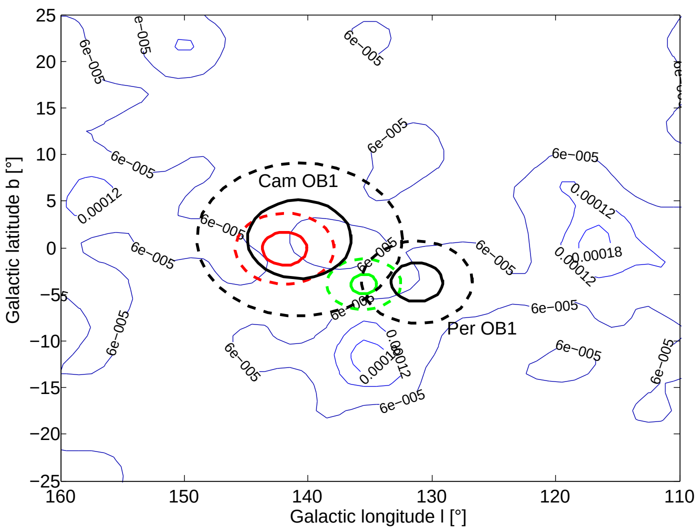


Figure 4.17: Proposed region of the supernova in that PSR J0454+5543 was formed in the COMPTEL 1.8 MeV map [136, 416] (the unit of the contours is $cm^{-2}s^{-1}sr^{-1}$). The proposed supernova position and sizes of the respective SNR are shown in green for the Per OB1 scenario and red for Cam OB1 (dashed circles indicate 1σ errors). The positions and sizes of the host associations Per OB1 and Cam OB1 are indicated in black where the solid and dashed circles indicate the nominal radii and R_{crit}, respectively.

4.4 Other Neutron Stars – Possible Supernovae More Distant Than 500 Parsecs

4.4.1 PSR J0454+5543

Per OB1 and Cam OB1 were found to be possible birth associations for PSR J0454+5543. The present parameters of PSR J0454+5543 and the positions of the predicted supernovae are given in Table 4.23. Cam OB1 seems more likely since the proposed supernova position is well inside the association ($R_{crit} \approx 119$ pc), whereas for Per OB1 it is near the edge ($R_{crit} \approx 137$ pc), see Fig. 4.17. In the Cam-Per region there are several features in the ^{26}Al 1.8 MeV COMPTEL map [136, 416], however the SNR resulting from the supernova in which PSR J0454+5543 was formed is probably too distant and too old for a significant γ 1.8 MeV signal to be detectable.

No convincing former companion candidate was found (appendix E.2).

4.4.2 PSR J0820−1350

The kinematic age of PSR J0820−1350 is probably close to or larger than 5 Myr, the limit applied in this work (section 2.2). Due to the large spread of values in the d_{min}-τ_{kin} space (because of the errors on the observables, increasing with calculation time), in general, also birth places can be found if the kinematic age is larger than 5 Myr (the typical spread in

Table 4.24: Possible parent associations of PSR J0820−1350.

Assoc./cl.	τ_{kin} [Myr]	v_r [km/s]	v_{sp} [km/s]	$d_{\odot,SN}$ [kpc]
Cep OB1	$3.4^{+0.3}_{-0.2}$	≈ 700	≈ 800	≈ 1.8
Cas OB2	> 5	≈ 600	≈ 700	≈ 2.2
Cas OB1	> 5	≈ 550	≈ 650	≈ 2.2
Cas OB8	≈ 5	≈ 500	≈ 600	≈ 2.0
Cam OB1	$2.3^{+0.1}_{-0.1}$	≈ 750	≈ 850	≈ 1.0
NGC 1027	$3.3^{+0.2}_{-0.2}$	≈ 550	≈ 700	≈ 1.3
Stock 7	$1.8^{+0.1}_{-0.1}$	≈ 950	≈ 1000	≈ 0.7
NGC 7510	≈ 5	≈ 600	≈ 700	≈ 2.1
NGC 129	≈ 5	≈ 600	≈ 700	≈ 2.1
NGC 433	$4.5^{+0.4}_{-0.3}$	≈ 450	≈ 550	≈ 1.9
NGC 581	≈ 5	≈ 550	≈ 650	≈ 2.2
NGC 659	≈ 5	≈ 550	≈ 650	≈ 2.1
Czernik 2	$4.1^{+0.4}_{-0.6}$	≈ 650	≈ 700	≈ 1.7
Czernik 6	≈ 5	≈ 500	≈ 650	≈ 2.2

Column 2: encounter time τ ($= \tau_{kin}$). Columns 3-4: predicted present NS radial velocity v_r and space velocity v_{sp}. Column 5: predicted supernova distance to the Sun (at the time of the supernova).

τ_{kin} is a few Myr and increases as $|\tau|$ increases). However, a final evaluation is not possible at the current state since the uncertainties are too large to calculate orbits for longer time spans than 5 Myr. In Table 4.24 possible birth associations and clusters with an estimate of the respective kinematic age (if PSR J0820−1350 is not older than five plus a few Myr), NS radial and peculiar spatial velocities are listed. As PSR J0820−1350 is probably somewhat older than 5 Myr, it is not convenient to derive more precise NS parameters as well as supernova positions (as done for other NSs). The closer the predicted supernova site to Earth, the higher is the predicted spatial velocity of the NS and the smaller the kinematic age. Since extraordinary high pulsar space velocities are unlikely although possible (e.g. Guitar Pulsar, section 4.4.8), this indicates that the true age of PSR J0820−1350 is larger than 5 Myr, possibly close to its characteristic age $\tau_{char} = 9.32$ Myr [222].

All proposed associations lie within the scale height of the Galactic plane (scale height of thin disk $\approx$ 250 pc [394]). It was already mentioned by [80] that the kinematic age of PSR J0820−1350 could be larger than $\approx$ 10 Myr although they only roughly investigated the flight time assuming radial velocities of $-200 \ldots +200$ km/s and that the NS was born in the Galactic plane.

No former companion candidate was found (appendix E.6). This supports the result that PSR J0820−1350 is probably $\approx$ 5 Myr old or even older. By constraining the NS parameters

Table 4.25: Present-day parameters of PSR J0826+2637 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
Cam OB1	62^{+92}_{-35}	$3.56^{0.80}_{0.81}$	-13^{+29}_{-37}	61.1±3.0	−90.0±2.0	173^{+56}_{-28}	$2.6^{+0.7}_{-0.6}$	827^{+65}_{-39}	776^{+57}_{-49}	$144.0^{+5.8}_{-2.9}$	$1.1^{+2.8}_{-3.4}$	$\gtrsim 15$
α Per	(17.8, 7.2)	$0.75^{+0.18}_{-0.15}$	315^{+112}_{-43}	61.3±2.9	−90.0±2.0	363^{+111}_{-45}	$2.7^{+0.3}_{-0.3}$	159^{+23}_{-8}	157^{+21}_{-9}	$141.1^{+1.0}_{-0.8}$	$-2.0^{+1.1}_{-1.1}$	5 − 7
Cas-Tau	(68.2, 6.7)	$0.69^{+0.20}_{-0.12}$	367^{+102}_{-65}	61.4±2.9	−89.9±2.0	422^{+92}_{-77}	$2.7^{+0.4}_{-0.4}$	141^{+28}_{-17}	142^{+28}_{-17}	$141.1^{+1.5}_{-1.3}$	$-2.3^{+1.7}_{-1.3}$	6 − 7
Stock 7[a]	(0, 31.9)	$3.1^{+0.7}_{-0.7}$	-12^{+52}_{-9}	59.6±2.1	−90.4±2.0	187^{+55}_{-35}	$2.7^{+0.5}_{-0.7}$	695^{+28}_{-16}	661^{+33}_{-7}	$141.7^{+1.8}_{-2.5}$	$0.4^{+0.2}_{-1.1}$	15 − 30
NGC 433[a]	(0, 196.6)	≈ 4.7	-7^{+34}_{-26}	58.8±2.7	−90.7±1.9	394^{+29}_{-34}	$1.3^{+0.2}_{-0.1}$	1934^{+42}_{-41}	1840^{+43}_{-50}	$128.8^{+2.4}_{-0.8}$	$-2.3^{+1.2}_{-1.5}$	6 − 7[b]
NGC 1027[a]	(0, 36.2)	$\gtrsim 1.5$	-36^{+17}_{-5}	61.0±2.0	−90.0±2.0	234^{+52}_{-12}	$2.2^{+0.2}_{-0.4}$	1335^{+16}_{-6}	1251^{+29}_{-19}	$138.9^{+0.9}_{-0.6}$	$-0.3^{+0.4}_{-0.8}$	$\gtrsim 5$[b]
NGC 1444[a]	(0, 178.9)	≈ 4.1	-82^{+37}_{-8}	61.1±2.7	−90.0±2.0	187^{+26}_{-8}	$2.5^{+0.4}_{-0.2}$	1055^{+46}_{-28}	997^{+52}_{-41}	$144.5^{+6.1}_{-3.6}$	$4.8^{+4.1}_{-1.9}$	5 − 6[b]

[a]Since small v_r of the NS were predicted, the calculations were repeated using a uniform v_r distibution in the range 1500 − +1500 km/s. These results are given here. They did not change significantly.

[b]These M_{prog} estimates are smaller than the minimum mass of a star that can experience a core-collapse supernova (≈ 8 − 9 M$_\odot$, [e.g. 214]). However, isochrone ages of NGC 433, NGC 1027 and NGC 1444 as given in Table A.1 are upper limits (L. Bukowiecki, priv. comm.). Then, higher progenitor masses (> 8 M$_\odot$) are derived.

it might be possible to calculate the orbits even for larger timescales than done in this work; a restriction on the radial velocity of the NS is crucial here.

4.4.3 PSR J0826+2637

Seven associations and clusters are candidates to have hosted the birth place of PSR J0826+2637. The NS either originated in a nearby (< 200 pc) association $\lesssim$ 1 Myr ago or in a more distant one (≈ 600 − 900 pc) up to ≈ 5 Myr ago (Table 4.25). In the latter cases a near-zero radial velocity of the NS is necessary. For that reason, the results given in Table 4.25 are obtained from calculations that used a uniform v_r distribution. Considering the estimated masses of the supernova progenitor star given in that table, it is unlikely that one of the nearby associations Per OB3 (α Per) and Cas-Tau is the parent association of PSR J0826+2637 since the predicted masses are smaller than the minimum mass of a star that can experience a core-collapse supernova (≈ 8 − 9 M$_\odot$, [e.g. 214]). It is more probable that PSR J0826+2637 was born ≈ 2 − 4 Myr ago in an association or cluster $\gtrsim$ 700 pc distant in the Camelopardalis region.

The G0Ia runaway star HIP 13962 was identified as a former companion candidate to PSR J0826+2637 (appendix E.7). Considering the small size of the proposed host of the supernova, the small open cluster Stock 7 (nominal radius ≈ 2 pc [268]; R_{crit} = 30 pc), it is very likely that PSR J0826+2637 and HIP 13962 were ejected in the same supernova event 3.0 ± 0.6 Myr ago (Fig. 4.18). This kinematic age is comparable to the characteristic age of PSR J0826+2637, τ_{char} = 4.92 Myr [222]. The present NS parameters and position of the predicted supernova are given in Table 4.26. [506] propose that HIP 13962 is a member of a yet unknown sparsely populated young cluster (9 ± 1 Myr) that is presently dissolving into the field. The existence of that cluster is questionable, however. If existing, the cluster

Table 4.26: Predicted current parameters of PSR J0826+2637 and supernova position and time if HIP 13962 was the former companion.

Predicted present-day parameters of PSR J0826+2637	
v_r [km/s]	1^{+36}_{-15}
π [mas]	$2.6^{+0.5}_{-0.5}$
μ^*_α [mas/yr]	60.0 ± 2.4
μ_δ [mas/yr]	-90.4 ± 1.9
v_{sp} [km/s]	183^{+39}_{-32}
Predicted supernova pos. and time	
$d_{\odot,SN}$ [pc]	707^{+19}_{-32}
$d_{\odot,today}$ [pc]	671^{+23}_{-25}
l [°]	$140.5^{+1.6}_{-1.2}$
b [°]	$-0.2^{+0.7}_{-1.4}$
τ [Myr]	3.0 ± 0.6

Designations are as in Table 4.1. Since for an origin in Stock 7, the NS v_r was found to be very small, the results given here were obtained using a NS $v_r = 0 \pm 100$ km/s in the Monte Carlo simulations.

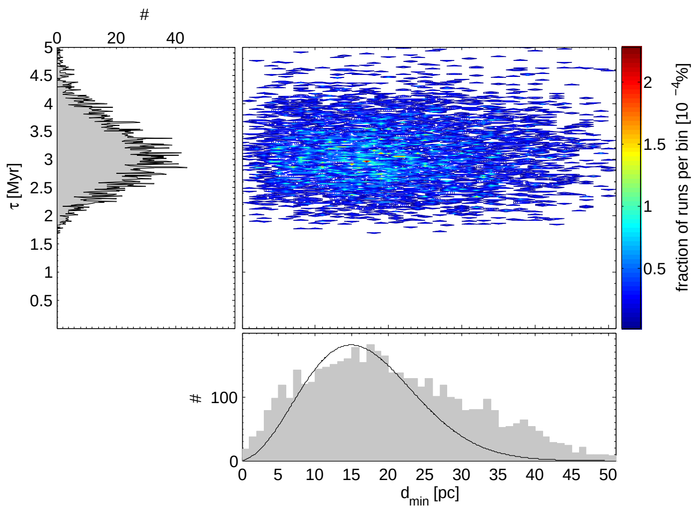


Figure 4.18: Panels as in Fig. 4.1 for encounters between PSR J0826+2637 and HIP 13962, only those Monte Carlo runs are shown for which both stars were within 30 pc from the centre of Stock 7. The solid curves drawn in the d_{min} histograms (bottom panel) represent the theoretically expected distribution (equation 3.3) with $\mu = 0$ and $\sigma = 13.0$ pc, adapted to the first part of the histogram.

is only marginally detectable by eye (see Figure 9 in [506]). It is not detectable in infrared data (2MASS JHK$_S$ [107], L. Bukowiecki, priv. comm., see also [64] for the method of detection). Hence, the existence of this cluster is arguable.

4.4.4 PSR J1136+1551

The association Cen OB1 and the cluster NGC 4609 were found to be a possible birth places for PSR J1136+1551. The present parameters of PSR J1136+1551 and the positions of the predicted supernovae are given in Table 4.27. Since it was found that the radial velocity of PSR J1136+1551 is close to zero in both cases, the calculation was repeated adopting a uniform v_r distribution for the pulsar. The results of these are given in Table 4.27. No

Table 4.27: Present-day parameters of PSR J1136+1551 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
Cen OB1	(109.3, 53.5)	$2.92^{+0.19}_{-0.17}$	5^{+15}_{-31}	-74.0 ± 0.4	368.1 ± 0.3	629^{+48}_{-24}	$2.8^{+0.2}_{-0.2}$	1943^{+74}_{-18}	1890^{+38}_{-47}	$300.4^{+0.7}_{-0.7}$	$0.9^{+1.5}_{-1.9}$	$\gtrsim 17$
NGC 4609	(0, 19.3)	$1.89^{+0.10}_{-0.11}$	70^{+15}_{-10}	-74.0 ± 0.4	368.1 ± 0.3	643^{+21}_{-19}	$2.8^{+0.1}_{-0.1}$	1250^{+9}_{-5}	1229^{+9}_{-4}	$301.9^{+0.4}_{-0.2}$	$0.4^{+0.6}_{-1.2}$	$6-7$[a]

[a]This range of M_{prog} yields to an exclusion of NGC 4609 as possible birth cluster since the predicted masses are smaller than the minimum mass of a star than can experience a core-collapse supernova ($\approx 8-9\,M_\odot$, e.g. [214]). However, isochrone ages as small as 15 Myr are possible (L. Bukowiecki, priv. comm.). Then, a higher progenitor mass (up to $17\,M_\odot$) can be derived.

significant differences were found when adopting the [221] distribution instead. A small radial velocity is also supported by the evidence of a bow shock (seen as an extended trail behind the pulsar) claimed by [559]. The extended trail is only marginally seen because the pulsar is situated at high Galactic latitude where the density of the local ISM is low.

Three stars were identified that are possible former companion candidates to PSR J1136+1551 (appendix E.9). The possible past encounter with the Be star HIP 63049 was found in the vicinity (within ≈ 50 pc from the cluster centre) of the small cluster NGC 4609 (nominal radius 2 pc [64], $R_{crit} \approx 10$ pc), a possible birth place of PSR J1136+1551. Furthermore, HIP 63049 shows signatures of a BSS runaway star (high $v \sin i = 445$ km/s [19]). Although in section 2.3 a stellar age of only 0.1 Myr was estimated, the star could be much older. First, the distance of HIP 63049 is rather uncertain, $d = 645^{+1396}_{-261}$ pc [518]. If it was the former companion of PSR J1136+1551, its current distance would be 1250^{+179}_{-139} pc. Using this value and a spectral type of B0, the age obtained using evolutionary models (as in section 2.3) is 2.4 ± 1.1 Myr. As the spectral type is uncertain it could also be that the star is a middle or late B type star yielding ranges of stellar ages up to tens of million years. This would be well consistent with being a (former) member of the $\approx 15-60$ Myr old ([64, 268]; L. Bukowiecki, priv. comm.) cluster NGC 4609.

A possible past encounter with the O9.5III star HIP 63449 would have occurred outside any association or cluster ≈ 1.2 Myr ago. The radial velocity of the NS is somewhat higher, $v_r \approx 125$ km/s. HIP 63449 has a rotational velocity of $v \sin i = 51$ km/s [405]. This low $v \sin i$ may indicate that the star is not a BSS runaway star. Therefore, it is not considered further former companion candidate to PSR J1136+1551.

The candidate HIP 61766 is a K0II/III star without radial velocity measurements available. The possible encounter would have occurred more recent (≈ 0.8 Myr) and nearby ($\approx$ 600 pc) outside any association or cluster. The predicted radial velocity of the runaway star is $v_{r,HIP} = -327^{+225}_{-163}$ km/s ($v_{pec,HIP} = 65^{+249}_{-48}$ km/s).

In Table 4.28 the predicted current NS parameters and supernova positions for the former companion candidates HIP 63049 and HIP 61766 are given. For the case with HIP 63049 being the former companion, no progenitor mass can be estimated from ^{26}Al because with

Table 4.28: Predicted current parameters of PSR J1136+1551 and supernova position and time for two former companion candidates.

Predicted present-day parameters of PSR J1136+1551		
former comp. cand.	HIP 63049	HIP 61766
v_r [km/s]	68^{+16}_{-22}	35^{+60}_{-5}
π [mas]	$2.8^{+0.2}_{-0.2}$	$2.8^{+0.2}_{-0.2}$
μ^*_α [mas/yr]	-74.0 ± 0.4	-74.0 ± 0.4
μ_δ [mas/yr]	368.1 ± 0.3	368.1 ± 0.3
v_{sp} [km/s]	640^{+36}_{-34}	633^{+41}_{-31}
Predicted supernova position and time		
$d_{\odot,SN}$ [pc]	1244^{+14}_{-191}	629^{+35}_{-75}
$d_{\odot,today}$ [pc]	1220^{+14}_{-18}	580^{+77}_{-32}
l [°]	$301.5^{+0.6}_{-0.3}$	$296.6^{+0.3}_{-0.2}$
b [°]	$1.1^{+1.2}_{-1.2}$	$19.0^{+0.5}_{-0.9}$
τ [Myr]	$1.91^{+0.10}_{-0.12}$	$0.80^{+0.21}_{-0.15}$

Designations are as in Table 4.1. HIP 61766 would have a radial velocity of $v_{r,run} = -229^{+177}_{-174}$ km/s.

a supernova distance of $\approx$ 1.2 kpc and time of $\approx$ 2 Myr, the γ 1.8 MeV emission is not detectable. Moreover, the predicted supernova position lies in the Galactic plane.

In the case of HIP 61766, a 1 Myr old SNR at a distance of 600 pc would have an angular radius of $\approx 5\,°$. Integrating the γ 1.8 MeV COMPTEL flux at the predicted supernova position and converting them into a presently observed ^{26}Al mass yields an ejected mass of ^{26}Al of $\approx 1.8 \cdot 10^{-4}$ M$_\odot$ (see appendix D.1). This value exceeds the theoretically predicted ^{26}Al masses even for very massive progenitors by one half to one order of magnitude. Hence, the signal in the 1.8 MeV COMPTEL map is probably due to a more recent and nearby supernova or multiple supernova events. This is well possible since the considered position is in the Vela region where many associations and clusters harbouring massive stars are present.

4.4.5 PSR J1239+2453

Three associations/cluster were found to be possible birth places of PSR J1239+2453: Sgr OB1, Ser OB1 and the open cluster NGC 6514. The predicted present NS parameters as well as time and position of the supernovae are given in Table 4.29. The projected predicted positions lie close to the Galactic centre. Therefore, no progenitor mass estimation is feasible from ^{26}Al measurements.

[230] found that PSR J1239+2453 could have originated from the Solar neighbourhood $\approx$ 1 Myr ago; however, they used a distance of 560 pc as derived from dispersion measure [479]. One year after their publication a parallactic distance of 862^{+64}_{-56} pc was obtained

Table 4.29: Present-day parameters of PSR J1239+2453 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[$M_\odot$]
Sgr OB1	(84., 25.7)	$3.26^{+0.19}_{-0.28}$	297^{+12}_{-48}	-104.5 ± 1.1	49.2 ± 1.4	526^{+40}_{-26}	$1.1^{+0.1}_{-0.1}$	1597^{+9}_{-60}	1555^{+8}_{-60}	$4.9^{+0.8}_{-0.6}$	$0.7^{+0.8}_{-3.4}$	$\gtrsim 32$
Ser OB1	(103.1, 8.2)	$1.17^{+0.09}_{-0.08}$	721^{+29}_{-72}	-104.6 ± 1.1	49.0 ± 1.2	789^{+76}_{-23}	$1.2^{+0.1}_{-0.1}$	549^{+19}_{-27}	537^{+18}_{-28}	$5.1^{+0.6}_{-0.6}$	$-0.3^{+2.1}_{-1.3}$	$14-38$
NGC 6514	(0, 127.1)	$1.72^{+0.12}_{-0.10}$	483^{+37}_{-49}	-104.5 ± 1.1	49.3 ± 1.4	670^{+48}_{-41}	$1.2^{+0.1}_{-0.1}$	833^{+11}_{-23}	804^{+20}_{-14}	$4.8^{+0.8}_{-0.6}$	$0.8^{+1.1}_{-1.4}$	$10-12$

by [57], significantly larger than the value they adopted. Here, it was not found that the pulsar could have originated from the Solar neighbourhood. The closer and the more recent the birth scenario for PSR J1239+2453 would have occurred, the larger the required radial velocity of the NS. That is why [230] finally excluded a closeby birth place for PSR J1239+2453 because they conclude that a spatial velocity of 700 km/s is unlikely. Instead, they suggest that PSR J1239+2453 was born ≈ 25 Myr ago in the Galactic plane, a kinematic age comparable to the characteristic pulsar age of $\tau_{char} = 23$ Myr. However, they only considered a small number of nearby associations as possible parents. It is well possible that PSR J1239+2453 was born in the Sgr-Ser region $1-3$ Myr ago.

No former companion candidate was found for PSR J1239+2453 (appendix E.10).

4.4.6 PSR J1509+5531

PSR J1509+5531 has a very high transverse velocity of 970 ± 60 km/s. Therefore, its radial velocity is expected to be small. In the simulations, however, a uniform radial velocity distribution in the range -1500 to 1500 km/s was adopted to not give too strong a priori restriction on the direction of motion, i.e. space velocity (the same approach was used for the Guitar Pulsar, section 4.4.8; Tetzlaff et al. 2009 [485]; Hui, Huang, Trepl, Tetzlaff et al. 2012 [239]).

Even so, no association was found to be a candidate for hosting the supernova in which PSR J1509+5531 was formed.

It is possible that the progenitor star was a massive runaway star that already left its parent association or cluster due to a possible primary supernova or dynamical ejection. In this case, the parent association or cluster of the progenitor star cannot be identified. However, if the progenitor was a runaway binary system[61], it might still be possible to identify the birth place of the NS as the intersection of its past path with the past path of a former companion, hence determine its age kinematically. Unfortunately but not surprisingly, no former companion candidate was found (appendix E.11). This suggests that the progenitor

[61] It is still not clear whether a former binary companion could survive a supernova explosion. There are binary runaway stars observed but it is unknown whether they are BSS or DES runaway stars. It seems possible that in a hierarchical triple system the binary companion can get ejected as a system, i.e. does not get disrupted.

Table 4.30: Present-day parameters of PSR J2048−1616 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[$M_\odot$]
Ser OB1	(70.7, 25.4)	$1.66^{+0.07}_{-0.06}$	-165^{+30}_{-41}	113.2±0.1	−4.6±0.3	540^{+10}_{-15}	$1.0^{+0.1}_{-0.1}$	1534^{+19}_{-64}	1491^{+65}_{-20}	$18.6^{+0.4}_{-0.5}$	$-0.4^{+1.7}_{-1.2}$	8 − 39
Ser OB2	(0, 25.3)	$1.86^{+0.05}_{-0.06}$	-173^{+9}_{-10}	113.2±0.1	−4.6±0.3	535^{+6}_{-6}	$1.1^{+0.1}_{-0.1}$	1594^{+9}_{-8}	1589^{+12}_{-4}	$17.8^{+0.2}_{-0.1}$	$1.6^{+0.7}_{-0.1}$	$\gtrsim 100$
NGC 6604	(0, 8.2)	$1.92^{+0.05}_{-0.07}$	-202^{+7}_{-10}	113.2±0.1	−4.6±0.3	550^{+6}_{-7}	$1.0^{+0.1}_{-0.1}$	1684^{+8}_{-20}	1684^{+8}_{-22}	$18.0^{+0.2}_{-0.1}$	$1.6^{+0.2}_{-0.6}$	$\gtrsim 100$

of PSR J1509+5531 was a single runaway star that experienced a supernova outside any stellar group.

4.4.7 PSR J2048−1616

Three possible birth associations/clusters were found for PSR J2048−1616, Ser OB1, Ser OB2 and NGC 6604. In all cases, the supernova would have taken place ≈ 1.6 − 2.0 Myr ago at a distance of ≈ 1.6 kpc (Table 4.30).

Ser OB2 and NGC 6604 are only ≈ 5 Myr old [268, 487]. Therefore, the progenitor star of PSR J2048−1616 would have been extremely massive ($\gtrsim$ 100 $M_\odot$). Such a star would probably not have formed a NS. Hence, Ser OB2 and NGC 6604 are too young to have formed a NS yet. The age of Ser OB1 is greater (≈ 8 − 45 Myr, [487]; L. Bukowiecki, priv. comm.). The deduced progenitor mass of 8 − 39 $M_\odot$ is plausible for the formation of a NS. Hence, it is most likely that PSR J2048−1616 was formed in Ser OB1 ≈ 1.7 Myr ago. The projected predicted supernova positions are all close to the Galactic centre. For that reason, no estimation of the progenitor mass can be drawn from ^{26}Al measurements.

No suitable former companion candidate was found for PSR J2048−1616 (appendix E.14).

4.4.8 PSR J2225+6535 – The Guitar Pulsar

The results presented in this section were published in their first version in *The Astrophysical Journal*, Volume 747 (Hui, Huang, Trepl, Tetzlaff et al. 2012 [239]).

The Guitar Pulsar (PSR J2225+6535) is outstanding among normal radio pulsars because its transverse velocity, $v_t = 1300 \pm 430$ km/s, is certainly one of the highest ones measured. This, as well as the well measured bow shock [82] suggest a negligible radial velocity of this NS which was confirmed by the identification of its birth place in the Cygnus region (Tetzlaff et al. 2009 [485]). A new analysis of the birth association or cluster was carried out here again since the list of possible parent associations or clusters was updated in this work (section 2.1, cf. Tetzlaff et al. 2010 [487]). Since the transverse velocity of the Guitar Pulsar is already very large, radial velocities in the range between −1500 − +1500 km/s were adopted in the Monte Carlo simulation rather than a distribution derived from the

Table 4.31: Present-day parameters of the Guitar Pulsar and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	d_{NS}^a	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[pc]	[pc]	[pc]	[°]	[°]	[$M_\odot$]
Vul OB1	(0.0, 30.5)	$1.22^{+0.15}_{-0.14}$	61^{+37}_{-77}	144.1±2.9	112.3±2.7	935^{+78}_{-36}	1074^{+80}_{-42}	1623^{+8}_{-57}	1627^{+8}_{-57}	$59.7^{+1.4}_{-1.0}$	$-0.1^{+0.8}_{-0.5}$	12 – 32
NGC 6823	(0.0, 26.4)	$1.17^{+0.21}_{-0.11}$	42^{+53}_{-53}	143.9±2.9	112.0±2.8	834^{+70}_{-37}	1028^{+28}_{-85}	1445^{+14}_{-30}	1446^{+14}_{-30}	$60.2^{+1.0}_{-0.7}$	$0.2^{+0.4}_{-1.0}$	$\gtrsim 18$
Cyg OB3	(0.0, 26.1)	$0.77^{+0.05}_{-0.03}$	78^{+15}_{-132}	144.0±2.9	112.1±2.8	1296^{+71}_{-31}	1495^{+58}_{-49}	1811^{+27}_{-27}	1823^{+16}_{-38}	$73.4^{+0.4}_{-0.6}$	$2.3^{+0.5}_{-0.5}$	15 – 37
Cyg OB1	(51.1, 21.7)	$0.71^{+0.04}_{-0.05}$	8^{+60}_{-68}	143.5±2.8	112.5±2.9	1089^{+71}_{-8}	1256^{+78}_{-7}	1509^{+49}_{-16}	1510^{+43}_{-23}	$75.9^{+0.9}_{-0.6}$	$2.6^{+0.4}_{-0.5}$	21 – 36
Cyg OB8	(0.0, 21.8)	$0.65^{+0.03}_{-0.03}$	-24^{+86}_{-55}	143.9±2.9	112.1±2.7	1397^{+50}_{-42}	1545^{+78}_{-16}	1809^{+27}_{-28}	1806^{+27}_{-28}	$78.4^{+0.3}_{-0.7}$	$3.0^{+0.4}_{-0.4}$	> 100
Cyg OB9	(30.0, 16.1)	$0.64^{+0.05}_{-0.04}$	7^{+77}_{-52}	143.6±3.1	112.4±2.9	789^{+31}_{-45}	911^{+17}_{-66}	1027^{+24}_{-26}	1009^{+22}_{-27}	$78.7^{+0.5}_{-0.9}$	$2.9^{+0.4}_{-0.6}$	21 – 87[b]
Cyg OB7	(50.1, 6.5)	$0.40^{+0.05}_{-0.03}$	28^{+71}_{-81}	143.7±2.9	112.6±2.8	488^{+36}_{-23}	572^{+34}_{-28}	614^{+12}_{-23}	609^{+13}_{-22}	$88.7^{+0.6}_{-0.7}$	$4.2^{+0.4}_{-0.3}$	14 – 19
Cep OB2	(20.2, 3.0)	$0.14^{+0.01}_{-0.01}$	-37^{+118}_{-72}	143.5±2.8	112.3±2.9	526^{+19}_{-12}	610^{+15}_{-15}	619^{+6}_{-9}	617^{+7}_{-9}	$102.0^{+0.2}_{-0.2}$	$6.1^{+0.1}_{-0.2}$	33 – 44
Col 419	(0.0, 7.2)	$0.63^{+0.07}_{-0.06}$	-37^{+118}_{-72}	144.1±2.9	112.0±2.7	583^{+12}_{-30}	661^{+21}_{-25}	752^{+3}_{-14}	742^{+7}_{-11}	$78.8^{+0.2}_{-0.4}$	$2.7^{+0.5}_{-0.3}$	24 – 39
NGC 7160	(0.0, 17.3)	$0.10^{+0.01}_{-0.01}$	-11^{+128}_{-79}	144.0±3.0	112.0±3.0	576^{+23}_{-9}	669^{+9}_{-14}	662^{+12}_{-4}	669^{+10}_{-6}	$104.1^{+0.1}_{-0.2}$	$6.3^{+0.1}_{-0.1}$	9 – 11

To achieve better constraints on the parameters, $v_r = 0 \pm 100$ km/s was adopted for the Guitar Pulsar.

[a] Instead of the current parallax π (as in Table 4.2) the current distance of the Guitar Pulsar is given here since no parallax was measured.

[b] Apparently, Cyg OB9 consists of two groups of different ages, the younger one being ≈ 4 Myr old (see Fig. 4.20), the latter ≈ 8 Myr [511].

spatial velocity distribution of pulsars [221] since the latter approach would only cover a small range of v_r (see also Tetzlaff et al. 2009 [485]). However, this results in a very large number of 70 possible birth associations. Since it is certain that the Guitar Pulsar is moving almost parallel to the plane of the sky implying a near-zero radial velocity ([81, 82]; Tetzlaff et al. 2009 [485]), those associations/clusters were removed for which pulsar radial velocities of a few hundred km/s are necessary to be possible parent associations/clusters. For ten of the remaining 16 associations/clusters[62], the d_{min} distributions suggest that the Guitar Pulsar could have been inside the boundaries of the respective association or cluster (from equation 3.2, $\mu - \sigma < R_{crit}$; or distribution peak consistent with R_{crit} if equation 3.2 was not adaptable). In Table 4.31 the position of the supernova and the current properties of the Guitar Pulsar, if it was born in the respective association, are given.[63]

For the last four associations/clusters listed in that table, the implied present distances to the Guitar Pulsar are considerably smaller than the minimum distance of 1 kpc [82]. They are not further considered as possible parent associations of the Guitar Pulsar. Three further associations/clusters predict a present NS distance at the 1 kpc boundary.

One runaway star was found as a former companion candidate, HIP 99580 (see also Hui, Huang, Trepl, Tetzlaff et al. 2012 [239]). The possible encounter might have occurred

[62] These include the 12 possible parent associations/clusters already found in the earlier analysis, Tetzlaff et al. 2009 [485], as well as four additional clusters which were not part of the previous sample of associations and clusters (see Tetzlaff et al. 2010 [487]).

[63] Note that in some cases the predicted kinematic ages differ from those obtained in the first analysis which was published in Tetzlaff et al. 2009 [485]. This is due to a stronger restriction on the present distance of the Guitar Pulsar applied in the first analysis ($\approx 1.9 \pm 0.1$ kpc).

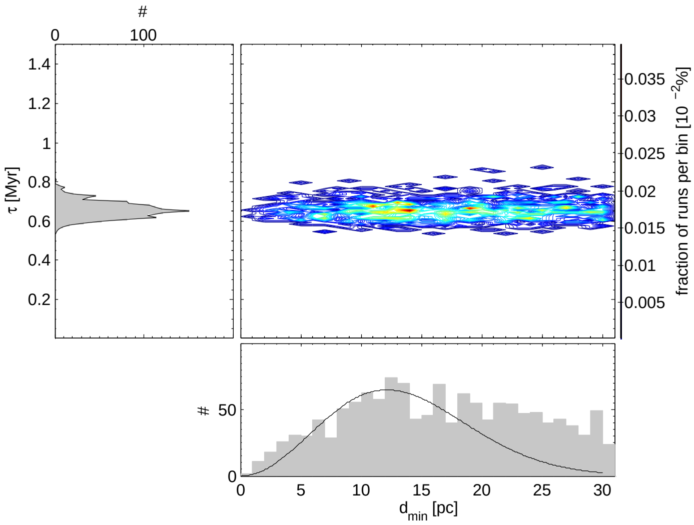


Figure 4.19: Distributions of minimum separations d_{min} and corresponding flight times τ for encounters between the Guitar Pulsar and HIP 99580 within the Cyg OB9 association. The solid curve drawn in the d_{min} histogram (bottom panel) represents the theoretically expected distribution (equation 3.2), adapted to the first part of the histogram, $\mu = 0$, $\sigma = 6.1$ pc.

Table 4.32: Predicted current parameters of the Guitar Pulsar and supernova position and time if HIP 99580 was the former companion.

Predicted present-day parameters of the Guitar Pulsar	
v_r [km/s]	-9^{+117}_{-64}
d_{NS} [pc]	884^{+42}_{-74}
μ_α^* [mas/yr]	143.5 ± 2.9
μ_δ [mas/yr]	112.8 ± 2.5
v_{sp} [km/s]	752^{+61}_{-54}
Predicted supernova pos. and time	
$d_{\odot,SN}$ [pc]	982^{+21}_{-22}
$d_{\odot,today}$ [pc]	977^{+19}_{-25}
l [°]	$77.4^{+0.4}_{-0.2}$
b [°]	$2.8^{+0.2}_{-0.6}$
τ [Myr]	$0.65^{+0.04}_{-0.04}$

Designations are as in Table 4.1. Note that the NS distance d_{NS} is given instead of π.

within Cyg OB9, a possible parent association of the pulsar. The first part of the distribution of the separations d_{min} between the Guitar Pulsar and HIP 99580 is consistent with the hypothesis that both stars once were at the same position ≈ 0.7 Myr in the past (Fig. 4.19). The present NS parameters and place and time of the predicted supernova are given in Table 4.32. If the Guitar Pulsar and the runaway star HIP 99580 were at the same place 0.7 Myr ago in Cyg OB9, the present distance of the pulsar needs to be ≈ 0.9 kpc. Hence,

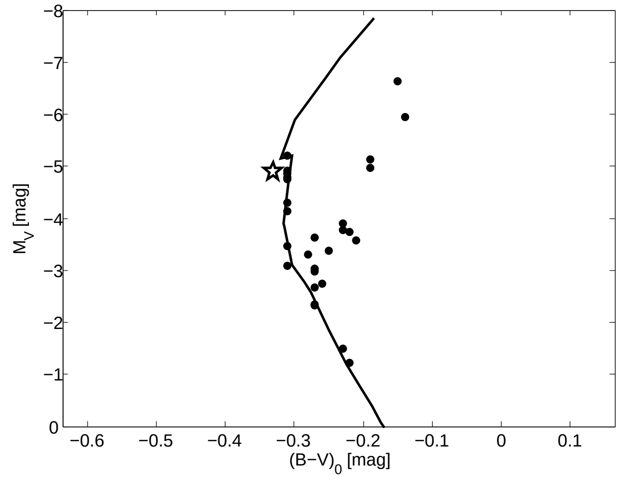


Figure 4.20: $(B-V)_0$ versus M_V diagram of Cyg OB9 (filled circles show member stars according to [182]). The solid line represents the 4 Myr isochrone from [344] (for solar metallicity; http://stev.oapd.inaf.it/cgi-bin/cmd). M_V of the Cyg OB9 member stars are taken from [182] (they adopted a distance of 1 kpc, similar to the distance used in this work, 962 pc ([48], reduced by 20 % according to [110]). Their $(B-V)_0$ is calculated from the colour index E_{B-V} and $B-V$ colour as given by [182]. M_V for HIP 99580 is obtained using its B and V magnitudes and parallactic distance (taking also into account the extinction A_V which was determined from $(B-V)$ and $(B-V)_0$). The $(B-V)_0$ value of this star is taken from [444] for an O5V star.

this association, if it is true, confirms a smaller distance than the dispersion measured distance (also previously suggested by [82]).
It was claimed by [22] that HIP 99580 is a spectroscopic binary, however [118] and [507] could not confirm this.[64] According to [98], the O5 type star HIP 99580 is a rapid rotator with $v \sin i = 270$ km/s. [405] investigated $v \sin i$ of O-type stars and found that only a small number of very massive stars show such a large $v \sin i$. Hence, it is reasonable to assume that it gained its large $v \sin i$ during the earlier evolution in a binary system. Furthermore, HIP 99580 is a blue straggler if it was ejected from Cyg OB9 (Fig. 4.20).

Assuming an association age of 4 Myr, the progenitor star of the NS must have been as massive as $49-87\,M_\odot$ [models from 277, 327, 494]. For such large masses, formation of black holes is expected rather than NSs. However, due to mass transfer during binary evolution, even more massive stars ($\approx 50-80\,M_\odot$) may eventually produce NSs instead of black holes [29]. Also, more massive progenitors may also produce larger speeds of the NS [68] which is consistent with the extraordinary speed of the Guitar Pulsar.

[64] But note that [118] quote a different radial velocity of $v_r = -23.1 \pm 8.0$ km/s for HIP 99580 compared to -44 ± 4 km/s [272] that was used here. In this case, the star would still be a runaway star as it was identified also from its tangential velocity (section 2.3). However, only a tiny fraction of runs would then yield small separations between HIP 99580 and the Guitar Pulsar making the BSS scenario unlikely. But note that both radial velocities can be correct if the star is a spectroscopic binary, then it would be necessary to determine the systemic radial velocity.

5 Summary

During this thesis, all known young NSs with sufficient properties were studied to determine their birth sites and to obtain kinematic ages. While in the literature, individual NSs have been analysed regarding their kinematic ages [e.g. 84, 230, 380, 458, 527], such extended work has not been carried out before. 20 NSs with good parameters (see section 2.2 for the introduction of the NS sample) were investigated regarding their birth associations and possible former companion candidates (chapter 4). The final results are reviewed in Table 5.1. For further 85 NSs preliminary results are shown in appendix F. The projected past flight paths of 19 of the 20 nearby NSs with accurate parameters (PSR J1509+5531 is not shown since no birth place could be determined) and possible former companion candidates listed in Table 5.1 are drawn in Fig. 5.1.

In preparation of the investigation of young NSs a catalogue of young runaway stars was compiled (section 2.3). The selection criteria for this catalogue combine all kinds of possible methods, starting from the classical selection of a runaway star regarding its absolute peculiar spatial velocity. Moreover, runaway star candidates were identified from extraordin-

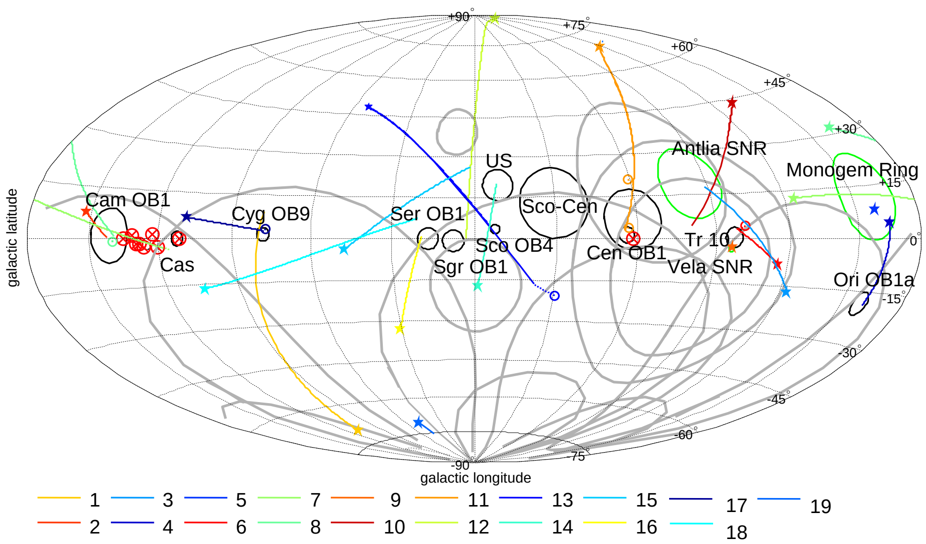


Figure 5.1: Projected past flight paths of 19 NSs and six runaway stars (best former companion candidates). The stars and open circles mark the present positions of the NSs and runaway stars, respectively. The trajectories were calculated adopting a certain set of parameters that is compatible with the results shown in chapter 4 for each case. The black solid circles and red crossed circles represent the present positions of the putative parent associations and clusters, respectively. For clarity, they are not traced back in time since their positions do not change much. Grey solid circles show the YLA, where also some NSs could originate from, see Table 5.1. The numbering code corresponds to the entry in column one of Table 5.1.

Table 5.1: Summary of the results obtained in chapter 4.

No	PSR	# former comp. cand.	parent assoc./cl.	τ_{kin} [Myr]	τ_{char} [Myr]
1	J0034−0721	6	Solar neighbourhood (poss. Argus)	1.5 − 2.4	36.6
2	J0454+5543	–	Cam OB1	0.6 − 0.7	2.28
3	J0630−2834	8	Solar neighbourhood (poss. assoc. with Antlia SNR)	0.4 − 1.0	2.77
4	J0633+1746[a]	–	Ori OB1a	0.4 − 0.7	0.34
5	J0659+1414	–	SNR 203.0+12.0 (Monogem Ring)	0.1	0.11
6	RX J0720.4−3125	4	YLA	0.3 − 0.7	1.9
			Tr 10 (supported by HIP 43158)	0.7 − 1.1	
7	J0820−1350	–	Cas region	$\gtrsim 5$	9.32
8	J0826+2637	1	Stock 7 (supported by HIP 13962)	2.4 − 3.6	4.92
9	J0835−4510[b]	–	Vela SNR	–	0.011
10	J0953+0755	9	Solar neighbourhood	0.4 − 2.5	17.5
11	J1136+1551	2	Cen OB1	2.7 − 3.1	5.04
			NGC 4609 (supported by HIP 63049)	1.8 − 2.0	
			outside any assoc./cl. (supported by HIP 61744)	0.7 − 1.0	
12	J1239+2453	–	Sgr OB1	3.0 − 3.5	22.8
			Ser OB1	1.1 − 1.3	
			NGC 6514	1.7 − 1.8	
–	J1509+5532	–	–	–	2.34
13	RX J1605.3+3249	1	Solar neighbourhood (poss. Octans, supported by HIP 89394)	0.4 − 0.6	–
			Sco OB4	2.9 − 3.7	
14	RX J1856.5−3754	–	US	0.4 − 0.5	3.76
15	B1929+10	3	Sco-Cen	0.7 − 1.3	3.1
16	J2048−1616	–	Ser OB1	1.6 − 1.7	2.84
17	J2225+6535[c]	1	Vul-Cyg region	0.6 − 1.3	1.12
			Cyg OB9 (supported by HIP 99580)	0.6 − 0.7	
18	J2313+4253	4	Ser OB1	3.7 − 4.4	49.3
			outside any assoc./cl. (supported by 4 former comp. cand.)	1.4 − 2.7	
19	J2330−2005	5	YLA	0.4 − 1.2	5.62

[a] Geminga, [b] Vela Pulsar, [c] Guitar Pulsar

ary high velocities only in one or two directions which also enabled the search for runaway stars that have no radial velocity measured yet. Since the velocities of the runaway star population obeys a Maxwellian distribution (see section 2.3; [472]), also runaway stars with relatively low absolute velocities exist. These stars were identified by comparing the direction of motion of a star with those of stars in their neighbourhood or its surrounding stellar association or cluster. In this way, runaway stars were found as they do not share the common motion of their parent stellar group and move away from their birth associations/clusters. In total, 2038 Hipparcos stars were classified as runaway stars.
Furthermore, the sample of 127 young association and clusters within 3 kpc from the Sun that are possible birth places of young neutron stars, which was assembled during the preceding diploma thesis, was updated and extended to 289 young associations/clusters with complete 3D kinematic data within 5 kpc from the Sun (section 2.1, Table A.1). A list of further 174 associations/clusters with unknown or incomplete kinematics (Table A.2) is ready to be completed in the future after further observation.

In order to test the feasibility and prospects of this project, it was tested whether the birth place of a random young nearby NS with known origin can be recovered. Therefore, a population synthesis was developed in which NSs and runaway stars are produced in their birth associations/clusters according to the lifetime of the member stars of the stellar groups (section 3.2.1). The expected success rate was estimated to be $\approx 70\,\%$ (section 3.2.3).
Additional outcomes of this population synthesis were spatial densities of young NSs and runaway stars that are observationally unbiased (up to a few kpc). These were used to determine the significance of encounters between NSs and runaway stars (outside associations/clusters; section 3.2.2) which was taken as a selection criterion for possible former companion candidates.

Kinematic ages of young NSs can be used to constrain NS cooling curves (see also section 1.4). In Fig. 5.2, different models for NS cooling (kindly provided by A. D. Kaminker, left panels [see also 198]; and J. Pons, right panels [see also 417, 420]) are shown together with data for 20 NSs analysed in this work for which estimates of the effective temperature are available.[65] In many cases, especially the "Magnificent Seven" NSs with high effective temperatures ($\gtrsim 10^6$ K), the characteristic ages are too large to be compatible with NS cooling theory while kinematic ages better fit the cooling curves. Note, however, that the effective temperature $T_{eff,\infty}$ of the cooling curves represent the average NS surface temperature whereas observed $T_{eff,\infty}$ reflect the temperature of the pole in most cases because it is usually hotter. All 20 NSs shown are probably low-mass NSs, hence slow coolers (left panels). Considering magnetic fields (right panels), the "Magnificent" Seven NSs RX J1856.5−3754, RX J0720.4−3125, RX J1605.3+3249 and RX J1308.8+2127 (RBS 1223) have high magnetic fields up to $\approx 10^{15}$ G. Particularly interesting is RX J0720.4−3125 which is hotter than RX J1856.5−3754 but could be older. One reason is that the thermal emission stems

[65] Effective temperatures for M7 members were taken from [204]; for the other NSs from [121, 402, 499].

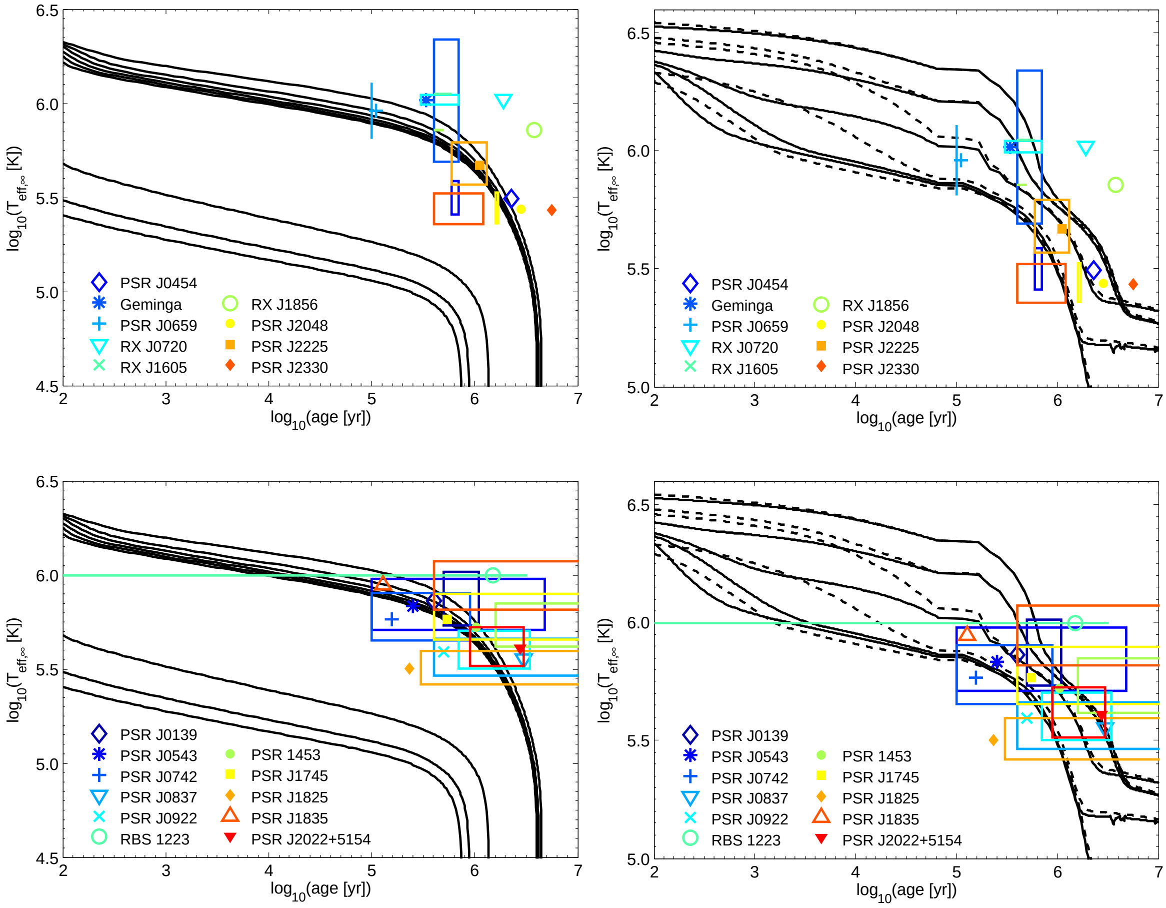


Figure 5.2: NS cooling diagrams for pure hadronic matter with observational data. The left panels show cooling curves including superfluidity of neutrons and protons (NS masses from $1.1 - 1.9\,M_\odot$, from top to bottom; magnetic field strength of $5 \cdot 10^{12}$ G) [see 198](see Fig. 1.7 for a colour version of the curves). In the right panels NS cooling curves are shown for different magnetic field strengths and a fixed NS mass of $1.32\,M_\odot$ (magnetic field strengths from bottom to top: 10^{13}, $3 \cdot 10^{13}$, 10^{14}, $3 \cdot 10^{14}$ and 10^{15} G; solid: pure toroidal field, dashed: toroidal plus poloidal field [see 417, 420]; see Fig. 1.7 for a colour version of the curves).
Data for nine NSs included in the subsample of nearby NSs with good observational data are shown in the top panels. Empty boxes mark the ranges for kinematic ages and show also the effective temperature uncertainty (effective temperatures from [121, 204, 402, 499]) whereas symbols mark characteristic ages (note that for RX J1605.3+3249 no measurement of $\dot{P}$ exist, hence no characteristic age). Further 11 NSs are inserted in the bottom figures. These kinematic ages are uncertain and should be taken as preliminary (in some cases lower or upper limits are shown).

mainly from the hot polar spots. However, already an estimate of the magnetic field strength using equation 1.18 gives a higher value for RX J0720.4−3125 ($B \approx 2.5 \cdot 10^{13}$ G) than for RX J1856.5−3754 ($B \approx 1.5 \cdot 10^{13}$ G). The magnetic field estimated from cyclotron resonance absorption is even higher for RX J0720.4−3125, $B \approx 5.6 \cdot 10^{13}$ G. For RX J1856.5−3754, no cyclotron line is detected since the magnetic field is lower and the line is not yet detectable with current instruments [204]. Regarding cooling curves provided by Pons et al. that include different magnetic field strengths (left panel in Fig. 5.2), a higher magnetic field is predicted for RX J0720.4−3125 than for RX J1856.5−3754, in good consistency with the other estimates.

6 Conclusions and Outlook

If the observables of a NS are of sufficient accuracy, the birth place of this star can well be identified (see e.g. RX J1856.5−3754, section 4.1.1). However, in most cases, the results obtained from investigations as carried out during this thesis still depend on the uncertainties in the observed NS parameters as well as the unknown radial velocity of the NS that needs to be assumed in the Monte Carlo simulations. Although the underlying v_r distribution does not significantly affect whether or not the birth place of a NS can be recovered (N. Tetzlaff, diploma thesis [483]), the kinematic age might deviate from the true age (in most cases by less than ≈ 0.5 Myr, see section 3.2.3). This is due to the correlation between the distance of a NS and its radial velocity in the Monte Carlo simulations as a larger distance might be compensated for by a larger radial velocity and vice versa. Because extraordinary small as well as high spatial NS velocities are unlikely, a Maxwellian distribution was assumed in this work [221]. It should be noted, though, that this gives priority to spatial velocities of $\approx 400 - 500$ km/s in the Monte Carlo simulations. This results either in a slight shift of the NS distance if the observed distance suffers from a relatively large uncertainty or of the kinematic age that is obtained (see e.g. RX J1856.5−3754, section 4.1.1). To improve the kinematic NS ages, it might be worthwhile to investigate different v_r distributions in future work. However, this only makes sense if an association between a NS and possible birth place can be considered certain, e.g. by means of further indications such as a certain association with a runaway star that is probably the former companion to the NS progenitor or an estimation of the v_r due to an observed bow shock (see again RX J1856.5−3754, section 4.1.1 or PSR J1136+1551, section 4.4.4). For some cases, where a small v_r was considered possible, the investigation was repeated using a uniform v_r distribution. Note also that the predicted peculiar space velocities for those 17 NSs analysed in great detail for which its determination was possible, cover the whole spectrum of plausible values (see section 1.4.3 for the theoretical velocity distribution).

40 former companion candidates were proposed throughout this thesis. They merit further investigation to confirm or reject their BSS runaway status, e.g. by searching for supernova debris in their spectra or indicators of former binary evolution such as an enhanced Helium abundance and rotational velocity $v \sin i$. Former companion candidates with unknown radial velocity might already be confirmed or rejected by measuring v_r. A list of the runaway stars that should be observed in this regard is given in Table 6.1. Moreover, the present catalogue of young runaway stars is confined to the Hipparcos catalogue. This also

Table 6.1: Runaway stars proposed for further observation. The second column denotes the possibly associated NS. Columns 3 and 4 give the spectral type and other information, respectively.

HIP	poss. assoc. NS	SpT	notes
13962	PSR J0826+2637	G0Ia	
33774	PSR J0953+0755	G8II-III	
37385	PSR J0630−2834	B8V	
39121	PSR J0630−2834	A3II/III	unknown v_r
40326	PSR J0630−2834	K1II-III	spectroscopic binary
40929	PSR J0953+0755	A6/A7II/III	unknown v_r
43158	RX J0720.4−3125	B0II/III	spectra were taken in spring/summer 2011 at SMARTS/CTIO 1.5 m (courtesy F. Walter). The data is currently being analysed (R. Errmann, M. Seeliger et al.). $v \sin i = 96 \pm 15$ km/s [405] a proposal to VLT/UVES to detect α elements as supernova debris was approved in December 2012
47018	PSR J0630−2834	A2II/III	λ Bootes star
47155	PSR J0630−2834	A6IIw	λ Bootes star, unknown v_r
47904	PSR J0953+0755	F2Ib	δ Scuti variable
48745	PSR J0630−2834	B3II	
50901	PSR J0630−2834	A4II	unknown v_r
52093	PSR J0034−0721	B8	unknown v_r
53557	PSR J0953+0755	F9II/III	astrometric binary, unknown v_r
53759	PSR J0630−2834	A2/A3II/III	unknown v_r
60134	RX J0720.4−3125, PSR J0953+0755	A4II	λ Bootes star, unknown v_r
61766	PSR J1136+1551	K0II/III	unknown v_r
63049	PSR J1136+1551	Be	uncertain distance, $v \sin i = 445$ km/s [19]
66057	PSR J0953+0755	F5II/III	in binary system, unknown v_r
70574	PSR J2313+4253	B2IV	δ Cephei variable
70586	PSR J2313+4253	M2II:	unknown v_r
75769	PSR J0953+0755	K0	double or multiple system, PMS
77471	PSR B1929+10	A5+F5	eclipsing binary of Algol type
78131	PSR J2330−2005	B6V	in binary sytem
78171	PSR B1929+10	K0II/III	binary, unknown v_r
81007	PSR J2330−2005	B9.5III	HgMn star, $v \sin i = 14 \pm 1$ km/s [3]
84345	RX J0720.4−3125	M5Iab	at least one companion
85015	PSR B1929+10	A3II/III	unknown v_r
88981	PSR J2313+4253	K1II	
89394	RX J1605.3+3249	Am	unknown v_r; a proposal to VLT/UVES to detect α elements as supernova debris was approved in December 2012
89828	PSR J2330−2005	F5II	$v \sin i = 70.1 \pm 7.0$ km/s [124]
93051	PSR J2313+4253	B8IIIe	Hg star, $v \sin i = 182 \pm 12$ km/s [169]
94391	PSR J2330−2005	A0	double or multiple system
94899	PSR J0953+0755	B2V	
97198	PSR J0034−0721	K0II-III	unknown v_r
99580	Guitar Pulsar	O5	$v \sin i = 270$ km/s [98]
101608	PSR J2330−2005	A5II/III	$v \sin i = 93$ km/s [7, 434]
101938	PSR J0034−0721	B8	unknown v_r
115263	PSR J0034−0721	A5II	
115755	PSR J0034−0721	B9III	α^2 CVn variable

gives a limit on the distance such that the catalogue is incomplete for larger distances. In future work, the runaway star catalogue will be extended to non-Hipparcos stars.
In addition, also positional and kinematic parameters of many associations and clusters are uncertain or even unknown (Table A.2). These stellar groups should be re-visited regarding distances and stellar content, hence their kinematic properties.

During this thesis, a population synthesis was developed that was used to evaluate the significance of NS-runaway star encounters and the feasibility of finding (nearby) NS origins. It includes (contemporaneous) star formation according to the IMF and (binary) pairing of stars. It already provides plausible supernova rates and binary fraction. Not yet incorporated are binary evolution and dynamical ejection of member stars. To improve the study of runaway stars, this will be inserted in the future. Another issue is the incompleteness of simulated supernova events beyond a few kpc due to the incomplete sample of stellar groups. This might be handled by including ISM simulations to form stars in stellar groups instead of using observed associations and clusters. However, this is not necessary for the present study since the observed parameters of distant NSs still suffer from large uncertainties making it difficult to evaluate their birth places in general.

Another important future goal is the identification of the NS (if it exists) that was born in the supernova from which ^{60}Fe was ejected that was found in terrestrial and lunar crusts ([100, 162, 163, 275], see section 1.2). Several candidates for an origin in the Solar neighbourhood were found in this work, however none of them at the desired time of ≈ 2 Myr in the past. A next step would be to analyse those NSs in more detail for which parallactic distances larger than 500 pc were measured (approximately 20 further NSs).
It remains puzzling why for RX J1856.5−3754 no former companion candidate was found although the birth place could be certainly identified. Since the predicted progenitor mass is in the range where NSs can only form in a supernova in a binary system ($M_{prog} \approx 50-80\,M_{\odot}$, [e.g. 29, 171]), a former companion to the progenitor star should exist. Possibly, this star was no Hipparcos source and can be identified in the future after non-Hipparcos runaway stars were investigated.
In many cases, it was tried to estimate the NS progenitor mass from the mass of ^{26}Al that got ejected during the supernova. This was done by measuring the integrated 1.8 MeV γ flux observed within a circle of the (calculated) size of the SNR at the predicted supernova position and converting it into a mass of ejected ^{26}Al (appendix D.1). If the predicted supernova distance was very close to Earth ($\lesssim 100$ pc), the SNR covers several tens of degrees on the sky making it impossible to evaluate the γ flux emitted from the SNR. However, at intermediate distances ($\approx 150-400$ pc, see e.g. sections 4.1.1, 4.2.1, 4.2.2), it is well possible to estimate the progenitor mass using the ^{26}Al method as long as the predicted supernova position is not too close to the Galactic plane.

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Appendix

A The Sample of Associations and Clusters

Table A.1: Sample of OB associations and clusters with complete 3D kinematic data available. The table gives the consecutive number, the designation, the position on the sky (J2000 Galactic longitude l and latitude b), distances d, heliocentric velocity components U, V and W as well as estimated ages and spatial extensions either as found in the literature or obtained from angular extensions and distances. If not already published as such, U, V and W were computed as in [252] (errors include proper motion and radial velocity uncertainties only). Note that ages are often uncertain to a factor up to two. Many OB associations contain several clusters of different ages (many of them listed here as well).

Name	l [°]	b [°]	d [kpc]	U [km/s]	V [km/s]	W [km/s]	Age [Myr]	Ø[pc]	Ref.
Sgr OB5	0.00	−1.20	2.440	−6.5 ± 10.8	1.2 ± 11.6	1.3 ± 15.0	6-12	221	SM85, BH89, D01
NGC 6530	6.07	−1.35	1.316	−12.1 ± 6.3	−16.2 ± 1.0	−14.3 ± 0.8	4-5	11	LB03, K05
NGC 6514	7.11	−0.28	0.816	−2.4 ± 1.7	1.3 ± 3.3	−10.8 ± 2.7	19	7	K05
Col 367	7.28	−2.01	1.200	−2.7 ± 4.0	−7.3 ± 3.2	−11.2 ± 2.6	7	17	K05
HD 141569	7.40	39.50	0.101	−5.4 ± 1.5	−15.6 ± 2.6	−4.4 ± 0.8	5	31	Meri04, F08
Sgr OB1	7.58	−0.78	1.539	−8.0 ± 1.8	−12.8 ± 1.5	−9.5 ± 1.5	5-8	207	SM85, BH89, D01
NGC 6531	7.65	−0.29	0.796	−13.5 ± 5.1	−10.2 ± 3.0	−5.7 ± 2.6	16	5	K05, Bu11
Sgr OB7	10.71	−1.52	1.852	−7.4 ± 3.1	−3.2 ± 2.3	−18.6 ± 2.4	4-5	58	K05
Markarian 38	11.99	−0.96	1.545	1.1 ± 9.0	−20.0 ± 4.0	4.0 ± 4.5	9	8	K05
Sgr OB4	12.10	−0.98	1.923	1.7 ± 3.6	−6.2 ± 7.2	−7.3 ± 12.8	<10[a]	54	Hu78, BH89, D01
IC 4725	13.65	−4.44	0.620	2.2 ± 10.1	−16.6 ± 2.7	0.6 ± 1.3	68	13	K05
Blanco 1	13.67	−79.38	0.207	−17.7 ± 0.5	−6.7 ± 0.3	−7.2 ± 2.3	209	9	K05, vL09
NGC 6613	14.16	−1.02	1.296	−11.0 ± 4.4	−13.5 ± 2.8	−0.3 ± 3.4	33	8	K05
Sgr OB6	14.18	1.28	1.613	−10.8 ± 3.9	−2.8 ± 7.4	−16.0 ± 8.6	<10[a]	34	Hu78, BH89, ME95
M 17	15.02	−0.69	1.821	−20.5 ± 12.7	9.9 ± 7.4	−21.6 ± 8.9	6	19	K05
NGC 6716	15.36	−9.56	0.789	9.9 ± 4.8	−14.9 ± 2.1	−2.7 ± 2.2	30	4	K05
Ser OB1	16.73	0.00	0.531	−4.3 ± 4.9	−3.1 ± 1.6	−2.1 ± 1.3	8-13[a]	71	Hu78, BH89, D01
NGC 6611	16.96	0.83	0.552	17.2 ± 0.6	5.3 ± 0.7	−1.6 ± 0.8	14	5	LB03, K05, GB08, Bu11
Sct OB3	17.31	−0.85	1.351	7.4 ± 6.1	−3.7 ± 2.6	−3.9 ± 3.8	5[a]	33	Hu78, BH89, D01
Ser OB2	18.22	1.66	1.587	−1.6 ± 1.8	−6.9 ± 2.2	−10.7 ± 0.8	5[a]	61	Hu78, BH89, D01
NGC 6604	18.26	1.72	1.695	11.9 ± 7.1	−5.2 ± 2.7	1.5 ± 1.5	4-5	15	LB03, K05
Sct OB2	23.22	−0.54	1.588	−8.7 ± 7.5	−7.8 ± 8.1	−4.4 ± 3.8	<6	61	SM85, BH89, D01
NGC 6694	23.88	−2.92	1.729	4.1 ± 1.6	−31.4 ± 3.4	3.6 ± 4.0	79	10	K05, MMU08, Bu11
NGC 6664	23.92	−0.49	1.164	23.8 ± 0.8	−7.9 ± 1.6	−8.7 ± 1.8	15	4	Di02, LB03, MMU08
NGC 6683	26.35	−0.81	1.196	3.9 ± 13.5	1.9 ± 6.7	−0.1 ± 0.2	10	1	Y66, EY87, Di02
Tr 35	28.29	0.00	1.205	4.1 ± 1.9	−17.6 ± 3.3	−1.0 ± 3.6	73	2	Di02
Col 359	29.60	12.70	0.450	6.5 ± 0.3	−15.8 ± 0.5	−10.8 ± 0.7	28-80	17	LB03, K05, Lo06, K07, B08
IC 4665	30.70	16.82	0.356	−2.8 ± 1.1	−16.9 ± 1.2	−8.5 ± 0.7	43	11	H01, LB03, K05
NGC 6755	38.59	−1.73	1.692	42.7 ± 1.1	−11.3 ± 1.4	−10.3 ± 1.6	45	10	Di02, LB03, MMU08, Bu11
NGC 6709	42.13	4.69	1.076	2.8 ± 5.2	−11.1 ± 4.8	−20.2 ± 1.5	138	8	K05
Vul OB1	59.40	−0.11	1.587	34.4 ± 4.8	−11.3 ± 5.4	−0.8 ± 1.5	10-16[a]	230	Hu78, T80a, BH89, D01
NGC 6823	59.41	−0.16	1.446	42.7 ± 3.0	−5.5 ± 1.8	−6.5 ± 4.1	2-10	7	Di02, W07, Bu11
Vul OB4	60.65	−0.14	0.800	12.1 ± 2.9	−10.2 ± 3.9	−7.2 ± 2.7	10	35	T80a, BH89, D01
NGC 6885	65.52	−3.97	1.703	36.4 ± 4.4	−18.3 ± 2.1	−1.0 ± 4.8	25	8	Di02, Bu11
NGC 6834	65.68	1.19	1.928	28.4 ± 2.3	−20.4 ± 1.6	3.2 ± 2.3	63	8	Di02, LB03, Bu11
Stephenson 1	66.78	15.37	0.374	−4.5 ± 1.9	−19.4 ± 3.9	−10.2 ± 1.5	49	12	K05
Argus	70.35	−53.38	0.025	−6.8 ± 0.3	−27.2 ± 1.3	−13.4 ± 1.3	40	148	To08
NGC 6871	72.63	2.05	1.562	49.5 ± 1.9	−25.8 ± 2.2	−10.4 ± 2.0	2-10	13	Mas95, LB03, So04, K05
Byurakan 1	72.73	1.76	2.699	84.9 ± 3.8	−35.1 ± 3.0	−5.5 ± 3.4	11	12	K05, Bu11
Byurakan 2	72.75	1.33	1.724	49.8 ± 4.3	−38.4 ± 9.1	−3.3 ± 3.2	5	11	K05, Bh07

Table A.1: – Continued. –

Name	l [°]	b [°]	d [kpc]	U [km/s]	V [km/s]	W [km/s]	Age [Myr]	Ø[pc]	Ref.
Cyg OB3	72.80	2.00	2.325	77.6 ± 2.2	−32.9 ± 2.1	−13.6 ± 3.3	8-12	106	BH89, D01, U01, So04
NGC 6883	73.29	1.18	2.083	68.8 ± 3.0	−31.3 ± 4.2	−4.6 ± 2.8	34	8	K05, A06
IC 4996	75.38	1.31	2.101	48.3 ± 7.1	−31.6 ± 13.9	−15.9 ± 5.2	7	9	K05, Bu11
Cyg OB1	75.90	1.12	1.695	45.4 ± 2.4	−27.0 ± 1.8	−6.8 ± 2.4	8	142	BH89, D01, U01
Berkeley 86	76.63	1.30	1.680	42.4 ± 7.4	−30.5 ± 7.8	26.1 ± 7.3	10	5	K05, K07, Bu11
NGC 6913	76.91	0.60	1.148	31.6 ± 2.3	−29.0 ± 2.8	−1.1 ± 2.5	13	4	K05
Cyg OB8	78.02	3.30	1.235	30.1 ± 0.9	−32.4 ± 3.3	3.2 ± 2.3	3	78	BH89, D01, U01
Col 419	78.05	2.79	0.740	23.2 ± 1.2	−12.9 ± 4.9	−6.7 ± 0.9	7	6	K05
Cyg OB9	78.18	1.49	0.962	26.5 ± 2.4	−22.7 ± 4.5	−6.8 ± 1.4	4-8	79	BH89, D01, U01
NGC 6910	78.70	2.01	1.139	26.8 ± 1.8	−38.8 ± 2.7	0.8 ± 1.6	21	7	K05
Bica 1	80.14	0.74	0.610	2.0 ± 1.8	−10.7 ± 3.6	−0.5 ± 1.7	7	3	Di02, Bu11
Cyg OB2	80.20	0.81	1.493	28.5 ± 1.7	−33.0 ± 0.3	−11.4 ± 1.8	1-5	31	Mas95, K05
Bica 2	80.22	0.77	1.235	9.1 ± 2.4	−10.8 ± 9.4	1.9 ± 1.8	9	2	Di02, Bu11
Cyg OB4	82.83	−7.47	0.800	1.9 ± 4.5	−6.0 ± 1.0	−4.2 ± 4.1	7[a]	43	Mo53, BH89, D01
NGC 7039	87.86	−1.71	0.821	17.4 ± 1.8	−11.9 ± 0.1	−7.4 ± 1.8	79	5	K05, Bu11
Cyg OB7	89.12	0.00	0.719	10.8 ± 2.4	−7.3 ± 2.3	−3.8 ± 0.7	13	163	BH89, D01, U01
NGC 7031	91.31	2.28	0.831	25.0 ± 1.7	0.6 ± 0.2	4.6 ± 1.7	224	3	Di02, LB03, MMU08, KP08
IC 5146	94.40	−5.53	1.257	−6.6 ± 0.5	−8.2 ± 1.3	−12.3 ± 0.5	7	6	Wa59, LB03, MP03, Gu09, Bu11
NGC 7128	97.35	0.44	2.228	52.4 ± 18.2	−41.5 ± 5.5	−13.5 ± 16.7	22	9	Di02, LB03, Bu11
Tr 37	99.20	3.78	0.834	19.0 ± 3.5	−12.0 ± 3.4	−6.4 ± 3.4	3-5	19	Co02, LB03, K05
Lac OB1	100.62	−13.20	0.368	6.6 ± 0.3	−13.3 ± 0.1	−2.7 ± 0.3	16	65	dZ99, Br99, D01
IC 1442	101.27	−2.22	2.301	40.9 ± 4.7	−56.9 ± 1.3	−6.0 ± 4.6	14	9	K05, K07, Bu11
Cep OB2	102.08	4.39	0.613	16.1 ± 0.7	−18.2 ± 0.2	−3.1 ± 0.3	5	105	dZ99, Br99, D01
NGC 7235	102.68	0.78	2.856	−2.5 ± 14.5	−53.3 ± 5.1	−39.2 ± 16.2	28	11	Di02, K05, Di02, MD09, Bu11
NGC 7160	104.06	6.46	0.667	17.0 ± 1.8	−22.9 ± 3.8	−1.4 ± 1.8	22	2	K05, Bu11
NGC 7261	104.06	0.94	1.960	20.1 ± 5.3	−13.4 ± 7.4	21.5 ± 4.6	40	9	EY87, Di02, LB03, Bu11
Cep OB1	104.19	−1.01	1.538	41.7 ± 1.6	−47.2 ± 3.0	−1.9 ± 1.5	6	322	Loz86, BH89, D01
NGC 7129	105.40	9.88	0.322	25.0 ± 24.4	−3.6 ± 11.3	−4.3 ± 26.9	20	1	MP03, Bu11
Cep OB6	105.68	0.21	0.270	−14.2 ± 1.0	−24.8 ± 0.3	−5.7 ± 0.4	50	40	dZ99, Br99
NGC 7380	107.19	−0.90	2.362	53.9 ± 6.0	−19.4 ± 6.1	−20.6 ± 5.4	18	18	LB03, K05, Bu11
Cep OB5	108.50	−2.70	1.7	52.9 ± 9.3	−33.6 ± 27.7	3.1 ± 1.4	47	2-4	BH89, Mas95, MD09
NGC 7419	109.12	1.12	1.490	34.1 ± 9.0	−66.8 ± 5.2	14.5 ± 7.5	22	11	Di02, K07, Bu11
Cep OB3	110.51	2.59	0.840	15.6 ± 1.3	−17.1 ± 1.6	−7.7 ± 1.6	4[a]	29	GS92, D01, K05
NGC 7510	110.92	0.05	2.095	33.7 ± 10.4	15.0 ± 6.1	5.2 ± 18.5	45	15	MP03, K05, Bu11
Markarian 50	111.36	−0.22	2.114	58.2 ± 5.4	−60.2 ± 12.1	−56.3 ± 2.0	12	1	Di02, MP03
Cas OB2	112.13	0.03	2.084	58.2 ± 6.2	−24.9 ± 12.5	−1.0 ± 4.9	10	167	Loz86, BH89, D01
NGC 7654	112.82	0.45	1.242	28.2 ± 4.3	−31.5 ± 1.8	−9.0 ± 5.8	32	10	K05, Bu11
Czernik 43	112.86	0.16	3.085	67.5 ± 13.3	−34.5 ± 6.2	−17.5 ± 11.6	56	18	K05, Bu11
Stock 17	115.11	0.34	2.020	32.9 ± 6.9	−33.9 ± 5.5	−32.0 ± 8.4	8	5	Di02, LB03, MP03, Bu11
King 12	116.12	−0.14	2.519	57.4 ± 10.2	−14.2 ± 5.0	−4.8 ± 5.3	16	11	K05, Bu11
Cas OB5	116.17	−0.34	2.000	49.6 ± 3.9	−24.1 ± 6.2	−18.6 ± 2.8	8	206	Loz86, BH89, D01
NGC 7788	116.42	−0.78	2.430	13.1 ± 7.2	−20.7 ± 5.7	−27.0 ± 8.5	45	13	Di02, K05, Bu11
NGC 7790	116.60	−1.02	3.382	70.6 ± 12.4	−56.0 ± 6.4	−13.6 ± 13.0	79	18	PJ94, K05, Bu11
Stock 18	117.63	2.29	2.600	61.2 ± 12.5	−17.3 ± 8.0	−0.2 ± 20.7	12	13	R03, RAG07
Cep OB4	117.92	5.28	0.663	9.8 ± 3.8	−5.7 ± 4.6	−3.3 ± 4.3	2	9	MC68, BH89, GS92
Mayer 1	119.44	−0.92	1.553	48.5 ± 4.7	2.7 ± 2.7	−38.2 ± 7.8	63	8	K05, Bu11
NGC 103	119.79	−1.38	3.026	47.8 ± 11.8	−19.9 ± 10.6	−0.5 ± 10.9	50	4	Ef78, PJ94, Di02, LB03
Cas OB4	119.84	0.14	2.777	47.8 ± 7.8	−28.3 ± 9.9	−17.0 ± 5.3	8	226	Loz86, GS92, ME95, D01
NGC 129	120.31	−2.56	1.973	29.6 ± 3.5	−32.9 ± 3.5	−1.8 ± 4.7	79	10	PJ94, K05, Bu11
Cas OB14	120.40	0.82	0.909	1.6 ± 4.8	−16.5 ± 4.0	5.0 ± 2.6	<10[a]	60	Hu78, BH89, D01
NGC 146	120.86	0.52	2.869	54.6 ± 12.8	−29.3 ± 12.3	14.0 ± 14.2	63	19	Ef78, PJ94, K05, Bu11
Czernik 2	122.09	1.33	1.559	−4.0 ± 55.1	−44.9 ± 34.5	−4.6 ± 30.7	11	8	MP03, Bu11
Cas OB7	122.78	1.39	1.818	34.3 ± 4.1	−21.8 ± 6.1	−8.8 ± 1.7	8	102	Loz86, GS92, ME95, D01
IC 1590	123.11	−6.25	2.285	33.5 ± 9.6	−24.5 ± 9.9	−10.4 ± 2.8	7	15	K05, Bu11
Cas OB1	124.79	−1.69	2.000	39.7 ± 4.3	−24.3 ± 6.3	−13.7 ± 7.6	10	122	Loz86, BH89, D01
NGC 433	125.87	−2.60	1.741	59.6 ± 9.5	−2.8 ± 6.9	−5.7 ± 7.5	56	15	K05, MMU08, Bu11
NGC 436	126.11	−3.92	3.014	30.6 ± 2.8	−74.4 ± 2.0	−52.0 ± 3.1	60	4	PJ94, Di02, LB03
NGC 457	126.63	−4.39	2.246	41.0 ± 2.5	−11.0 ± 2.8	−20.7 ± 2.0	22	16	LB03, K05, Bu11
NGC 581	128.03	−1.78	2.058	30.4 ± 3.3	−27.5 ± 2.8	2.1 ± 7.2	28	10	PJ94, K05, Bu11
NGC 637	128.54	1.73	2.484	16.8 ± 10.3	−35.6 ± 9.3	−25.8 ± 5.4	13	10	PJ94, K05, Bu11
NGC 654	129.08	−0.35	2.973	39.9 ± 12.7	−17.5 ± 10.3	3.2 ± 14.5	16	24	K05, Bu11
Cas OB8	129.20	−1.19	1.923	30.5 ± 2.1	−17.5 ± 2.3	−8.3 ± 5.5	20[a]	43	GS92, ME95, D01
NGC 659	129.38	−1.53	2.578	58.4 ± 7.9	−17.2 ± 7.1	−12.6 ± 9.7	79	18	PJ94, MP03, K05, Bu11
NGC 663	129.51	−0.95	2.520	42.2 ± 3.6	−6.0 ± 3.5	−31.3 ± 2.8	45	30	PJ94, K05, Bu11

Table A.1: – Continued. –

Name	l [°]	b [°]	d [kpc]	U [km/s]	V [km/s]	W [km/s]	Age [Myr]	Ø[pc]	Ref.
Stock 5	130.72	2.60	1.100	13.9 ± 1.7	−13.0 ± 1.5	−9.7 ± 2.0	54	9	K05
Czernik 6	130.91	1.07	2.120	19.4 ± 0.0	−9.7 ± 0.0	3.9 ± 0.0	28	7	Bu11
Basel 10	134.29	−2.62	1.930	13.8 ± 1.1	−30.8 ± 1.1	9.0 ± 2.5	28	8	Di02, Mer08, Bu11
h Per	134.61	−3.71	2.103	28.7 ± 2.2	−28.5 ± 2.2	−8.4 ± 2.4	11-35	29	LB03, MP03, K05, Bu11
Per OB1	134.69	−3.11	2.326	29.2 ± 1.0	−31.1 ± 1.0	−16.0 ± 2.2	8-11	307	Mae87, ME95, D01
Stock 7	134.71	0.08	0.698	10.5 ± 6.8	9.7 ± 6.9	−7.9 ± 2.1	13	4	K05
IC 1805	134.75	0.91	1.769	39.1 ± 13.0	−27.8 ± 13.0	−22.4 ± 2.8	1-7	7	Mas95, LB03, K05, Bu11
χ Per	135.02	−3.59	1.898	29.8 ± 5.2	−24.9 ± 5.1	−7.3 ± 1.5	11-32	20	LB03, MP03, K05, Bu11
Cas OB6	135.12	0.77	2.381	33.8 ± 3.8	−24.1 ± 3.8	−14.1 ± 4.5	4[a]	234	GS92, ME95, D01
NGC 1027	135.78	1.51	1.406	1.8 ± 1.2	24.2 ± 1.2	2.3 ± 2.1	71	9	K05, MMU08, Bu11
NGC 957	136.29	−2.61	2.198	17.0 ± 5.2	−40.0 ± 5.3	−8.2 ± 6.6	13	15	Liu89, K05, Bu11
IC 1848	137.20	0.89	2.266	35.4 ± 7.8	−4.4 ± 7.7	−19.2 ± 7.0	7	22	K05, Bu11
Tr 3	138.03	4.49	0.624	11.3 ± 1.3	−0.1 ± 1.4	−2.1 ± 1.4	45	3	Di02, K05, Bu11
Cam OB1	141.24	0.91	0.885	6.7 ± 2.0	−8.7 ± 1.8	−7.2 ± 1.3	7-14	253	SM85, BH89, D01
NGC 1502	143.65	7.68	0.494	15.8 ± 5.2	−13.6 ± 3.9	−1.8 ± 1.5	16	5	LB03, K05, Bu11
AB Dor	146.31	−59.00	0.014	−7.4 ± 3.2	−27.4 ± 3.2	−12.9 ± 6.4	30-120	85	L06, Ma07, F08
Cam OB3	146.96	2.88	3.448	9.1 ± 14.2	−37.4 ± 17.5	13.5 ± 8.2	11[a]	122	Hu78, ME95, D01
α Per	147.89	−6.00	0.172	−12.7 ± 0.9	−24.6 ± 0.7	−7.0 ± 0.2	50-71	24	dZ99, Br99, LB01, M02, BL04, K05
NGC 1444	148.11	−1.33	1.076	−5.9 ± 4.5	0.8 ± 3.6	−23.3 ± 2.9	79	4	Hay32, Di02, LB03, Bu11
NGC 1513	152.56	−1.61	1.364	−4.6 ± 5.1	−41.4 ± 9.7	5.5 ± 10.9	79	13	Di02, Bu11
Cas-Tau	157.43	−18.56	0.176	−14.1 ± 5.8	−19.7 ± 3.5	−6.8 ± 1.9	50	215	Bl56, dZ99
Per OB2	159.66	−16.78	0.319	−21.5 ± 0.4	−5.5 ± 1.2	−9.1 ± 0.5	4-8	41	dZ99, Br99, D01
IC 348	160.50	−17.80	0.267	−15.5 ± 0.3	−6.5 ± 1.0	−7.0 ± 1.1	56	2	K05, Bu11
Pleiades	166.34	−23.99	0.121	−6.7 ± 0.9	−25.0 ± 0.5	−12.8 ± 0.5	120	18	K05
NGC 1912	172.23	0.70	1.066	41.1 ± 0.1	−30.0 ± 0.6	−14.5 ± 0.6	363	32	LB03, MMU08, Pi08
Aur OB2	173.24	−0.17	2.703	1.6 ± 4.1	−0.2 ± 8.9	−11.5 ± 1.3	6[a]	206	Hu78, GS92, ME95, D01
Stock 8	173.37	−0.18	1.308	−8.0 ± 5.0	−14.3 ± 4.2	−20.9 ± 3.5	7	8	Mal90, K05, Bu11
NGC 1893	173.58	−1.67	1.307	0.8 ± 5.2	−16.2 ± 2.2	−11.3 ± 2.2	18	11	LB03, K05, Bu11
Aur OB1	173.88	0.19	0.591	−1.0 ± 3.3	−8.4 ± 0.9	−5.6 ± 1.1	11-22[a]	120	Hu78, BH89, D01
NGC 1960	174.58	1.09	1.153	−1.4 ± 4.6	−24.2 ± 1.7	−12.3 ± 2.0	22	12	K05, Bu11
NGC 1746	179.08	−10.61	0.760	0.2 ± 4.9	−5.0 ± 0.7	−12.1 ± 1.1	155	15	K05
Her-Lyr	180.00	68.75	0.019	−13.6 ± 3.7	−22.7 ± 3.4	−7.9 ± 5.2	40-200	26	Fu04, L06, E07
NGC 2168	186.62	2.17	1.267	9.8 ± 4.7	−21.5 ± 0.7	3.7 ± 0.6	45	12	K05, Bu11
NGC 2129	186.62	0.16	1.431	−11.8 ± 2.3	−8.0 ± 8.6	−9.3 ± 6.7	10-28	6	K05, C06, Bu11
Col 89	188.65	3.80	0.800	−24.8 ± 7.5	−11.8 ± 1.8	−0.7 ± 1.3	32	14	K05
Gem OB1	189.00	2.30	2.041	−14.5 ± 1.5	−16.9 ± 2.9	−10.2 ± 1.9	9[a]	196	Hu78, BH89, D01
λ Ori	195.27	−12.10	0.439	−27.5 ± 1.3	−14.4 ± 0.6	−8.1 ± 0.5	5-6	30	DM01, LB03, K05
NGC 2169	195.65	−2.91	0.768	−19.7 ± 2.4	−9.9 ± 1.9	−12.5 ± 2.4	7	2	K05, Bu11
Mon OB1	202.06	1.10	0.575	−19.7 ± 4.6	−13.6 ± 2.6	−5.3 ± 2.2	<25	125	T76, BH89, D01
NGC 2264	202.91	2.17	0.450	−13.8 ± 2.1	−13.2 ± 1.0	−4.3 ± 0.5	7	2	LB03, K05, Bu11
NGC 2186	203.54	−6.19	2.184	−15.5 ± 1.9	−18.2 ± 3.8	11.0 ± 2.4	63	14	Di02, K05, Bu11
Col 97	205.34	−1.72	0.500	−15.5 ± 5.0	−7.5 ± 2.6	−10.7 ± 1.1	209	5	K05
Col 106	206.02	−0.39	1.600	−33.1 ± 4.7	2.5 ± 3.3	−8.4 ± 2.0	5	29	K05
Mon OB2	206.20	−1.00	1.205	−22.1 ± 2.4	−4.5 ± 1.9	−7.2 ± 2.3	<25	179	T76, BH89, D01
NGC 2244	206.29	−2.07	1.193	−26.1 ± 3.1	−5.7 ± 2.0	−6.8 ± 1.6	1-7	17	Mas95, LB03, K05, Bu11
σ Ori	206.81	−17.36	0.618	−25.9 ± 0.6	−14.4 ± 0.9	−3.9 ± 1.1	16	2	Di02, Bu11
Ori OB1	206.96	−17.53	0.412	−20.9 ± 0.8	−12.1 ± 0.5	−6.7 ± 0.5	1-11[b]	165	BH89, Bl91, Br99, D01
Col 107	207.34	−0.75	1.450	−17.2 ± 5.8	−4.9 ± 4.8	−18.4 ± 4.9	11	8	K05
NGC 1981	208.05	−18.96	0.400	−24.6 ± 2.1	−11.9 ± 1.3	−6.5 ± 1.1	32	2	K05
NGC 1976	209.00	−19.36	0.413	−23.2 ± 2.3	−16.4 ± 1.4	−7.0 ± 1.2	51	6	K05, Me07
NGC 1980	209.48	−19.55	0.550	−20.3 ± 1.9	−13.6 ± 1.6	−7.1 ± 1.5	5	4	K05
Dolidze 25	211.93	−1.29	6.368	−24.7 ± 14.2	−107.5 ± 14.4	19.6 ± 14.5	9	54	Di02, K07, Bu11
Mon R2	213.90	−11.91	0.834	−11.3 ± 9.0	2.2 ± 16.6	−11.1 ± 24.8	6-10	7	HR76, CH08
NGC 2232	214.37	−7.51	0.352	−14.0 ± 0.8	−9.1 ± 0.6	−12.6 ± 0.7	53	5	H01, LB01, LB03, K05
NGC 2343	224.26	−1.17	1.014	−17.7 ± 2.6	−3.2 ± 2.6	1.9 ± 2.2	18	7	Di02, K05, Bu11
CMa OB1	224.60	−1.50	1.640	−40.3 ± 4.2	−4.6 ± 4.1	−21.3 ± 2.3	3	102	Cl74, ME95, D01
NGC 2353	224.66	0.39	1.307	−25.2 ± 7.5	−6.3 ± 7.4	−12.6 ± 2.0	89	9	K05, Bu11
NGC 2345	226.59	−2.31	2.623	−45.2 ± 5.1	−37.9 ± 4.7	−14.7 ± 5.0	79	28	Di02, K05, Bu11
IC 1848	229.07	30.40	2.000	3.6 ± 7	14.3 ± 7.3	−35.3 ± 6.8	5	24	K05
Waterloo 7	230.28	0.62	1.982	−79.6 ± 13.7	−41.4 ± 11.5	26.6 ± 10.6	28	4	MP03, Bu11
NGC 2422	230.93	3.17	0.397	−29.3 ± 1.8	−24.2 ± 2.3	−8.3 ± 0.3	132	7	K05, vL09
NGC 2287	231.00	−10.45	0.695	−16.2 ± 1.3	−13.0 ± 1.5	−18.5 ± 0.7	100-180	12	K05, GH08
NGC 2414	231.40	1.94	2.932	−59.2 ± 3.0	−38.7 ± 2.6	−43.7 ± 3.7	10	12	LB03, K05, Bu11
Ruprecht 26	232.08	2.69	2.368	−14.6 ± 3.8	−10.0 ± 2.9	−39.7 ± 5.0	32	11	K05, Bu11
Bochum 5	232.51	0.79	1.031	−26.7 ± 2.4	−31.3 ± 1.9	−10.0 ± 2.7	32	4	K05, Bu11
ColA	233.13	−33.88	0.084	−13.2 ± 1.3	−21.8 ± 0.8	−5.9 ± 1.2	30	169	To08
NGC 2384	235.39	−2.41	2.116	−71.0 ± 5.6	−9.1 ± 5.2	−40.6 ± 8.0	11	10	Liu89, K05

Table A.1: – Continued. –

Name	l [°]	b [°]	d [kpc]	U [km/s]	V [km/s]	W [km/s]	Age [Myr]	Ø[pc]	Ref.
NGC 2367	235.59	−3.82	1.546	−62.0 ± 4.5	−9.4 ± 6.0	−39.7 ± 3.3	7	6	LB03, K05, Bu11
Col 121	237.39	−7.71	0.775	−37.4 ± 1.5	−14.9 ± 2.2	−13.9 ± 0.8	5-11	115	dZ99, Br99, D01, LB01, BL04, KM07
NGC 2362	238.21	−5.53	1.732	−45.2 ± 3.5	−12.6 ± 5	−6.3 ± 2.5	7	11	LB03, K05, Bu11
Tr 7	238.22	−3.34	1.749	−43.8 ± 6.4	−11.2 ± 4.4	−6.4 ± 6.0	32	7	K05, Bu11
Ruprecht 18	239.90	−4.96	1.757	−3.4 ± 6.8	−33.0 ± 3.9	−10.4 ± 6.9	79	12	Di02, Mer08, Bu11
Ruprecht 32	241.58	−0.55	5.171	−155.3 ± 11.0	−10.0 ± 6.0	−21.5 ± 12.5	13	25	Di02, MP03, Bu11
Haffner 19	243.07	0.52	4.426	−75.2 ± 3.9	−38.3 ± 5.5	−19.1 ± 3.4	7	17	Di02, K07, Bu11
NGC 2467	243.17	0.34	1.352	−44.9 ± 5.4	−40.1 ± 8.8	−15.3 ± 4.7	112	9	K05
Col 132	243.18	−9.24	0.411	−23.6 ± 1.9	−15.7 ± 1.9	−10.1 ± 1.2	32	4	Cl77, K05
NGC 2453	243.29	−0.93	3.440	−80.7 ± 2.2	3.1 ± 1.2	−27.1 ± 2.9	22	12	Di02, LB03, MMU08, Bu11
Pup OB1	243.51	0.14	2.000	−48.4 ± 17.2	−24.1 ± 16.5	5.0 ± 15.3	4	129	Ha72, Hu78, HB89, ME95
Col 140	245.09	−7.79	0.376	−22.2 ± 0.7	−18.1 ± 0.9	−12.2 ± 0.5	35	6	H01, LB01, K05
NGC 2439	246.44	−4.46	3.212	−14.7 ± 2.3	−56.7 ± 4.4	−40.3 ± 1.3	7-32	27	D01, BL04, K05
Col 135	248.67	−11.15	0.300	−18.3 ± 0.8	−7.0 ± 2.0	−12.7 ± 0.5	26	12	H01, LB01, LB03, K05
NGC 2571	249.11	3.54	1.234	−39.9 ± 3.1	−13.1 ± 1.2	3.1 ± 3.4	28	4	Di02, K05, Bu11
Haffner 26	249.61	2.35	2.272	−83.3 ± 9.6	−35.0 ± 3.6	−12.3 ± 10.5	16	9	Di02, MP03, K05, Bu11
Pup OB3	253.89	−0.24	1.449	−53.5 ± 15.3	−21.5 ± 12.6	−6.6 ± 14.4	4	29	We63, BH89, ME95
NGC 2546	254.83	−2.06	0.918	−35.4 ± 0.5	−27.5 ± 0.1	−11.0 ± 0.5	83	20	LB03, K05
Vel OB2	262.47	−7.47	0.508	−26.3 ± 3.1	−19.8 ± 2.7	−6.9 ± 1.3	10	70	dZ99, Br99, D01
Tr 10	262.73	0.44	0.387	−27.1 ± 1.5	−21.8 ± 1.0	−9.8 ± 0.7	15-35	45	dZ99, Br99, LB01, K04, BL04
NGC 2547	264.36	−8.62	0.474	−20.3 ± 0.4	−10.8 ± 1.9	−14.9 ± 0.5	50	5	K05, vL09
NGC 2645	264.79	−2.91	1.752	−65.4 ± 7.0	−14.9 ± 3.1	−0.3 ± 7.1	14	11	Di02, Bu11
Vel OB1	264.88	−1.42	0.885	−30.2 ± 1.3	−20.1 ± 1.7	−6.1 ± 0.8	20	120	T79, BH89, D01
Pismis 8	265.09	−2.58	1.397	−79.7 ± 16.8	−56.3 ± 1.9	−12.8 ± 18.4	32	6	Di02, MP03, Bu11
IC 2395	266.68	−3.56	0.710	−20.6 ± 1.3	−23.6 ± 16.9	−7.0 ± 1.4	12	9	LB03, K05
NGC 2670	267.51	−3.62	1.409	−40.4 ± 5.6	−3.4 ± 0.6	−24.0 ± 6.5	71	11	LB03, MMU08, Pi08, Bu11
Col 205	269.21	−1.85	1.476	−52.1 ± 4.7	−19.6 ± 5.6	10.7 ± 4.9	14	9	K05, Bu11
IC 2391	270.40	−7.12	0.145	−22.7 ± 0.5	−18.5 ± 1.0	−6.3 ± 0.3	46-76	20	H01, LB01, LB03, K05, Bu11
NGC 2669	270.85	−6.09	1.276	−30.2 ± 4.4	−19.1 ± 0.5	−23.3 ± 4.3	79	9	Di02, K05, Bu11
NGC 2516	273.84	−15.80	0.342	−19.0 ± 0.2	−19.9 ± 1.5	−2.2 ± 0.5	120	5	K05, vL09
Pismis 16	277.83	0.69	1.073	−26.1 ± 4.3	−25.0 ± 8.9	−14.3 ± 4.1	79	4	K05, Bu11
CarA	278.47	−10.14	0.097	−10.2 ± 0.4	−23.0 ± 0.8	−4.4 ± 1.5	30	115	To08
Oct	280.83	−8.74	0.118	−14.5 ± 0.9	−3.6 ± 1.6	−11.2 ± 1.4	20	221	To08
BH 92	283.00	0.44	2.412	−60.2 ± 5.1	−31.7 ± 1.3	−8.5 ± 5.2	56	13	K05, Bu11
IC 2581	284.60	0.05	2.499	−89.6 ± 7.9	−18.6 ± 4.0	−4.5 ± 9.1	13	11	K05, Bu11
Loden 153	285.67	0.08	2.657	−89.3 ± 8.5	−14.3 ± 3.3	8.2 ± 9.2	7	6	K05, Bu11
NGC 3293	285.85	0.07	2.325	−90.2 ± 6.0	−12.9 ± 2.8	−12.5 ± 6.6	5-9	6	T80b, K05
NGC 3324	286.22	−0.17	2.428	−99.0 ± 4.2	−19.9 ± 1.2	−10.0 ± 3.7	10	17	LB03, K05, Bu11
Car OB1	286.51	−1.49	1.886	−66.5 ± 1.0	−15.0 ± 1.6	−8.9 ± 0.9	8-13[a]	165	Hu78, BH89, D01
vdB-Hagen 99	286.61	−0.60	0.665	−36.3 ± 2.3	−16.9 ± 3.4	−20.3 ± 2.8	45	2	H01, K05, Bu11
Bochum 9	286.78	−1.59	2.986	−130.0 ± 5.1	−46.9 ± 3.6	−57.4 ± 6.3	14	10	MP03, K05, Bu11
Tr 14	287.39	−0.59	2.249	−47.5 ± 3.3	0.7 ± 1.1	15.7 ± 3.3	7	10	LB03, K05, S06
Tr 15	287.42	−0.38	2.128	−57.6 ± 4.0	3.4 ± 1.6	11.5 ± 3.3	12	6	LB03, K05, Mer08
Col 232	287.48	−0.55	2.300	−69.1 ± 3.6	−4.6 ± 8.7	15.6 ± 2.2	2	3	Di02, MP03
Tr 16	287.62	−0.64	2.857	−84.9 ± 3.6	−29.1 ± 1.6	15.2 ± 3.2	0-8	12	Mas95, LB03, K05, S06
Col 228	287.65	−1.07	1.923	−65.3 ± 2.7	−6.9 ± 3.2	−7.9 ± 2.5	5	23	LB03, K05
IC 2602	289.29	−5.01	0.149	−8.2 ± 0.4	−19.9 ± 0.9	−0.3 ± 0.2	32-67	8	H01, LB01, LB03, K05
NGC 3532	289.63	1.39	0.411	−21.4 ± 1.3	−4.4 ± 3.6	0.7 ± 0.4	282	9	K05, vL09
Bochum 12	289.83	−1.70	2.299	−20.2 ± 5.4	−2.1 ± 2.0	−37.1 ± 6.2	40	5	K04, Bu11
Melotte 101	289.89	−5.57	2.394	−66.9 ± 5.5	−32.8 ± 2.3	−9.4 ± 6.9	71	18	Di02, K05, Mer08, Bu11
Feinstein 1	290.14	0.44	1.159	−40.4 ± 3.7	−0.5 ± 8.4	−2.8 ± 2.2	9	16	K05
Car OB2	290.41	0.09	2.564	−78.9 ± 2.4	−25.1 ± 2.3	−9.7 ± 2.4	4	152	BH89, G94, D01
Stock 13	290.49	1.60	1.577	−70.9 ± 4.3	−27.8 ± 4.9	−6.9 ± 3.4	23	13	K05
NGC 3572	290.71	0.19	1.781	−84.2 ± 10.3	−21.8 ± 6.4	−24.1 ± 7.5	10	9	K05
Tr 18	290.98	−0.13	1.352	−53.2 ± 2.2	0.8 ± 0.9	−11.9 ± 2.4	59	4	LB03, K05
NGC 3590	291.21	−0.17	2.057	−62.7 ± 6.0	−16.4 ± 6.4	−10.1 ± 4.3	32	9	K05, Bu11
TWA	291.61	20.22	0.061	−9.7 ± 4.1	−17.1 ± 3.1	−4.8 ± 3.7	10	66	Sod98, Web99, dlR06, BYN06, F08
η Cha	292.42	−21.45	0.093	−12.2 ± 0.0	−18.1 ± 0.9	−10.1 ± 0.5	7	13	LS04, J05, F08
NGC 3766	294.12	−0.03	1.754	−59.8 ± 1.2	−10.9 ± 1.6	−8.3 ± 1.0	33	14	LB03, K05
IC 2944	294.84	−1.64	1.786	−46.5 ± 8.9	−14.0 ± 12.7	−24.0 ± 7.4	8	15	K05, MP03
Cru OB1	294.89	−1.08	1.640	−43.7 ± 1.6	−16.6 ± 1.9	−6.2 ± 0.8	5-7	117	BH89, KG94, D01
Stock 14	295.22	−0.67	2.146	−55.5 ± 6.6	−16.3 ± 4.3	−2.6 ± 6.8	10	9	K05
Tuc-Hor	296.57	−51.72	0.043	−10.1 ± 2.4	−20.7 ± 2.3	−2.5 ± 3.8	25	100	SN00, Z01b, Ma07, F08

Table A.1: – Continued. –

Name	l [°]	b [°]	d [kpc]	U [km/s]	V [km/s]	W [km/s]	Age [Myr]	Ø[pc]	Ref.
Cha I	297.22	−14.26	0.162	−9.9 ± 18.9	−10.3 ± 20.2	−6.2 ± 10.8	2-6	9	Wh97, Lu08
NGC 4103	297.59	1.18	1.892	−43.6 ± 3.9	−9.6 ± 4.7	−16.4 ± 2.8	32	9	K05, Bu11
ϵ Cha	300.43	−15.08	0.096	−8.6 ± 3.6	−18.6 ± 0.8	−9.3 ± 1.7	5-15	55	Te99, J05, F08
NGC 4463	300.61	−2.01	1.281	−30.0 ± 4.7	10.7 ± 5.8	0.5 ± 3.3	28	3	K05, Bu11
LCC	301.54	6.74	0.119	−8.2 ± 5.1	−18.6 ± 7.3	−6.4 ± 2.6	13-20	45	dG89, dZ99, Br99, M02, Sa03, F08
NGC 4609	301.87	−0.14	1.208	−54.4 ± 2.7	−8.7 ± 1.7	−11.4 ± 4.9	56	3	K05, MMU08, Bu11
NGC 4755	303.20	2.48	2.032	−41.4 ± 2.8	−12.7 ± 3.0	−11.5 ± 2.9	25	10	K05, Bu11
Cen OB1	304.18	1.41	1.786	−45.5 ± 1.3	−6.7 ± 1.7	−8.2 ± 1.7	6-12	175	BH89, KG94, D01
Ruprecht 107	305.94	−2.23	1.519	−58.3 ± 7.5	14.0 ± 5.5	−3.3 ± 6.2	32	6	Di02, Mer08, Bu11
Stock 16	306.07	0.17	1.639	−44.5 ± 5.4	19.1 ± 7.2	−2.6 ± 1.5	6	13	LB03, K05
Basel 18	307.17	0.22	2.510	−56.4 ± 9.8	−44.3 ± 7.4	−54.4 ± 6.6	35	5	Di02, MP03, K05, Bu11
Hogg 16	307.50	1.34	1.587	−52.2 ± 4.4	5.1 ± 5.4	−12.6 ± 1.4	18	5	LB03, K05
Col 272	307.59	1.20	2.130	−52.5 ± 7.3	−0.2 ± 7.7	−18.7 ± 3.9	22	14	Di02, K05, Bu11
NGC 5168	307.73	1.58	1.777	−12.8 ± 8.2	−1.1 ± 7.1	0.9 ± 7.6	55	7	K05, MP03
NGC 5281	309.18	−0.72	1.108	−32.3 ± 0.8	−1.2 ± 0.7	−12.8 ± 1.3	58	14	LB03, MMU08, Pi08
R 80	309.40	−0.40	2.900	−60.5 ± 6.2	0.0 ± 5.8	−25.9 ± 6.9	?	5	MD09
NGC 5316	310.23	0.14	1.215	−31.9 ± 1.7	−7.2 ± 1.4	0.6 ± 2.1	155	12	K05, MMU08
NGC 5617	314.68	−0.11	1.533	−40.7 ± 3.9	10.1 ± 3.9	−19.8 ± 5.5	105	10	K05, MMU08
NGC 5606	314.84	0.98	1.818	−51.2 ± 1.9	2.6 ± 1.9	−15.3 ± 1.9	7	13	LB03, K05
Pismis 20	320.52	−1.20	3.200	−78.0 ± 6.3	−24.1 ± 5.9	−44.0 ± 5.5	7	2	Di02, MD09
NGC 6025	324.52	−5.90	0.769	−12.5 ± 4.1	−12.2 ± 3.0	3.4 ± 1.4	91	10	K05
Pleiaden B1	325.66	18.11	0.129	−4.5 ± 4.7	−20.1 ± 3.3	−5.5 ± 1.9	20	107	As99
NGC 6087	327.71	−5.42	0.901	−13.9 ± 7.1	−4.7 ± 4.7	−1.9 ± 1.8	85	15	K05
Nor OB1	327.99	−0.90	2.800	−59.1 ± 19.4	−27.3 ± 13.2	−0.8 ± 6.6	7[a]	54	MD09, Hu78
NGC 6067	329.76	−2.20	1.409	−45.7 ± 3.6	−5.1 ± 2.2	−17.2 ± 0.8	102	12	LB03, K05
Harvard 10	329.83	−3.28	1.311	−51.6 ± 3.8	−48.7 ± 5.9	−33.7 ± 6.8	74	25	K05, FM08
UCL	330.51	12.86	0.144	−6.8 ± 4.6	−19.3 ± 4.7	−5.7 ± 2.5	10-20	65	dG89, dZ99, Br99, M02, Sa03, F08
β Pic-Cap	330.95	−55.54	0.018	−10.8 ± 3.4	−15.9 ± 1.2	−9.8 ± 2.5	8-34	113	Z01a, Ma07, F08
R 103	332.39	−0.81	3.201	−71.1 ± 28.3	−31.3 ± 21.4	−37.3 ± 34.9	5[a]	173	Hu78, MD09
R 105	333.12	1.88	1.613	−32.4 ± 10.5	17.0 ± 16.8	−44.5 ± 18.8	<10[a]	8	Hu78, BH89, ME95
NGC 6167	335.24	−1.40	1.108	−37.9 ± 4.7	1.9 ± 3.8	−17.9 ± 3.5	145	7	K05
NGC 6193	336.72	−1.55	1.149	−38.4 ± 4.0	−7.6 ± 2.7	−13.4 ± 2.3	8	10	K05
Ara OB1A	337.73	−0.92	1.124	−16.0 ± 8.3	−7.8 ± 4.0	−11.6 ± 2.1	50	106	BH89, D01, Wo08
Ara OB1B	337.92	−0.85	2.778	−50.0 ± 1.1	−30.7 ± 2.4	−28.8 ± 4.0	50	276	BH89, Mas95, D01, Wo08
NGC 6178	338.42	1.24	1.014	2.2 ± 2.4	−4.6 ± 3.3	−10.7 ± 3.7	32	6	K05
Hogg 22	338.58	−1.16	2.021	−74.7 ± 12.1	−10.7 ± 6.1	−19.8 ± 4.1	13	5	K05, Bu11
NGC 6204	338.58	−1.05	1.087	−7.4 ± 1.6	−19.2 ± 4.3	1.3 ± 4.6	36	3	LB03, MP03, K05
NGC 6250	340.66	−1.92	0.872	−9.5 ± 0.9	−1.4 ± 1.6	−12.8 ± 1.8	22	6	Di02, K05, Bu11
Lynga 14	340.92	−1.10	1.043	−27.9 ± 1.2	−16.4 ± 3.8	−0.1 ± 4.6	9	5	Di02, MP03, Bu11
NGC 6231	343.45	1.19	1.250	−28.8 ± 2.9	−1.4 ± 1.0	−0.8 ± 0.7	4-7	10	BaL95, LB03, K05
Sco OB1	343.73	1.38	1.539	−29.4 ± 2.8	−2.8 ± 1.5	−5.8 ± 1.5	8	62	BH89, P91, D01
BH 205	344.60	1.63	1.594	−10.1 ± 0.6	−10.2 ± 2.0	0.6 ± 2.3	25	9	K05, Bu11
Tr 24	344.71	1.51	1.138	−5.1 ± 1.0	−3.8 ± 1.1	−1.0 ± 1.2	8	20	Di02, LB03
NGC 6322	345.23	−3.03	0.947	−57.5 ± 0.2	6.3 ± 0.9	−3.0 ± 0.9	14	2	LB03, K05, Bu11
NGC 6242	345.47	2.47	1.161	−6.4 ± 0.4	3.3 ± 1.2	−1.4 ± 1.3	32	3	LB03, MMU08, Pi08, Bu11
BH 217	346.78	−1.51	1.714	−24.6 ± 3.4	−46.2 ± 13.7	−12.7 ± 11.3	45	11	MP03, Bu11
US	351.07	19.43	0.150	−6.7 ± 5.9	−16.0 ± 3.5	−8.0 ± 2.7	5-10	30	dG89, dZ99, Br99, M02, Pr02, Sa03, F08
Bochum 13	351.18	1.37	1.879	−7.4 ± 1.6	−31.1 ± 4.3	1.1 ± 5.1	7	10	LB03, K05, Bu11
Sco OB4	352.40	3.44	1.099	3.9 ± 0.3	−8.5 ± 0.8	−8.5 ± 0.8	7	65	D01, K05
Pismis 24	353.07	0.65	0.969	−2.7 ± 3.0	−4.9 ± 23.4	10.6 ± 27.0	13	6	MV73, Mas01, MP03, Bu11
NGC 6396	353.96	−1.76	1.592	−34.5 ± 2.7	−48.7 ± 8.3	−5.8 ± 7.0	45	6	Di02, K07, Bu11
Tr 27	355.05	−0.76	1.205	−17.0 ± 0.3	−12.0 ± 3.3	−7.2 ± 3.4	30	11	LB03, K05
NGC 6383	355.67	0.06	0.981	3.5 ± 3.2	−2.2 ± 1.7	−10.5 ± 1.8	5	9	K05
M 6	356.59	−0.70	0.488	−12.5 ± 3.5	−16.4 ± 0.4	−3.9 ± 0.4	81	7	LB03, K05
Ext. R CrA	359.41	−17.18	0.102	−0.1 ± 6.4	−14.8 ± 1.4	−10.1 ± 3.3	12	62	N00, F08

[a] Ages were derived by G. Maciejewski from HR diagrams from memberlists either from Hu78 or GS92 (Mo53 for Cyg OB4) by fitting a set of theoretical Padova isochrones [186] assuming solar metallicity. The fitting algorithm is based on the least-squares method and uses stellar magnitudes as weights.
[b] Ori OB1a: 11 Myr, Ori OB1b: 2 Myr, Ori OB1c: 5 − 11 Myr, Ori OB1d (= Trapezium cluster): ≈ 1 Myr.
References: A06 – [6], B08 – [51], BaL95 – [20], BH89 – [48] (according to [110] distances taken from this publication have been reduced by 20%), Bh07 – [37], Bl56 – [42], Bl91 – [46], BL04 – [36], Br99 – [61], Bu11 – [64], BYN06 – [24], C06 – [77], CH08 – [76], Cl74 – [89], Co02 – [99], D01 – [110], dG89 – [119], Di02 – [133], dlR06 – [120], DM01 – [140], dZ99 – [126], E07 – [149], F08 – [160], Fu04 – [173], G94 – [177], GB08 – [201], GH08 – [193], GS92 – [182], H01 – [230], Ha72 – [212], HR76 – [217], Hu78 – [241], J05 – [250], K05 – [268], K07 – [272], KG94 – [259], KM07 – [258], L06 – [306], LB01 – [304], LB03 – [305], Lo06 – [303], Loz86 – [309], LS04 – [314], Lu08 – [312], M02 – [324], Ma07 – [330], Mae87 – [325], Mas95 – [351], Mas01 – [350], MC68 – [323], ME95 – [357], Me07 – [360], Mer08 – [362], Meri04 – [361], MP03 – [363, WEBDA database, http://www.univie.ac.at/webda], MV73 – [373], Mo53 – [376], N00 – [389], P91 – [407], Pr02 – [425], S06 – [457], Sa03 – [439], SM85 – [442], SN00 – [468], So04 – [465], Sod98 – [460], T76 – [501], T79 – [502], T80a – [503], T80b – [505], E07 – [149], Te99 – [482], To08 – [498], U01 – [511], W07 – [544], We63 – [536], Web99 – [532], Wh97 – [539], Wo08 – [545], Z01a – [564], Z01b – [565].

Table A.2: Sample of OB associations and clusters without fully available kinematic properties. The designations are as Table A.1 but without U, V and W velocities.

Name	l [°]	b [°]	d [kpc]	Age [Myr]	Ø[pc]	Ref.
Bochum 14	6.38	−0.51	0.623	16	1	Bu11
Kronberger 25	16.58	−0.47	1.643	71	4	Bu11
Kharchenko 2	16.67	−0.32	2.533	79	9	Bu11
Bica 3	18.47	−0.41	1.132	56	5	Bu11
Basel 1	27.35	−1.95	2.178	78	3	Di02
NGC 6704	28.21	−2.22	2.974	73	4	Di02, LB03
Berkely 79	31.17	0.92	2.124	79	14	Bu11
Archinal 1	38.24	1.77	1.436	13	2	Bu11
NGC 6756	39.10	−1.68	1.843	79	8	Bu11
Alessi 56	43.22	0.96	0.700	25	3	Bu11
Kronberger 13	49.17	−0.98	2.414	13	4	Bu11
Alessi 57	50.20	0.75	0.758	22	3	Bu11
NGC 6830	60.11	−1.77	1.913	56	5	Bu11
AH03J2011+267	65.72	−3.90	2.592	22	4	Bu11
Toepler 1	70.31	1.73	2.813	71	11	Bu11
Teutsch 8	71.86	2.42	2.003	10	5	Bu11
Kronberger 28	72.54	1.85	2.282	28	3	Bu11
Basel 6	74.86	3.31	2.428	63	5	Bu11
Kronberger 72	75.11	2.14	2.344	71	5	Bu11
Kronberger 57	75.34	−0.50	2.099	35	6	Bu11
Teutsch 30	75.35	−1.42	2.368	11	4	Bu11
NGC 7063	83.11	−9.87	0.701	79	4	Bu11
NGC 7024	84.26	−3.86	1.536	79	7	Bu11
NGC 7067	91.20	−1.67	3.199	79	13	Bu11
Barkhatova 2	95.57	−1.55	1.690	7	4	Bu11
Teutsch 126	101.98	−0.60	2.034	50	9	Bu11
Berkeley 94	103.10	−1.16	2.813	16	10	Bu11
Berkeley 96	103.72	−2.09	3.065	9	9	Bu11
Berkeley 95	105.46	1.20	3.388	45	20	Bu11
Berkeley 97	106.64	0.38	2.589	14	11	Bu11
Teutsch 54	107.91	0.59	1.805	63	6	Bu11
King 10	108.49	−0.40	3.127	40	29	Bu11
Czernik 44	113.92	0.43	3.342	22	15	Bu11
Teutsch 23	115.79	1.01	2.029	13	9	Bu11
Neguerela 1	115.80	1.23	1.971	45	7	Bu11
King 21	115.95	0.65	2.633	16	12	Bu11
Czernik 45	117.01	2.39	3.165	22	10	Bu11
Czernik 1	117.74	−0.96	1.801	18	2	Bu11
Stock 20	119.93	−0.10	1.852	100	9	Bu11
NGC 133	120.68	0.60	1.312	18	2	Bu11
King 14	120.72	0.35	2.304	32	22	Bu11
NGC 189	121.49	−1.73	0.872	9	2	Bu11
Stock 24	121.56	−0.87	2.357	71	10	Bu11
Dias 1	121.95	1.19	1.963	32	10	Bu11
King 16	122.10	1.33	2.024	32	11	Bu11
Berkeley 4	122.25	1.53	2.016	7	8	Bu11
Berkeley 62	124.01	1.08	2.721	13	16	Bu11
Czernik 3	124.27	−0.05	2.831	22	8	Bu11
NGC 366	124.67	−0.59	2.217	56	12	Bu11
Tr 1	128.21	−1.13	2.526	45	13	Bu11
Czernik 4	128.22	−1.13	2.051	32	3	Bu11
Berkeley 6	130.10	−0.97	2.667	79	9	Bu11
Berkeley 7	130.13	0.38	2.692	11	9	Bu11
Czernik 7	131.15	0.53	2.218	22	5	Bu11
Teutsch 55	134.10	1.37	1.808	71	5	Bu11
Czernik 10	135.35	−0.19	2.340	56	11	Bu11
Czernik 13	135.64	2.27	3.382	13	6	Bu11
Czernik 8	135.80	−1.56	1.959	79	11	Bu11
Berkeley 65	135.85	0.26	2.076	8	9	Bu11
Czernik 11	135.86	−0.54	2.130	32	5	Bu11
King 4	136.05	−1.16	2.860	50	15	Bu11
Teutsch 162	136.11	2.11	2.224	56	9	Bu11
OCl 374	139.58	27.35	1.927	71	8	Bu11
Czernik 14	140.94	0.93	2.916	8	9	Bu11
Czernik 17	142.53	6.20	2.570	63	6	Bu11
NGC 1220	143.04	−3.96	2.446	79	10	Bu11
King 6	143.33	−0.10	0.613	71	5	Bu11
Czernik 15	145.11	−3.99	2.570	40	12	Bu11
Juchert 9	145.12	3.67	3.263	56	12	Bu11
Czernik 16	145.92	−2.99	2.282	71	8	Bu11
Mayer 2	151.17	2.12	1.607	25	5	Bu11
Waterloo 1	151.30	1.82	3.456	7	14	Bu11
NGC 1624	155.36	2.61	4.630	22	22	Bu11
NGC 1605	158.57	−1.57	2.174	71	16	Bu11
Ruprecht 148	160.36	−0.41	2.938	71	7	Bu11

Table A.2: – Continued. –

Name	l [°]	b [°]	d [kpc]	Age [Myr]	Ø[pc]	Ref.
Kronberger 1	173.11	0.04	1.757	32	7	Bu11
NGC 1931	173.94	0.25	0.877	8	7	Bu11
Teutsch 1	175.56	1.21	3.392	71	11	Bu11
Teutsch 45	177.94	0.53	2.618	13	7	Bu11
Basel 4	179.24	1.20	3.000	200	3	Di02, YS04
Kronberger 60	179.81	4.75	2.973	71	11	Bu11
Teutsch 10	179.96	−0.29	2.293	63	11	Bu11
Dutra-Bica 83	182.05	0.43	1.608	14	3	Bu11
Dutra-Bica 84	186.14	2.59	6.368	9	15	Bu11
IC 2157	186.42	1.21	2.219	56	5	Bu11
Kronberger 12	188.79	2.39	2.702	22	8	Bu11
NGC 2331	189.69	15.13	2.884	63	8	Bu11
Pismis 27	190.07	0.80	1.739	25	6	Bu11
Ivanov 2	196.21	−1.20	2.101	14	12	Bu11
Alessi 53	202.26	−0.66	1.460	56	3	Bu11
Basel 7	204.07	0.60	1.946	89	2	Bu11
Alessi 59	211.08	1.20	3.865	25	13	Bu11
vdB 85	211.24	−0.41	1.675	71	7	Bu11
Berkeley 28	212.53	0.25	2.749	63	13	Bu11
Chupina 1	215.39	31.66	1.798	13	2	Bu11
Ivanov 9	217.49	−0.02	0.736	79	2	Bu11
Mon OB3	217.65	−0.42	2.439	7[a]	47	Gr71, BH89
vdB 80	219.26	−8.94	1.637	10	10	Bu11
NGC 2302	219.30	−3.10	1.728	10	9	Bu11
Haffner 3	219.83	0.02	1.592	79	6	Bu11
Ivanov 4	221.85	−2.01	0.719	10	3	Bu11
NGC 2401	229.67	1.85	5.360	71	20	Bu11
Haffner 24	233.42	−0.34	2.951	79	12	Bu11
Mayer 3	233.76	−0.20	2.521	13	11	Bu11
Bica 4	235.62	−4.11	2.517	71	4	Bu11
NGC 2421	236.28	0.08	2.432	79	16	Bu11
Juchert 12	236.56	−4.16	2.148	71	7	Bu11
Ivanov 6	238.48	−4.27	0.448	16	2	Bu11
Ruprecht 157	241.63	11.59	2.076	56	6	Bu11
Ruprecht 36	242.58	−0.32	2.055	45	6	Bu11
Haffner 18	243.16	0.45	6.234	13	34	Bu11
Pup OB2	244.6	0.6	3.2	20	212	Ha72, BH89, MD09
ESO 494-09	244.94	1.08	1.218	63	4	Bu11
Ruprecht 44	245.73	0.50	3.722	10	19	Bu11
Haffner 15	247.93	−4.15	2.459	22	16	Bu11
Bochum 15	248.02	−5.46	3.116	10	8	Bu11
Dc 3	250.28	−9.70	0.671	79	2	Bu11
Kronberger 18	250.88	−35.26	2.531	14	10	Bu11
Col 196	253.95	7.02	0.663	79	2	Bu11
AH03 J0822-364	254.93	0.33	0.751	9	1	Bu11
Pismis 1	255.11	−0.72	5.390	63	20	Bu11
Pismis 5	259.34	0.93	0.772	13	2	Bu11
ESO 312-04	259.47	−1.73	2.144	71	7	Bu11
Teutsch 64	260.69	−1.30	1.572	79	5	Bu11
NGC 2671	262.15	0.78	2.019	100	15	Bu11
NGC 2659	264.17	−1.65	1.982	10	23	Bu11
BH 54	264.49	−0.27	1.109	7	6	Bu11
ESO 315-14	266.80	9.21	1.801	71	3	Bu11
ESO 260-17	267.54	0.61	1.379	71	8	Bu11
Graham 1	271.03	32.96	3.040	32	5	Bu11
Ruprecht 76	273.76	−0.90	1.431	45	5	Bu11
Ruprecht 78	275.06	−1.24	1.711	50	5	Bu11
Pismis 14	275.70	−1.89	1.322	22	3	Bu11
Ruprecht 77	276.46	−3.12	3.151	35	14	Bu11
BH 79	277.13	−0.04	1.464	22	5	Bu11
Hogg 3	279.52	0.10	2.674	89	30	Bu11
NGC 3105	279.92	0.27	8.710	25	28	Bu11
BH 84	282.05	−2.42	2.943	18	14	Bu11
BH 90	283.14	−1.46	2.795	100	14	Bu11
BH 91	284.02	−1.62	0.791	63	4	Bu11
Westerlund 2	284.26	−0.32	1.212	7	4	Bu11
Bochum 11	288.01	−0.92	3.407	7	22	Bu11
Teutsch 31	288.37	0.02	1.657	20	3	Bu11
Hogg 9	288.84	0.69	3.062	28	12	Bu11
Turner 6	289.10	0.31	2.837	79	6	Bu11
Sher 1	289.63	−0.24	4.406	14	9	Bu11
Col 240	290.88	0.22	1.577	14	15	Di02, LB03
Hogg 12	291.21	−0.18	2.587	25	11	Bu11
NGC 3576	291.30	−0.60	2.5	15	13	BH89, Di02, MD09
NGC 4052	297.29	−0.90	1.209	251	6	LB03, K05
ESO 131-09	300.02	4.88	2.297	22	6	Bu11
NGC 4439	300.06	2.63	1.785	51	7	LB03, Pi08
Coalsack	300.71	−0.96	0.152	?	16	SB72, HF07

Table A.2: – Continued. –

Name	l [°]	b [°]	d [kpc]	Age [Myr]	Ø[pc]	Ref.
Hogg 15	302.05	−0.24	2.031	11	14	Bu11
Cha III	302.63	−16.63	0.150	?	10	Lu08, RELKE 96
Cha II	303.43	−14.14	0.178	1-10	8	Wh97, Lu08
Danks 2	305.39	0.09	0.385	71	1	Bu11
Tr 21	307.57	−0.31	1.312	58	8	K05
C1331-622	307.89	0.00	1.099	63	6	Bu11
BH 151	308.67	0.59	1.705	63	5	Bu11
Tr 22	314.63	−0.57	1.516	129	7	K05
Cir OB1	315.50	−2.80	2.0	4-10	35	BH89, MD09
NGC 5749	319.50	4.52	1.242	71	5	Bu11
Hogg 18	320.77	6.44	1.480	56	4	Bu11
NGC 6031	329.28	−1.51	1.823	117	2	Di02, LB03
Pismis 22	331.46	−0.61	0.898	56	3	Bu11
ESO 275-01	333.05	5.85	1.482	71	7	Bu11
Westerlund 1	339.55	−0.40	3.550	4	2	MT08, Bra08
NGC 6216	340.64	0.01	4.916	45	27	Bu11
BH 200	341.14	0.27	1.491	22	9	Bu11
Havlen-Moffat 1	348.69	−0.78	3.300	4	5	Di02
AH03 J1725-344	353.09	0.64	0.295	7	1	Bu11
NGC 6357	353.15	0.90	0.248	8	1	Bu11
Col 347	359.78	−0.26	1.420	13	11	Bu11

[a] See Table A.1

References: BH89 – [48] (note also Table A.1), Bra08 – [56], Bu11 – [64], Di02 – [133], Gr71 – [190], Ha72 – [212], HF07 – [233], K05 – [268], LB03 – [305], Loz97 – [310], Lu08 – [312], MT08 – [358], Pi08 – [412], SB72 – [455], Wh97 – [539], YS04 – [552]

B The Sample of Neutron Stars

Table B.1: The sample of neutron stars.

PSR	α [h:m:s]	δ [°:′:″]	d [pc]	μ_α^* [mas/yr]	μ_δ [mas/yr]	τ_{char} [Myr]	Ref.
J0014+4746	00 : 14 : 17.75	+47 : 46 : 33.4	1700 ± 150	19.3 ± 1.8	-19.7 ± 1.5	34.8	DTH78, HLK04, BFG03
J0034−0721	00 : 34 : 08.8703	−07 : 21 : 53.409	1075^{+101}_{-85}	10.37 ± 0.08	-11.13 ± 0.16	36.6	LVW69a, CBV09, HLK04
J0139+5814	01 : 39 : 19.7401	+58 : 14 : 31.819	2703^{+328}_{-264}	-19.11 ± 0.07	-16.60 ± 0.07	0.403	DTH78, CBV09, HLK04
J0152−1637	01 : 52 : 10.8536	−16 : 37 : 52.99	650 ± 150	3.1 ± 1.2	-27 ± 2	10.2	MLT78, HLK04, BFG03
J0206−4028	02 : 06 : 01.268	−40 : 28 : 04.33	730 ± 150	-10 ± 25	75 ± 35	8.33	MLT78, SMD93
J0304+1932	03 : 04 : 33.115	+19 : 32 : 51.4	800 ± 200	6 ± 7	-37 ± 4	17	FSS73, HLK04, LAS82
J0332+5434	03 : 32 : 59.368	+54 : 34 : 43.57	1064^{+141}_{-111}	17.0 ± 0.3	-9.5 ± 0.4	5.53	CP68, HLK04, BBGT02
J0358+5413	03 : 58 : 53.7165	+54 : 13 : 13.727	1099^{+234}_{-164}	9.20 ± 0.18	8.17 ± 0.39	0.564	MTH72, CCV04, HLK04
J0452−1759	04 : 52 : 34.1057	−17 : 59 : 23.371	1667^{+2917}_{-1167}	8.9 ± 2.2	10.6 ± 1.9	1.51	VLW69, CBV09, HLK04
J0454+5543	04 : 54 : 07.7506	+55 : 43 : 41.437	1190^{+75}_{-67}	53.34 ± 0.06	-17.56 ± 0.14	2.28	DTH78, CBV09, HLK04
J0502+4654	05 : 02 : 04.561	+46 : 54 : 06.09	1600 ± 250	-8 ± 3	8 ± 5	1.81	DTH78, HLK04, HLA93
J0528+2200	05 : 28 : 52.264	+22 : 00 : 04	1950 ± 350	-20 ± 19	7 ± 9	1.48	SR68, YWML10, HLA93
J0534+2200[a]	05 : 34 : 31.973	+22 : 00 : 52.06	2000 ± 500	-14.7 ± 0.8	2.0 ± 0.8	0.00124	SR68, MCN71, NR06, LPS93
J0538+2817	05 : 38 : 25.0572	+28 : 17 : 09.161	1389^{+278}_{-198}	-23.57 ± 0.10	52.87 ± 0.10	0.618	FCWA95, CBV09, KLH03
J0543+2329	05 : 43 : 09.660	+23 : 29 : 05	2800 ± 750	19 ± 7	12 ± 8	0.253	DLS72, HLK04, HLA93

Table B.1: – Continued. –

PSR	α [h:m:s]	δ [°:′:″]	d [pc]	μ^*_α [mas/yr]	μ_δ [mas/yr]	τ_{char} [Myr]	Ref.
J0614+2229	06 : 14 : 17.16	+22 : 30 : 36	3400 ± 1400	-4 ± 5	-3 ± 7	0.0893	DLS72, HLK04, HLA93
J0629+2415	06 : 29 : 05.728	+24 : 15 : 43.3	3500 ± 1300	-7 ± 12	2 ± 12	3.78	DTH78, HLK04, HLA93
J0630−2834	06 : 30 : 49.404393	−28 : 34 : 42.77881	332^{+52}_{-40}	-46.30 ± 0.99	21.26 ± 0.52	2.77	LVW69a, DTBR09, HLK04
J0633+1746[b]	06 : 33 : 54.1530	+17 : 46 : 12.909	250^{+120}_{-61}	142.2 ± 1.2	107.4 ± 1.2	0.342	HH92, CLM98, FWA07, JH05
J0653+8051	06 : 53 : 15.09	+80 : 52 : 00.22	2500 ± 1000	19 ± 3	-1 ± 3	5.07	DBTB82, HLK04, HLA93
J0659+1414	06 : 59 : 48.134	+14 : 14 : 21.5	288^{+33}_{-27}	44.07 ± 0.63	-2.40 ± 0.29	0.111	MLT78, HLK04, BTGG03
J0720−3125	07 : 20 : 24.9620	−31 : 25 : 50.083	278^{+222}_{-85}	-92.8 ± 1.4	55.3 ± 1.7	1.9	HMB97, KVA07, E11, HHV10
J0737−3039B	07 : 37 : 51.248419	−30 : 39 : 40.71431	1149^{+220}_{-159}	-3.82 ± 0.62	2.13 ± 0.23	49.2	BDP03, DBT09, KSM06
J0742−2822	07 : 42 : 49.058	−28 : 22 : 43.76	1900 ± 200	-29 ± 2	4 ± 2	0.157	FSS73, HLK04, FGML97
J0754+3231	07 : 54 : 40.688	+32 : 31 : 56.2	2700 ± 1200	-4 ± 5	7 ± 3	21.2	DTH78, HLK04, HLA93
J0758−1528	07 : 58 : 29.0708	−15 : 28 : 08.738	3300 ± 500	1 ± 4	4 ± 6	6.68	MLT78, HLK04, BFG03
J0820−1350	08 : 20 : 26.3817	−13 : 50 : 55.859	1961^{+167}_{-143}	21.64 ± 0.09	-39.44 ± 0.05	9.32	VL70, CBV09, HLK04
J0821−4300	08 : 21 : 57.355	−43 : 00 : 17.17	2200 ± 550	-153 ± 28	-62 ± 38	1.49	GH09, WP07
J0826+2637	08 : 26 : 51.3833	+26 : 37 : 23.79	357^{+97}_{-63}	61 ± 3	-90 ± 2	4.92	CLS68, HLK04, LAS82, GTWR86
J0835−4510[c]	08 : 35 : 20.61149	−45 : 10 : 34.8751	286^{+17}_{-15}	-49.68 ± 0.06	29.9 ± 0.1	0.0113	LVM68, DLRM03, DML02
J0837+0610	08 : 37 : 05.642	+06 : 10 : 14.56	700 ± 50	2 ± 5	51 ± 3	2.97	PHBC68, HLK04, LAS82
J0837−4135	08 : 37 : 21.1818	−41 : 35 : 14.37	3300 ± 2200	-2.3 ± 1.8	-18 ± 3	3.36	LVW68, WMZ01, BFG03, ZHW05
J0846−3533	08 : 46 : 06.06	−35 : 33 : 40.7	1000 ± 600	93 ± 72	-15 ± 65	11	MLT78, HLK04, ZHW05
J0908−1739	09 : 08 : 38.1822	−17 : 39 : 37.67	770 ± 150	27 ± 11	-40 ± 11	9.5	MLT78, HLK04, HLA93
J0922+0638	09 : 22 : 14.022	+06 : 38 : 23.30	1205^{+224}_{-163}	18.8 ± 0.9	86.4 ± 0.7	0.501	MLT78, HLK04, BFG03, CCL01, SHA10
J0946+0951	09 : 46 : 07.6	+09 : 51 : 55	800 ± 200	-38 ± 19	-21 ± 12	4.98	VAZS69, HLK04, LAS82
J0953+0755	09 : 53 : 09.3097	+07 : 55 : 35.75	262^{+5}_{-5}	-2.09 ± 0.08	29.46 ± 0.7	17.5	PHBC68, HLK04, BBGT02
J1041−1942	10 : 41 : 36.196	−19 : 42 : 13.61	2300 ± 850	-1 ± 3	14 ± 5	23.2	MLT78, HLK04, BFG03
J1057−5226	10 : 57 : 58.965	−52 : 26 : 56.26	1100 ± 500	42 ± 5	-3 ± 5	0.535	VL72, MPK10, NMC81
J1115+5030	11 : 15 : 38.400	+50 : 30 : 12.29	500 ± 50	22 ± 3	-51 ± 3	10.5	FSS73, HLK04, HLA93
J1116−4122	11 : 16 : 43.086	−41 : 22 : 43.96	2100 ± 650	-1 ± 5	7 ± 20	1.88	MLT78, BFG03, ANTT94
J1136+1551	11 : 36 : 03.2477	+15 : 51 : 04.48	357^{+22}_{-19}	-74.0 ± 0.4	368.1 ± 0.3	5.04	PHBC68, HLK04, BBGT02

Table B.1: – Continued. –

PSR	α [h:m:s]	δ [°:':"]	d [pc]	μ_α^* [mas/yr]	μ_δ [mas/yr]	τ_{char} [Myr]	Ref.
J1239+2453	12 : 39 : 40.4614	+24 : 53 : 49.29	862^{+64}_{-56}	-104.5 ± 1.1	49.4 ± 1.4	22.8	LAN69, HLK04, BFG03, BBGT02
J1308+2127[d]	13 : 08 : 48.7	+21 : 27 : 08	400 ± 300	-207 ± 20	84 ± 20	1.5	HHSS02, KKV02, KV05a, MPH09, SHHM05, MPH07
J1321+8323	13 : 21 : 46.18	+83 : 23 : 38.92	770 ± 10	-53 ± 20	13 ± 7	18.7	DBTB82, HLK04, HLA93
J1328−4357	13 : 28 : 06.432	−43 : 57 : 44.12	1800 ± 500	3 ± 7	54 ± 23	2.8	MLT78, BFG03, NMC81
J1430−6623	14 : 30 : 40.872	−66 : 23 : 05.04	1400 ± 400	-31 ± 5	-21 ± 3	4.49	LVW68, SMD93, BMK90b
J1453−6413	14 : 53 : 32.737	−64 : 13 : 15.59	1950 ± 150	-16 ± 1	-21.3 ± 0.8	1.04	LVW69a, SMD93, BMK90b
J1456−6843	14 : 56 : 00.158	−68 : 43 : 39.25	455^{+72}_{-55}	-39.5 ± 0.4	-12.3 ± 0.3	42.5	LVW68, SMD93, BMK90b, BMK90a
J1509+5531	15 : 09 : 25.6298	+55 : 31 : 32.394	2128^{+145}_{-128}	-73.64 ± 0.05	-62.65 ± 0.09	2.34	HTG68, CBV09, HLK04
J1543−0620	15 : 43 : 30.1579	−06 : 20 : 45.25	950 ± 250	-17 ± 2	-4 ± 3	12.8	MLT78, HLK04, BFG03
J1559−4438	15 : 59 : 41.526126	−44 : 38 : 45.901778	2604^{+696}_{-454}	1.52 ± 0.14	13.15 ± 0.05	4.0	VL72, DTBR09, SMD93
J1604−4909	16 : 04 : 22.999	−49 : 09 : 58.34	4300 ± 800	-30 ± 7	-1 ± 3	5.09	MLT78, BMK90b, SMD93, TC93
J1605+3249	16 : 05 : 18.9	+32 : 49 : 07	350 ± 50	-34.7 ± 1.7	148.7 ± 2.6	?	HAB07, KKK03, PPH07
J1607−0032	16 : 07 : 12.1034	−00 : 32 : 40.83	630 ± 40	-1 ± 14	-7 ± 9	21.8	VL70, HLK04, LAS82
J1645−0317	16 : 45 : 02.0414	−03 : 17 : 58.32	2000 ± 900	-3.7 ± 1.5	30.0 ± 1.6	3.45	HT69, HLK04, BFG03
J1709−1640	17 : 09 : 26.4413	−16 : 40 : 57.73	1050 ± 220	3 ± 9	0 ± 14	1.64	LVW69b, HLK04, FGML97
J1722−3207	17 : 22 : 02.955	−32 : 07 : 45.3	2800 ± 500	-1 ± 5	-40 ± 27	11.7	DLS72, HLK04, ZHW05
J1735−0724	17 : 35 : 04.9717	−07 : 24 : 52.49	3300 ± 1100	-2.4 ± 1.7	28 ± 3	5.47	LL76, HLK04, BFG03
J1740+1311	17 : 40 : 07.3455	+13 : 11 : 56.69	3100 ± 1600	-22 ± 2	-20 ± 2	8.77	MLT78, HLK04, BFG03
J1741−3927	17 : 41 : 18.081	−39 : 27 : 38.0	4000 ± 800	20 ± 15	-6 ± 59	4.2	MLT78, WMZ01, ZHW05
J1745−3040	17 : 45 : 56.305	−30 : 40 : 23.5	2000 ± 100	6 ± 3	4 ± 26	0.546	KAC73, ZHW05, HLK04
J1752−2806	17 : 52 : 58.6896	−28 : 06 : 37.3	1380 ± 150	-4 ± 6	-5 ± 5	1.1	TV68, HLK04, FGML97
J1801−2451	18 : 01 : 00.016	−24 : 51 : 27.5	4900 ± 300	-11 ± 9	-1 ± 15	0.0155	MDT85, HLK04, ZBCG08
J1803−2137	18 : 03 : 51.4105	−21 : 37 : 07.351	3900 ± 800	11.6 ± 1.8	14.8 ± 2.3	0.0158	CL86, BCFK06, YWML10
J1809−1943	18 : 09 : 51.08696	−19 : 43 : 51.9315	3500 ± 400	-6.60 ± 0.06	-11.7 ± 1.0	0.0113	IMS04, HCB07, CCR07
J1824−1945	18 : 24 : 00.4555	−19 : 45 : 51.7	5000 ± 300	-12 ± 14	-100 ± 220	0.573	MLT78, HLK04, ZHW05

Table B.1: – Continued. –

PSR	α [h:m:s]	δ [°:':"]	d [pc]	μ_α^* [mas/yr]	μ_δ [mas/yr]	τ_{char} [Myr]	Ref.
J1824−2452A	18 : 24 : 32.00796	−24 : 52 : 10.824	3400 ± 400	-0.9 ± 0.1	-4.6 ± 1.8	29.9	LBM87, VBC09, CL97a
J1825−0935	18 : 25 : 30.629	−09 : 35 : 22.3	1000 ± 200	-13 ± 11	-9 ± 5	0.232	DLS72, YWML10, FGML97
J1826−1334	18 : 26 : 13.175	−13 : 34 : 46.8	4000 ± 100	23.0 ± 2.5	-3.9 ± 3.1	0.0214	CL86, PKB08, YWML10
J1829−1751	18 : 29 : 43.137	−17 : 51 : 03.9	5100 ± 400	22 ± 13	-150 ± 130	0.877	DLW72, HLK04, ZHW05
J1832−0827	18 : 32 : 37.0200	−08 : 27 : 03.64	4800 ± 700	-4 ± 4	20 ± 15	0.161	CL86, HLK04
J1835−1106	18 : 35 : 18.287	−11 : 06 : 15.1	3000 ± 200	27 ± 46	56 ± 190	0.128	MLD96, DSB98, ZHW05
J1836−1008	18 : 36 : 53.925	−10 : 08 : 08.3	4900 ± 500	18 ± 65	12 ± 220	0.756	MLT78, HLK04, ZHW05
J1840+5640	18 : 40 : 44.608	+56 : 40 : 55.47	1700 ± 20	-30 ± 4	-21 ± 2	17.5	SKK80, HLK04, HLA93
J1844+1454	18 : 44 : 54.8946	+14 : 54 : 14.12	2200 ± 50	-9 ± 10	45 ± 6	3.18	MLT78, HLK04, HLA93
J1856−3754	18 : 56 : 35.41	−37 : 54 : 08	123^{+15}_{-11}	$+325.9 \pm 2.3$	-59.2 ± 2.1	3.76	TM07, WM97, WEL10, VK08
J1900−2600	19 : 00 : 47.582	−26 : 00 : 43.8	$2000^{+?}_{-1091}$f	-19.9 ± 0.3	-47.3 ± 0.9	47.4	VL70, HLK04, FGBC99
J1907+4002	19 : 07 : 34.656	+40 : 02 : 05.71	2000 ± 250	11 ± 4	11 ± 1	36.2	DTH78, HLK04, HLA93
J1913−0440	19 : 13 : 54.1735	−04 : 40 : 47.68	3000 ± 200	7 ± 13	-5 ± 9	3.22	LVW69b, HLK04, HLA93
J1917+1353	19 : 17 : 39.7902	+13 : 53 : 56.95	4000 ± 200	0 ± 12	-6 ± 15	0.428	SMB71, HLK04, ZHW05
J1919+0021	19 : 19 : 50.663	+00 : 21 : 39.8	3200 ± 200	-2 ± 30	-1 ± 10	2.63	DLS72, HLK04, HLA93
J1921+2153	19 : 21 : 44.815	+21 : 53 : 02.25	880 ± 250	17 ± 4	32 ± 6	15.7	HBP68, HLK04, ZHW05
J1932+1059	19 : 32 : 13.9497	+10 : 59 : 32.420	361^{+9}_{-9}	94.09 ± 0.11	42.99 ± 0.16	3.1	LVW68, CCV04, HLK04
J1935+1616	19 : 35 : 47.8259	+16 : 16 : 39.986	4545^{+5455}_{-1604}	1.13 ± 0.13	-16.09 ± 0.15	0.947	DL70, HLK04, CBV09
J1941−2602	19 : 41 : 00.4070	−26 : 02 : 05.75	3200 ± 1500	12 ± 2	-10 ± 4	6.68	MLT78, HLK04, BFG03
J1946−2913	19 : 46 : 51.734	−29 : 13 : 47.1	2900 ± 1400	19 ± 9	-22 ± 20	10.2	MLT78, HLK04, BFG03
J1952+3252	19 : 52 : 58.206	+32 : 52 : 40.51	2700 ± 500	-28.8 ± 0.9	-14.7 ± 0.9	0.107	KCB88, ZBCG08, HLK04
J1955+5059	19 : 55 : 18.7637	+50 : 59 : 55.292	2000 ± 800	-23 ± 5	54 ± 5	5.99	DTH78, HLK04, HLA93
J2022+2854	20 : 22 : 37.0671	+28 : 54 : 23.104	2703^{+1297}_{-662}	-4.4 ± 0.5	-23.6 ± 0.3	2.87	FSS73, HLK04, BBGT02
J2022+5154	20 : 22 : 49.8730	+51 : 54 : 50.233	2000^{+326}_{-246}	-5.23 ± 0.17	11.5 ± 0.3	2.74	DL70, HLK04, BBGT02
J2046−0421	20 : 46 : 00.157	−04 : 21 : 26.0	2800 ± 1050	9 ± 16	-7 ± 8	16.7	MLT78, HLK04, HLA93
J2048−1616	20 : 48 : 35.640637	−16 : 16 : 44.55350	952^{+28}_{-26}	113.16 ± 0.02	-4.60 ± 0.28	2.84	TV68, DTBR09, CBV09, HLK04
J2055+3630	20 : 55 : 31.3521	+36 : 30 : 21.469	5882^{+1261}_{-882}	1.04 ± 0.04	-2.46 ± 0.13	9.51	DBTB82, HLK04, CBV09
J2113+2754	21 : 13 : 04.3895	+27 : 54 : 02.29	1700 ± 350	-23 ± 2	-54 ± 3	7.27	SKK80, HLK04, HLA93

Table B.1: – Continued. –

PSR	α [h:m:s]	δ [°:':"]	*d* [pc]	μ_α^* [mas/yr]	μ_δ [mas/yr]	τ_{char} [Myr]	Ref.
J2116+1414	21 : 16 : 13.752	+14 : 14 : 21.04	4300 ± 150	8 ± 15	-11 ± 5	24.1	MLT78, HLA93, HLK04
J2157+4017	21 : 57 : 01.8495	+40 : 17 : 45.986	3571^{+974}_{-630}	16.13 ± 0.10	4.12 ± 0.12	7.04	FSS73, CBV09, HLK04
J2219+4754	22 : 19 : 48.139	+47 : 54 : 53.93	2500 ± 150	-12 ± 8	-30 ± 6	3.09	TH69, HLK04, LAS82
J2225+6535[e]	22 : 25 : 52.721	+65 : 35 : 35.58	2000 ± 1000	144 ± 3	112 ± 3	1.12	DLS73, YWML10, HLA93
J2305+3100	23 : 05 : 58.324	+31 : 00 : 01.76	3800 ± 200	2 ± 2	-20 ± 2	8.63	LAN69, BFG03, HLK04
J2308+5547	23 : 08 : 13.822	+55 : 47 : 36.03	2300 ± 150	-15 ± 8	0 ± 27	37.7	DLS72, HLK04, HLA93
J2313+4253	23 : 13 : 08.6209	+42 : 53 : 13.043	1075^{+88}_{-75}	24.15 ± 0.10	5.95 ± 0.13	49.3	DTH78, CBV09, HLK04
J2321+6024	23 : 21 : 55.213	+60 : 24 : 30.71	3000 ± 700	-17 ± 22	-7 ± 19	5.08	DLP70, HLK04
J2330−2005	23 : 30 : 26.885	−20 : 05 : 29.63	440 ± 50	74.7 ± 1.9	5 ± 3	5.62	LL76, HLK04, BFG03
J2337+6151	23 : 37 : 05.762	+61 : 51 : 01.53	2800 ± 300	-1 ± 18	-15 ± 16	0.0406	DTWS85, YMW10, HLK04
J2354+6155	23 : 54 : 04.724	+61 : 55 : 46.79	3370 ± 60	22 ± 3	6 ± 2	0.92	DBTB82, HLA93, HLK04

[a] Crab Pulsar, [b] Geminga, [c] Vela Pulsar, [d] RBS 1223, [e] Guitar Pulsar

[f] The parallax of PSR J1900-2600 is $\pi = 0.5 \pm 0.6$ mas, hence the error is larger than the value itself. Therefore, no upper distance limit can be obtained.

Dispersion measured distances by [479]; Table compiled using the ATNF Pulsar database [338].

References: ANTT94 – [10], BBGT02 – [57], BCKF06 – [58], BDP03 – [66], BFG03 – [59], BMK90a – [17], BMK90b – [18], BTGG03 – [60], CBV09 – [80], CCL01 – [83], CCR07 – [70], CCV04 – [84], CL86 – [93], CL97a – [94], CLM98 – [75], CLS68 – [103], CP68 – [95], DBT09 – [129], DBTB82 – [108], DL70 – [114], DLP70 – [115], DLRM03 – [138], DLS72 – [116], DLS73 – [117], DML02 – [139], DSB98 – [111], DTBR09 – [130], DTH78 – [109], DTWS85 – [131], E11 – [150], FCWA95 – [166], FGBC99 – [164], FGML97 – [165], FSS73 – [155], FWA07 – [156], GH09 – [189], GTWR86 – [203], HAB07 – [204], HBP68 – [219], HCB07 – [215], HH92 – [207], HHSS02 – [208], HHV10 – [227], HLA93 – [211], HLK04 – [222], HMB97 – [205], HT69 – [235], HTG68 – [236], IMS04 – [242], JH05 – [243], KAC73 – [279], KCB88 – [285], KKK03 – [262], KKV02 – [261], KLH03 – [282], KSM06 – [283], KV05a – [263], KVA07 – [264], LAN69 – [287], LAS82 – [315], LBM87 – [316], LL76 – [317], LPS93 – [319],LVM68 – [288], LVW68 – [289], LVW69a – [290], LVW69b – [291], MCN71 – [354], MDT85 – [337], MLD96 – [339], MLT78 – [340], MPH07 – [378], MPH09 – [379], MPK10 – [368], MTH72 – [342], NMC81 – [390], NR06 – [392], PHBC68 – [411], PKB08 – [400], PPH07 – [421], SHA10 – [449], SHHM05 – [446], SKK80 – [451], SMB71 – [475], SMD93 – [452], SR68 – [466], TH69 – [480], TM07 – [493], TV68 – [508], VAZS69 – [523], VBC09 – [522], VK08 – [516], VL70 – [519], VL72 – [520], VLW69 – [521], WEL10 – [526], WM97 – [528], WP07 – [542], YMW10 – [555], YWML10 – [556], ZBCG08 – [558], WMZ01 – [530], ZHW05 – [561].

Table B.2: The subsample of neutron stars investigated in great detail.

PSR J0034−0721
PSR J0454+5543
PSR J0630−2834
PSR J0633+1746 (= Geminga, "3M")
PSR J0659+1414 ("3M")
RX J0720.4−3125 ("M7")
PSR J0820−1350
PSR J0826+2637
PSR J0835−4510 (= Vela Pulsar)
PSR J0953+0755
PSR J1136+1551
PSR J1239+2453
PSR J1509+5531
RX J1605.3+3249 ("M7")
RX J1856.5−3754 ("M7")
PSR J1932+1059 (PSR B1929+10)
PSR J2048−1616
PSR J2225+6535 (Guitar Pulsar)
PSR J2313+4253
PSR J2330−2005

C The Catalogue of Young Runaway Hipparcos Stars

C.1 Young Hipparcos Stars

Table C.1: Ages $\tau_\star$ (in Myr), masses $M_\star$ (in solar masses) and spectral types (SpT) for 6300[66] potentially young stars (sorted by their HIP number). $\tau_\star$ and $M_\star$ are medians obtained from different evolutionary models (see Section 2.1). For 2466 stars, only the spectral type is given as models infer a larger age; however, these are possibly also young (as inferred from the spectral type and luminosity class).

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
32	HD 224756	3.0 ± 0.0	10.0 ± 6.8	B8
89	HD 224837			K2
106	HR 9083			G7II-III
124	HR 9085	7.7 ± 0.3	38.5 ± 3.8	F0III
137	HR 9086			B9IIIp Mn
139	V* V747 Cep	15.0 ± 1.1	2.7 ± 3.4	B0
145	* 29 Psc			B7III-IV
167	HD 224957	2.5 ± 0.1	70.8 ± 28.8	B9
174	HD 240475			G9II-III
183	* zet Scl	5.5 ± 0.5	39.8 ± 19.7	B4V
232	HD 225047	2.0 ± 0.0	34.0 ± 18.4	A0V
274	V* V639 Cas	10.0 ± 1.7	22.6 ± 4.4	B3Ia
278	HD 225095	9.8 ± 0.2	20.6 ± 1.7	B2IVne+...
330	* 9 Cas	9.7 ± 0.9	25.1 ± 2.9	A1III
347	HD 225190	6.7 ± 0.4	24.1 ± 3.0	B3V
355	* 3 Cet	8.7 ± 1.3	29.0 ± 7.1	K3Ibvar
365	ADS 30			B9III
377	HR 9108			B8III
398	CCDM J00049+5832AB	10.0 ± 0.5	20.0 ± 1.2	B3V
410	HD 225292			G8II
439	HD 225213	0.3 ± 0.1	38.4 ± 15.4	M2V
477	HD 91	1.4 ± 0.0	35.8 ± 5.6	A9/F0V
483	HD 56	2.0 ± 0.0	31.6 ± 19.2	A0
505	HD 108	32.2 ± 9.6	2.0 ± 0.4	O6pe
531	* 10 Cas			B9III
544	V* V439 And	1.0 ± 0.0	20.1 ± 5.4	K0V
575	BD+64 1899	2.7 ± 0.1	7.0 ± 2.9	B8
582	BD+61 2594	2.0 ± 0.0	20.1 ± 9.3	A0V
635	* 4 Cet			B8IIIsp...
638	BD+20 4	1.9 ± 0.1	12.7 ± 2.5	A2
695	HD 371			G3II
744	HD 480			B5V
779	V* KN Cas			M1Ibpev comp
803	HD 545	6.2 ± 0.4	63.7 ± 14.6	K2
805	HD 563			K1II
841	* 22 And			F2II
857	HR 28	3.5 ± 0.1	38.6 ± 5.0	B7IV
860	HD 593	12.0 ± 0.5	8.0 ± 2.8	B1V
871	V* SX Cas			B7IIIe+K3III
890	BD+64 7	4.7 ± 0.3	39.8 ± 3.5	B5
905	HD 669	1.8 ± 0.0	12.0 ± 1.9	A2
926	HD 711	7.2 ± 0.6	45.8 ± 8.0	K0
940	HD 698	9.2 ± 0.8	22.6 ± 2.1	B5II: SB
951	HD 725	6.9 ± 0.7	47.1 ± 2.8	F5Ib-II
1008	HD 801	7.9 ± 0.7	37.4 ± 7.0	K0
1030	V* V470 And	9.1 ± 0.2	16.2 ± 3.3	B2V
1067	V* gam Peg	8.9 ± 0.1	18.5 ± 1.6	B2IV
1077	BD+64 13	6.3 ± 0.2	2.3 ± 1.9	B2.5V
1115	HD 955	5.0 ± 0.0	8.4 ± 5.3	B4V
1118	HD 936			G8II
1209	HD 1057			K2II
1272	HD 1160	2.1 ± 0.0	58.8 ± 33.7	A0
1310	HD 1192	6.8 ± 0.7	55.2 ± 7.3	G5
1319	* 36 Psc			G8II-III
1331	HR 61	3.9 ± 0.1	22.6 ± 2.3	B6III/IV
1367	HD 1281	6.3 ± 0.9	63.1 ± 29.8	K5
1372	HR 62			B7III
1377	HD 1290	1.9 ± 0.0	25.1 ± 13.1	A2
1415	V* AO Cas	17.7 ± 2.5	3.5 ± 1.1	O9IIInn
1419	HD 1397			K0:Ib
1421	HR 67			K0II
1428	HD 1334	6.2 ± 0.2	1.2 ± 0.9	B2.5V
1429	V* BW Psc			M4II-III
1439	HD 1375			G8II
1479	BD+82 5	6.2 ± 0.8	63.1 ± 23.3	K5
1486	HD 1400			K7Iab:
1505	BD+67 17	2.6 ± 0.1	7.0 ± 2.9	B8
1590	HD 236378			B5
1602	HD 1585	9.3 ± 0.6	25.6 ± 3.2	K0
1621	HD 232161			B3
1728	V* T Cet			M5/M6Ib/II
1733	HD 1709	1.9 ± 0.0	43.1 ± 29.9	A2
1762	HD 1778			F3II
1769	HD 1794	6.4 ± 1.0	60.5 ± 10.6	K5
1803	V* BE Cet	1.1 ± 0.0	29.1 ± 7.2	G3V
1805	V* V745 Cas	12.0 ± 0.8	0.1 ± 0.0	B0IV
1819	HD 232172	4.0 ± 0.0	15.7 ± 13.7	B5...
1910	HIP 1910	0.8 ± 0.2	5.2 ± 5.0	M1
1921	V* V746 Cas	5.9 ± 0.2	63.1 ± 14.5	B5IV
1960	* 12 Cas			B9III
1979	HD 2055	2.0 ± 0.0	20.1 ± 8.4	A0
1993	V* CT Tuc	0.8 ± 0.2	7.2 ± 6.6	M1
2036	HD 2083	12.5 ± 1.2	11.0 ± 0.7	B1V
2047	HD 2193	2.0 ± 0.0	20.1 ± 9.3	A0
2063	HD 2152	6.2 ± 0.6	63.7 ± 14.6	K0
2071	HD 2263			A3II/IIIp..
2084	BD+60 50	6.2 ± 0.9	63.5 ± 24.2	K5
2191	HD 2329	6.0 ± 0.1	10.0 ± 2.5	B3V
2198	HD 2370	2.0 ± 0.1	20.1 ± 9.3	A0
2200	HD 2389	1.9 ± 0.1	15.8 ± 4.5	A2
2227	HD 2455			K1II
2328	CCDM J00297+5855AB	3.0 ± 0.2	10.0 ± 6.8	B8
2347	V* DL Cas			G1Ibvar
2377	HR 113			B9IIIn
2409	HD 2654	9.0 ± 0.3	14.4 ± 1.9	B2V
2487	CCDM J00316-6258CD	2.5 ± 0.0	4.3 ± 1.8	A2V
2525	HD 2789	6.7 ± 0.3	24.9 ± 1.0	B3Vne
2537	HD 2825	9.0 ± 0.9	27.2 ± 4.2	K2
2578	HR 136	2.1 ± 0.1	6.3 ± 0.7	A0V
2580	HD 2970			G3/G5II
2583	HR 134			G8II
2599	V* kap Cas	21.1 ± 3.2	4.2 ± 0.3	B1Ia
2644	V* ZZ Cas			B3
2707	* 16 Cas			B9III
2710	HD 3126	1.5 ± 0.0	17.3 ± 4.3	F2

[66] Note that this number is much smaller than the 7663 possible young stars published with the first version of the runaway star catalogue (Tetzlaff et al. 2011 [486]). Many stars were a priori removed in the updated version due to very uncertain ages.

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
2729	HD 3221	0.9 ± 0.0	9.1 ± 1.7	K5V
2791	HD 236471	4.0 ± 0.0	16.8 ± 7.4	Ap...
2796	HD 3147	9.8 ± 1.3	22.6 ± 1.4	K2Ib-II
2807	BD+45 149	2.0 ± 0.1	20.1 ± 9.3	A0
2816	HD 3191	10.0 ± 1.0	10.1 ± 1.8	B1IV:nn
2826	BD+75 26	2.9 ± 0.3	10.0 ± 6.8	B8
2838	HD 3162	6.5 ± 1.2	53.6 ± 20.4	K5
2850	HD 3239	1.9 ± 0.0	21.4 ± 8.4	A2
2854	HR 144			B7III
2859	HD 3250			K0II-III
2860	HD 3264	7.6 ± 0.3	2.8 ± 1.5	B2V
2865	V* PY And			B8IIIMNp...
2876	HR 146	8.7 ± 0.3	29.8 ± 3.1	A4III
2903	V* AG Psc	7.2 ± 0.0	21.9 ± 1.4	B2.5IV
2912	* 29 And	5.9 ± 0.2	63.1 ± 13.8	B5V
2920	* zet Cas	9.1 ± 0.2	19.8 ± 1.5	B2IV
2937	HR 162			K0II/IIICN
2968	HD 3366	7.1 ± 0.1	29.5 ± 2.0	B3
3013	BD-15 115			B2
3083	HR 164	7.8 ± 0.7	35.9 ± 4.4	K5III
3179	SCHEDAR			K0II-IIIvar
3190	HD 3822			G8II/III
3288	HD 3979			G8II/III
3300	* ksi Cas	10.0 ± 0.1	25.1 ± 1.9	B2.5V
3334	HR 181			B9.5III
3360	HD 4006			K2II-III
3381	CD-38 222	2.6 ± 0.1	7.0 ± 2.9	B8
3383	BD+63 82	4.6 ± 0.4	29.7 ± 4.3	B5
3478	HR 189	5.0 ± 0.0	52.9 ± 3.6	B5V...
3504	* omi Cas			B5III
3517	HD 4332			K4II/IIICNV:
3532	HD 4179	6.3 ± 0.3	68.6 ± 22.9	K0
3556	GJ 3054	0.3 ± 0.0	2.5 ± 0.6	M3
3585	HD 4312			K5II
3604	HR 205			B9.5IIIMNp.
3649	HR 207	7.2 ± 0.7	43.3 ± 5.7	G0Ib
3675	* 58 Psc			G8II
3692	HD 4479	6.9 ± 0.4	43.3 ± 5.7	K0
3693	V* zet And			K1II
3721	* 23 Cas			B8III
3779	HD 4617	7.6 ± 1.0	39.9 ± 9.8	K2
3801	* 25 Cas			B9III
3869	HD 4760	6.8 ± 0.4	50.1 ± 6.5	K2
3881	* 35 And	5.9 ± 0.2	63.1 ± 16.6	B5V SB
3886	V* XY Cas			F6Ib-G2Ib
3887	HD 4694	9.2 ± 1.0	22.5 ± 3.6	B3Ia
4059	HD 4932	1.9 ± 0.0	39.8 ± 26.8	A2
4106	V* CO Cet	7.5 ± 0.9	41.3 ± 11.8	K2/K3IIICNp
4214	BD+33 126	3.1 ± 0.1	35.7 ± 30.6	B8
4279	V* BM Cas			F0Ia
4281	BD+67 77	4.0 ± 0.1	15.9 ± 3.1	B5
4315	HD 5292	2.0 ± 0.0	20.1 ± 8.4	A0
4347	HD 5424			G8II
4367	HD 5374	2.0 ± 0.0	20.1 ± 9.3	A0
4382	HD 5418			G8II
4427	CCDM J00567+6043AB	19.3 ± 0.1	8.0 ± 0.5	B0IV:evar
4449	HD 5392	6.9 ± 0.2	46.0 ± 2.5	F4Iab:
4477	HD 5492	9.3 ± 0.8	26.4 ± 5.4	K2
4532	HD 236589	7.6 ± 0.4	1.3 ± 0.3	B1II
4541	V* W Tuc	1.4 ± 0.0	35.8 ± 5.6	A8.7:
4548	HD 5773			F2II/III
4577	V* alf Scl			B7IIIp
4609	HD 5754	6.9 ± 0.8	50.1 ± 12.6	K2
4624	HD 5780			K5II-III
4674	HD 5747			G8II
4683	HD 232344			B5
4744	HD 5882	6.3 ± 0.3	2.6 ± 2.3	B2.5Vn
4769	HIP 4769			B
4778	HD 5989	6.2 ± 0.5	63.7 ± 14.6	K0
4869	HD 6446			K2IICNp...
4897	HD 6048			B8II
4902	HD 6084	7.6 ± 0.3	39.8 ± 4.4	B5
4919	HD 6148	6.0 ± 0.5	50.1 ± 6.9	B5
4961	HD 6147	6.3 ± 0.8	63.1 ± 23.3	K5
4962	HR 292	6.5 ± 0.4	47.9 ± 1.6	F0II
4973	HD 6598			B8III
4983	HD 6226	8.1 ± 0.3	17.2 ± 4.1	B2IV-V
5013	HD 6238			G8II-III
5015	HD 6209			B8II
5023	HIP 5023			B
5055	HD 6328	8.2 ± 0.5	31.9 ± 5.9	K2
5062	HR 302	7.0 ± 0.1	28.2 ± 2.4	B3V
5081	* 72 Psc			F4II-III
5100	HD 6327	7.4 ± 0.6	4.0 ± 2.1	WN2
5161	V* V760 Cas	7.1 ± 0.2	39.8 ± 4.6	B3III
5171	HD 6578			G8II/III
5191	HD 6569	0.9 ± 0.1	33.5 ± 15.6	K1V
5208	BD+67 95	4.0 ± 0.0	10.6 ± 8.9	B5
5251	HR 318	7.5 ± 0.6	40.3 ± 8.7	K0
5285	HD 6665	3.5 ± 0.5	0.4 ± 0.2	G5
5307	HD 6581	3.2 ± 0.1	50.0 ± 6.8	B8III
5363	CCDM J01086-4640AB	1.7 ± 0.1	9.5 ± 1.0	A9V
5372	HR 285			K2II-III
5388	HD 6756	2.9 ± 0.0	31.6 ± 19.3	B8
5391	V* OX Cas			B1Vv SB
5434	* phi And	6.2 ± 0.1	63.1 ± 15.6	B7III
5477	HR 350			G6II/III
5482	HD 6832			B9III
5533	HD 6962	7.7 ± 0.5	39.8 ± 6.2	K2
5550	* 45 And			B7III-IV
5569	HD 236644			B5
5609	HD 236650	4.6 ± 0.4	36.3 ± 10.2	B5
5635	HD 7329			F2II
5657	BD+65 142	6.1 ± 0.3	50.1 ± 7.8	B5
5680	HD 236658			K1II-III
5768	HD 7252	11.9 ± 0.6	9.8 ± 1.1	B1V SB
5778	* 87 Psc			B8III
5805	HD 7598			K1/K2II/III
5832	HD 7371	2.0 ± 0.0	20.1 ± 9.3	A0
5863	HD 7370			B8II
5884	HD 7529	6.9 ± 0.3	47.9 ± 2.1	K2
5904	HD 236677	3.1 ± 0.1	32.2 ± 27.3	B8
5912	HD 7507	6.6 ± 0.7	52.8 ± 13.6	K5
5926	V* V762 Cas	16.9 ± 2.5	10.0 ± 1.8	K1V
5939	V* QV And			B9IIIsp...
6016	HD 7637	6.2 ± 0.7	63.7 ± 14.6	K2
6027	HD 7636	9.9 ± 0.4	19.8 ± 1.1	B2IIIne+...
6073	HD 7734	6.9 ± 0.5	50.1 ± 6.5	K2
6087	HR 376	7.9 ± 0.5	38.5 ± 5.6	K0
6109	HD 7720			B5II
6137	HD 8001	6.3 ± 1.0	58.5 ± 16.0	K3III
6162	HD 7862	8.7 ± 0.4	30.3 ± 4.0	K2
6224	HD 7842	2.0 ± 0.0	11.0 ± 0.9	A0
6399	HD 8159	5.0 ± 0.4	51.7 ± 7.8	A1Iab
6401	HD 8209			B5
6402	HD 8267			G8II
6485	HD 8558	1.0 ± 0.0	31.5 ± 7.1	G6V
6492	HR 397	6.3 ± 0.7	63.1 ± 27.7	K5
6500	BD+68 97	3.1 ± 0.1	35.7 ± 30.6	B8
6552	V* BG Hyi			F0II/III
6562	HD 8372	6.2 ± 0.6	63.7 ± 14.2	K0
6571	HD 8397	7.1 ± 0.4	42.4 ± 10.4	K5
6595	HR 411			K1II
6617	HD 8507			G5II
6676	HD 8861			K0II/III
6773	HD 8791			K3II

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
6775	HD 236737	6.5 ± 0.2	22.8 ± 1.2	B3
6811	HD 8701	8.9 ± 1.3	29.8 ± 9.5	K2II:p
6856	V* CC Phe	0.8 ± 0.0	54.6 ± 6.8	K1V
6861	HD 9067			G3II/III
6867	V* gam Phe			K5II-III
6923	HD 236756	3.2 ± 0.1	32.2 ± 22.2	B8
7003	HD 9098	1.9 ± 0.1	12.0 ± 1.9	A2
7147	HR 438			B7IIIMNp...
7192	V* V636 Cas			G0Ib
7193	HD 9256	3.0 ± 0.0	2.7 ± 0.3	B7V
7194	HD 9487			A3II/III(m)
7234	HD 9393	2.0 ± 0.0	11.0 ± 0.9	A0p
7251	HR 439	7.9 ± 0.7	37.4 ± 8.1	K0Ib+...
7253	HD 9366			K3Ib
7255	HD 9493			G8II-III
7265	HD 9510	1.9 ± 0.1	36.0 ± 23.2	A2
7310	BD-12 290	3.9 ± 0.1	1.4 ± 0.4	A
7374	HD 9638			K2II
7423	BD+65 180	3.1 ± 0.1	10.0 ± 6.8	B8
7436	* 101 Psc			B9.5III
7512	V* V769 Cas			B8III
7576	V* EX Cet	1.0 ± 0.0	40.7 ± 6.6	G5
7588	ACHERNAR	7.9 ± 0.3	37.3 ± 4.5	B3Vp
7593	HD 9811	7.2 ± 0.6	44.7 ± 5.2	A6Iab
7617	HR 461	8.4 ± 0.5	31.9 ± 5.0	G5II
7640	HD 236810	7.6 ± 0.2	18.0 ± 1.8	B2III
7650	* 40 Cas			G8II-IIIvar
7663	HD 10014			A9II
7668	HD 10006			K1II
7678	BD+63 212	5.7 ± 0.3	63.1 ± 16.0	B5
7745	HD 10063			B8Iab
7818	* tau And			B8III
7873	HD 10747	5.4 ± 0.4	5.8 ± 4.8	B3V
7908	HD 10286			F0II
7939	V* V772 Cas			B8IIIp (Si)
7955	HR 497			K1II/III
7958	HD 10970			F0II/III
7963	HR 482			B8III
7989	HD 10332			K2II
7999	HR 500			K3II-III
8006	BD+69 115	3.0 ± 0.1	39.8 ± 30.5	B8
8020	HR 488			B7II
8046	* 44 Cas			B8IIIn
8057	HD 10229	6.3 ± 0.9	60.1 ± 21.0	K5
8066	HD 10497			A7II
8068	V* phi Per	10.0 ± 0.7	21.5 ± 2.0	B2Vpe
8134	HD 10698	6.3 ± 0.5	63.7 ± 13.7	K0
8235	HD 232522	7.6 ± 0.3	1.7 ± 0.7	B1II
8242	HD 232525	12.0 ± 0.8	0.1 ± 0.0	B0
8244	HD 10292	6.3 ± 0.3	63.1 ± 14.8	K5
8310	HD 10968			K0II/III
8321	HD 10806			G9Ib
8415	HD 10898	11.9 ± 0.9	15.8 ± 1.0	B2Ib
8466	HD 11060	2.0 ± 0.0	31.6 ± 19.2	A0
8585	HD 236891	2.7 ± 0.2	10.0 ± 6.8	B8
8632	BD+64 244	4.5 ± 0.4	34.6 ± 11.9	B5
8693	V* V775 Cas	3.1 ± 0.1	39.8 ± 34.5	B8V
8704	V* V436 Per	10.0 ± 0.5	16.9 ± 0.8	B1.5V
8725	HD 236894	20.0 ± 0.0	0.1 ± 0.0	O8V
8738	HD 232552	12.0 ± 0.8	0.1 ± 0.0	B0pe
8767	HD 11668			K0II
8855	BD+47 521	2.7 ± 0.2	10.0 ± 6.8	B8
8886	* eps Cas	9.2 ± 0.1	15.6 ± 3.0	B2pvar
8926	HD 11650			K1II-III
8950	HD 11577			A0II
8979	HD 11053	6.2 ± 0.6	63.1 ± 20.2	K5
8980	HD 11606	8.5 ± 0.4	10.3 ± 2.5	B2Vne
9008	HD 11815	2.0 ± 0.1	20.1 ± 9.3	A0
9009	* ome Cas			B8III
9017	BD+55 441			B1V:pe
9026	BD+64 263			B5
9042	V* V391 Cas	11.5 ± 1.1	17.7 ± 1.7	M4
9048	HD 236912	5.4 ± 0.4	10.0 ± 1.0	B3
9077	HD 11773	7.5 ± 0.8	42.4 ± 10.5	K5
9140	HD 12603			F3II
9144	BD+44 391	3.2 ± 0.1	50.1 ± 43.2	B8
9149	HR 584			G8II/III
9158	HR 562			B8III
9163	HD 11884	7.0 ± 0.3	43.3 ± 5.1	K0
9192	HD 11859			B9III
9220	HR 561			B5III
9221	BD+37 442	15.0 ± 1.1	0.2 ± 0.1	sdO:
9355	V* DE Psc	7.9 ± 1.0	38.4 ± 9.4	K5
9362	HD 12431			K0II/IIICN.
9445	BD+49 524	7.6 ± 0.6	43.3 ± 6.3	A0
9456	HD 12633			K3II/III
9470	HD 12390	6.9 ± 0.4	45.8 ± 8.0	K0
9505	* g Per			B8III
9534	HD 12561	3.7 ± 0.0	17.9 ± 7.0	B6V
9538	HD 12302	9.9 ± 0.1	7.5 ± 4.3	B1:V:pe
9549	HD 12707	4.4 ± 0.4	21.1 ± 7.0	B5V
9556	HD 12342	3.2 ± 0.2	28.0 ± 11.5	B7IV
9572	HR 608			K0II/III
9573	* 53 Cas	7.9 ± 0.3	37.4 ± 4.7	B8Ib
9575	HD 12340			B9III
9600	HD 12453	2.0 ± 0.0	28.1 ± 7.6	A0
9622	HR 611			K5Iab:
9640	ADS 1630 ABC	23.7 ± 0.0	6.5 ± 0.1	B8V
9703	HD 236940			B2
9765	HD 12567	11.9 ± 0.9	6.8 ± 4.3	B0.5III
9795	HD 12650			G2II
9817	HD 12709	6.8 ± 0.4	34.8 ± 3.0	B4IV
9886	HD 236947			M2Ia0-a...
9890	HD 12844	2.4 ± 0.0	53.6 ± 12.8	B9
9892	HD 13183	1.0 ± 0.0	32.4 ± 6.9	G5V
9980	HD 12928			B8III
9987	HD 13280			K1/K2II
9990	V* V472 Per	12.0 ± 0.6	16.1 ± 1.0	A1Ia
10105	HD 13732			G8II/III
10130	HD 13247	2.3 ± 0.1	13.8 ± 3.5	B9V
10137	HD 13928			F0II/III
10141	V* V784 Cas			F5II
10173	V* V785 Cas	4.0 ± 0.0	13.9 ± 11.1	B5
10222	HD 13355	2.7 ± 0.1	7.0 ± 2.9	B8
10265	HD 13331			B8III
10324	* 65 Cet			G8II:
10334	HD 13565			K0II
10354	HD 13437			G5II
10361	HD 13519	12.0 ± 0.6	20.0 ± 5.0	K5
10364	BD+68 154	5.0 ± 0.1	50.1 ± 3.9	B5
10396	HD 13763	6.2 ± 0.6	63.7 ± 14.0	K0
10463	HD 13661	8.1 ± 0.4	17.6 ± 2.2	B2IV-Ve
10527	HD 13716	10.0 ± 0.0	5.1 ± 5.3	B0.5III
10549	HD 13935	2.0 ± 0.0	22.5 ± 10.7	A0
10557	HD 13686			K3Ib
10564	HD 14111	2.0 ± 0.0	20.1 ± 9.3	A0m...
10585	HD 13757	2.4 ± 0.1	37.8 ± 16.6	B9V
10614	HD 14041	2.0 ± 0.0	20.1 ± 9.3	A0
10618	HD 13725	6.2 ± 0.6	57.3 ± 8.4	K4II
10641	V* V357 Per	6.9 ± 0.2	30.4 ± 1.2	B2Ib
10653	BD+57 530			M0Iab-b
10731	HD 14155	1.9 ± 0.0	50.1 ± 36.3	A3
10786	HD 14706	1.2 ± 0.0	27.2 ± 4.5	G0V
10806	HD 15532			K0II/III
10829	V* T Per			M2Iab:var
10849	HD 14220	7.0 ± 0.0	0.9 ± 0.6	B2V
10851	V* AA For			M4II
10855	HD 14173			G5II

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT	HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
10873	HD 14210			B9III	12226	HD 16185	2.8 ± 0.0	10.0 ± 6.8	A
10904	V* V605 Cas			M2Iab	12249	HD 16159			B9III
10924	HR 679			B5V	12293	BD+60 526	10.0 ± 1.1	13.7 ± 4.5	B2
10951	V* V436 And	2.9 ± 0.1	15.8 ± 12.2	Ap...	12297	HD 16066			F2II
10954	HD 14479			K1II-III	12326	CCDM	1.5 ± 0.0	10.0 ± 1.1	F8IV/V +
10969	HD 14346			K0II		J02387-5257AB			G/K
10974	BD+67 195	7.6 ± 0.3	1.9 ± 0.9	B2	12377	HD 16567	2.4 ± 0.1	37.4 ± 15.5	B9
11002	HD 14269	3.0 ± 0.1	28.4 ± 19.9	A	12387	V* del Cet	8.7 ± 0.2	18.4 ± 2.2	B2IV
11037	HD 14536	2.0 ± 0.0	31.6 ± 19.2	A0	12394	* eps Hyi			B9III
11060	V* V474 Per	10.5 ± 2.3	25.1 ± 4.1	A2Ia	12404	HD 16899			K0II
11080	BD+66 205			B9Ib	12452	HD 16580			A0II
11099	HD 14633	17.8 ± 2.7	0.2 ± 0.1	O8.5V	12484	* zet Hor	2.0 ± 0.0	5.4 ± 0.8	F4IV
11101	BD+68 165	2.7 ± 0.2	10.0 ± 6.8	B8	12492	BD+46 603	4.0 ± 0.2	31.1 ± 19.6	B5
11115	HD 14542	7.9 ± 0.4	37.4 ± 6.6	B8Ia	12513	HD 16494			B9III
11126	HD 14738			F6II	12557	V* W Tri			M4IIvar
11146	HD 14581			B7III	12585	HD 16440			B7II
11174	V* V440 Per	7.8 ± 0.3	39.8 ± 5.7	F7Ib	12636	BD+62 444	4.8 ± 0.3	39.5 ± 5.8	B5
11201	HD 14722	5.0 ± 0.0	52.2 ± 3.1	B5	12637	HD 16661	2.0 ± 0.0	20.1 ± 9.3	A0
11210	HD 14617			K2II-III	12653	LTT 1322	1.1 ± 0.1	18.5 ± 4.7	G3IV
11226	HD 14797	5.9 ± 0.6	65.4 ± 15.9	M0III	12675	HD 17005			G0II
11242	HD 14920	6.9 ± 1.2	50.1 ± 13.3	K5	12686	HR 787			K0II-III
11279	V* V554 Per	15.5 ± 1.5	11.1 ± 1.1	B2Ia	12692	* 11 Per			B7IIIp...
11282	HD 14949			K2II...	12719	* 35 Ari	5.8 ± 0.2	5.5 ± 4.2	B3V
11294	HD 14794			G8II	12724	HD 232702			B5
11339	HD 15154			A9II/III	12750	HD 16778	7.8 ± 0.5	39.8 ± 3.2	A2Ia
11347	HD 14870	6.8 ± 0.2	2.4 ± 1.4	B1Ib	12768	* 14 Per			G0Ib
11372	BD+54 544			B8Iab	12776	HD 16968			B5
11391	V* V475 Per	12.5 ± 0.8	11.6 ± 1.4	B2Ia	12793	HD 16799			A5II
11394	HD 14947	15.0 ± 10.0	2.3 ± 2.2	O6e...	12911	HD 17102	2.4 ± 0.1	45.3 ± 17.8	B9
11396	BD+44 493	6.8 ± 0.1	0.4 ± 0.3	B2	12985	HD 17293	2.0 ± 0.0	11.0 ± 0.9	A
11407	* kap Eri			B5IV	12991	HD 17259	3.0 ± 0.0	43.6 ± 18.1	B8
11413	HD 15639			K1II/III	12992	HIP 12992			B...
11420	V* SZ Cas			F8Ibvar	13003	BD+65 291	2.6 ± 0.1	7.0 ± 2.9	B8
11429	HD 15000			F5II	13009	HD 17249	2.0 ± 0.0	31.6 ± 19.2	A0
11436	HD 15151	2.0 ± 0.0	61.5 ± 38.5	A0	13098	HD 17234			K0II
11460	HD 15022			K3II	13127	HD 17683	2.0 ± 0.0	20.1 ± 9.3	A0V
11473	HD 15137	15.0 ± 1.1	0.2 ± 0.1	O9.5V	13132	HD 17877			K2II
11484	* 73 Cet			B9III	13160	HD 17346	6.3 ± 0.7	58.7 ± 10.2	G9II
11487	HD 15124			B5III	13187	HD 232716	7.0 ± 0.4	25.7 ± 5.4	B3
11494	HD 15243	6.9 ± 0.5	50.1 ± 9.9	K0	13268	* eta Per	8.0 ± 0.4	37.8 ± 6.6	K3Ib comp
11595	HD 15589			G8II					SB
11607	HD 15238	5.0 ± 0.0	38.9 ± 2.8	B5V	13276	V* V794 Cas			B9III
11625	HD 15316			A3Iab	13284	HD 17648	7.4 ± 1.0	43.6 ± 15.2	K5
11631	HD 15332			A0II	13322	BD+46 647	2.8 ± 0.3	10.0 ± 6.8	B8
11663	HD 15418	6.3 ± 0.3	68.6 ± 22.2	K0	13335	HD 18119			K2II/III
11722	HD 15450	8.6 ± 0.5	0.8 ± 0.6	B1IIIe	13367	V* SU Cas			F5:Ib-II
11754	BD+64 331			B5	13402	V* EP Eri	0.9 ± 0.1	34.3 ± 17.0	K1V
11767	V* alf UMi	6.9 ± 0.4	50.0 ± 9.0	F7:Ib-IIv	13446	V* V796 Cas			B7III
				SB	13462	HR 849			G5Iab:
11792	BD+60 498	15.0 ± 1.1	0.2 ± 0.1	O9V	13553	BD+60 587			B6III
11799	HD 16078			K1II/III	13567	HD 18145			G8II
11837	HD 15570	37.1 ± 7.2	1.7 ± 0.5	O4...	13587	HD 18042	2.0 ± 0.0	48.1 ± 35.4	A0
11841	HD 15620	6.1 ± 0.4	50.1 ± 6.4	B8Iab	13598	HD 18175			K0II
11856	BD+60 505			A2II	13622	HD 18088	6.2 ± 0.5	63.7 ± 14.6	K0
11857	HD 16667			K0II	13628	HD 18103	2.0 ± 0.0	11.0 ± 0.9	A0
11860	HD 15909			K1/K2II/III	13645	V* AO Ari			M3II-III
11891	HD 15629	8.0 ± 4.8	4.6 ± 2.1	O5e	13682	HD 18271	2.0 ± 0.0	20.1 ± 9.3	A0
11894	V* V788 Cas	6.6 ± 0.1	26.3 ± 3.6	B3	13696	HD 18361			K0II
11896	HD 16334			K2II/III	13700	HR 861	9.6 ± 0.9	25.1 ± 1.6	K3Ibvar
11901	HD 15832			K3Ib	13736	HD 18076	10.2 ± 0.3	0.2 ± 0.1	B0II-III
11933	HD 15883			K0II	13746	HD 18523			K1II/III
11962	HD 16005	2.0 ± 0.0	20.1 ± 9.3	A0	13752	HD 18309	2.0 ± 0.0	20.1 ± 9.3	A0
12001	BD+58 488	9.6 ± 0.4	6.3 ± 5.3	B0.5V	13765	HD 18369			A5Ib
12006	BD+65 270	2.0 ± 0.1	20.1 ± 9.3	A0	13797	V* V797 Cas			B9III
12009	V* V790 Cas	7.3 ± 0.3	7.1 ± 2.7	B1Iab	13924	HD 18326	20.0 ± 0.0	0.1 ± 0.0	O7V
12083	HD 15784			F4II	13954	* lam Cet			B6III
12152	HD 16040			B9III	13962	HD 18391	10.6 ± 1.0	19.8 ± 5.2	G0Ia
12216	HD 16107			B8III	14060	* 8 Eri			K0II
12218	HR 760	5.0 ± 0.0	31.5 ± 16.0	B5V	14131	* tet Hyi			B8III/IV

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
14168	* 9 Eri			K0II-III
14203	HD 18917	7.1 ± 0.5	45.8 ± 7.4	K0
14216	HIP 14216	4.6 ± 0.4	24.9 ± 10.3	B5
14225	HD 18859	7.5 ± 0.7	39.8 ± 4.2	K2
14267	HD 18869	2.0 ± 0.0	20.1 ± 9.3	A0
14270	HD 18984	2.4 ± 0.1	26.9 ± 18.5	B9
14307	HD 19330	1.2 ± 0.0	16.3 ± 1.2	G1V
14312	HD 19017	2.0 ± 0.0	20.1 ± 9.3	A0
14313	CD-51 706	1.2 ± 0.0	12.9 ± 2.9	K0
14350	HD 18964	8.0 ± 1.1	37.4 ± 10.4	K5
14382	* k Per			K0II-III
14417	HR 881	7.5 ± 0.3	47.4 ± 2.5	F7IV comp SB
14482	HD 19089			K0II
14514	V* UW Ari	7.6 ± 0.3	1.7 ± 1.4	B1.5V
14521	V* BN Hyi			F2II-III
14552	HD 19359	2.3 ± 0.1	10.0 ± 2.8	B9
14558	BD+61 523			A5II
14566	HR 930	5.0 ± 0.0	54.9 ± 5.7	B5V
14578	HD 19344			B5
14626	HD 19243	17.0 ± 3.4	6.1 ± 0.8	B1V:e
14658	HD 19341			B8III
14677	* 55 Ari			B8III
14700	V* CP Oct			F2/F3Ib/II
14701	HD 19456	2.0 ± 0.0	11.0 ± 0.9	A0
14742	HD 19540	6.3 ± 0.6	57.1 ± 7.5	G5
14777	BD+64 374			B2
14831	HD 19750	6.9 ± 0.6	50.1 ± 10.7	K2
14833	HD 19536			A2II
14845	HD 19624			B5
14869	HD 19749	2.0 ± 0.0	20.1 ± 9.3	A0
14887	HR 950	5.0 ± 0.0	34.0 ± 8.8	B4V
14898	HD 20001	9.8 ± 0.6	19.2 ± 3.1	B3V
14925	HD 20071	6.3 ± 0.5	60.2 ± 11.6	K1IICN...
14969	CCDM J03130+4417AB			B2IV+...
14979	HD 20557			B9IIIp...
15024	HR 974			K1IICN...
15039	HD 20232	2.0 ± 0.0	31.6 ± 19.2	A2/A3III/IV
15044	HD 19892	2.0 ± 0.0	20.1 ± 8.4	A0
15063	V* CC Cas	17.8 ± 2.3	3.9 ± 0.4	O9IV
15105	HD 20023			B9III
15114	HD 20017	7.9 ± 0.6	29.0 ± 6.4	B5Ve
15180	HD 19968	4.0 ± 0.0	12.9 ± 11.0	B5III
15188	HD 20340	7.0 ± 0.3	25.1 ± 0.6	B3V
15192	HR 964	11.6 ± 0.4	17.3 ± 1.7	A0Ia
15219	HR 969			G5II
15230	HD 20356	7.4 ± 0.7	42.4 ± 8.6	K5
15239	HD 20484	1.9 ± 0.0	13.0 ± 1.8	A3V
15270	HD 20134	7.2 ± 0.1	22.0 ± 0.1	B2.5IV-V
15285	HD 20368	6.2 ± 0.9	63.1 ± 24.9	K5
15353	HR 1014	1.9 ± 0.0	11.1 ± 5.7	A3V
15373	HD 20573	1.7 ± 0.0	25.1 ± 11.3	A6V
15404	* 29 Per	6.8 ± 0.0	26.3 ± 4.9	B3V
15416	HR 991	7.0 ± 0.5	47.8 ± 7.4	K2II
15424	HD 20295			B5III
15444	* 31 Per			B5V
15520	HR 985	7.6 ± 0.2	31.6 ± 4.8	B2.5Vne
15530	V* UZ Per			M5II-IIIvar
15535	HD 21012			B3IV/V
15549	HR 999			K2II-III
15623	HD 20547	5.0 ± 0.0	12.6 ± 6.1	B3III
15627	V* tau01 Ari	5.0 ± 0.0	54.9 ± 5.7	B5IV
15702	HD 20965			K2II
15718	HD 21034			K3II/III
15770	V* V575 Per			B5V
15795	HD 20762			K0II-III
15836	HD 21208			K1II/III
15850	HD 21051	2.3 ± 0.9	0.1 ± 0.0	K0III-IV
15853	HD 20798	6.7 ± 0.3	1.8 ± 1.6	B2III-IV
15863	V* alf Per	7.8 ± 0.1	45.9 ± 3.9	F5Ib
15890	V* CQ Cam	12.1 ± 0.5	16.3 ± 0.9	M0II
15941	HD 20898	9.3 ± 0.8	19.8 ± 1.8	B2III
15981	HD 20959	6.3 ± 0.1	40.5 ± 5.7	B3III
15992	BD+45 764	2.8 ± 0.1	10.0 ± 6.8	B8
16001	HD 21085			A3II
16019	HD 21037	6.5 ± 0.6	57.9 ± 9.4	K5
16047	HD 21117	2.9 ± 0.1	22.5 ± 8.0	B8
16100	HD 237141	4.0 ± 0.1	15.2 ± 6.5	B5
16129	HD 20030	6.2 ± 0.5	63.7 ± 13.7	K0
16147	HR 1034			B5V
16165	HD 21346	7.1 ± 0.3	45.8 ± 9.5	K0
16194	HD 21901			K1II
16195	HD 21212	9.6 ± 0.3	19.0 ± 1.7	B2V:e
16199	HD 21363			K0II-III
16203	HD 21483	7.8 ± 0.4	33.2 ± 6.0	B3III
16228	V* CS Cam	12.0 ± 0.5	16.1 ± 0.9	B9Ia
16244	* 34 Per	6.9 ± 0.0	28.2 ± 3.1	B3V
16281	V* CE Cam	15.5 ± 1.7	11.6 ± 1.1	A0Ia SB:
16283	HD 21355	3.2 ± 0.1	22.5 ± 18.4	A
16306	HD 21267	2.9 ± 0.0	31.6 ± 22.7	B8
16307	HD 21465	6.8 ± 0.6	47.5 ± 11.0	K5Iab:
16333	HD 22069			F0II
16361	HD 21550	2.0 ± 0.0	31.6 ± 19.2	A0
16367	HD 21588	1.9 ± 0.1	35.7 ± 23.0	A2
16369	* f Tau			K0II-III...
16406	HD 21650	4.6 ± 0.4	34.0 ± 5.4	B5
16410	BD+27 515B	1.8 ± 0.0	13.9 ± 3.6	A3V
16466	HD 21996			B4V
16470	V* V396 Per			B8IIIp Mn
16476	HD 275501			G8II
16489	HR 965			G3IIp...
16490	HD 21771			K3II
16516	V* KP Per	8.1 ± 0.2	17.6 ± 4.4	B2IV
16518	HR 1074	12.6 ± 1.3	10.6 ± 1.2	B1V
16553	HD 22287			G8II
16556	BD+45 783	2.9 ± 0.2	15.8 ± 12.2	B8
16563	V* V577 Per	1.0 ± 0.0	17.0 ± 1.2	K2...
16566	CD-26 1339	15.0 ± 1.1	0.2 ± 0.1	O
16608	HD 22204			A7/A8II/III
16615	HD 22061	5.6 ± 0.9	63.5 ± 17.3	K5
16643	HD 22060	1.8 ± 0.0	12.7 ± 2.5	A2
16735	BD+42 786C	2.7 ± 0.2	7.0 ± 3.2	B8
16771	HD 21930	3.0 ± 0.0	47.7 ± 8.3	B8
16803	V* EG Eri			B8/B9III
16820	HD 22135			K5II
16826	* psi Per	6.2 ± 0.1	63.1 ± 14.6	B5Ve
16842	HD 22492	2.9 ± 0.2	10.0 ± 6.8	B8
16893	BD+69 219	12.0 ± 0.8	0.1 ± 0.0	B0
16934	HD 22545	7.2 ± 0.7	45.0 ± 7.2	K2
16941	HD 22298	9.6 ± 0.3	17.4 ± 3.4	B2Vne
16976	HD 22297			F
17037	HD 22613	1.8 ± 0.0	13.7 ± 3.5	A3
17064	HD 21990	6.3 ± 1.1	57.9 ± 27.7	K5
17088	HD 22807	6.2 ± 0.8	63.7 ± 14.6	K2
17106	HD 237163			A3II
17167	V* FY Eri			B9IIIp Si
17200	HD 232819	7.7 ± 0.6	9.3 ± 3.1	B2V
17212	HD 23033			K1II
17280	HD 23147	2.3 ± 0.1	7.6 ± 0.7	B9V
17285	HD 232822	2.0 ± 0.0	20.1 ± 9.3	A0
17287	HD 25254			F3II/III
17304	* del For	5.9 ± 0.1	63.1 ± 15.2	B5III
17313	* o Per	12.5 ± 0.3	11.8 ± 1.2	B0.5V
17342	HR 1112	6.9 ± 0.4	45.3 ± 1.3	K4Ib
17358	* del Per	7.0 ± 0.3	50.1 ± 6.3	B5III SB
17362	HD 23027	1.8 ± 0.0	14.0 ± 3.7	A
17387	HD 23060	9.3 ± 0.3	15.8 ± 2.7	B2Vp
17394	HD 23672			K0II/III

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
17434	HD 23082	6.3 ± 0.9	63.1 ± 27.3	K5
17447	V* EU Eri			M1Ib/II
17448	V* omi Per	15.6 ± 1.7	10.0 ± 1.2	B1III
17465	HD 281159	4.6 ± 0.4	25.2 ± 8.7	B5V
17499	ELECTRA			B6III
17529	* 41 Per			F5IIvar
17561	HD 281157			B5
17563	* u Tau	6.2 ± 0.1	12.9 ± 2.8	B3V
17573	MAIA			B8III
17586	HD 23465	2.6 ± 0.0	3.9 ± 1.6	B8
17587	HR 1129	7.9 ± 0.1	39.8 ± 4.6	A3V...
17620	HIP 17620	4.9 ± 0.2	50.1 ± 6.0	B5
17624	HD 24579			B7III
17631	HD 23478	5.0 ± 0.0	32.6 ± 1.3	B3IV...
17635	HD 23757			K1II
17661	HD 23278			G8II
17686	HD 23254			B5
17687	BD+82 94	2.9 ± 0.2	10.0 ± 6.8	B8
17694	HD 23610	2.0 ± 0.0	53.4 ± 31.1	A0
17702	ALCYONE			B7III
17735	HR 1163	7.7 ± 0.2	19.6 ± 0.9	B2.5V
17771	* e Tau	6.0 ± 0.1	7.3 ± 4.9	B3V
17775	HD 282912	1.8 ± 0.0	12.7 ± 2.5	A2
17841	HD 279010	2.0 ± 0.1	20.1 ± 9.3	A0
17847	ATLAS			B8III
17878	V* V1128 Tau	1.5 ± 0.1	9.7 ± 1.7	G0
17884	V* BE Cam			M1III
17921	HR 1185	3.2 ± 0.0	56.6 ± 7.2	B8III
17952	HD 24107			K1II
17963	HD 23800	10.0 ± 0.3	10.3 ± 1.6	B1IV
18081	HR 1191	9.8 ± 0.2	8.3 ± 4.0	B1V
18088	HD 23894	6.7 ± 0.3	57.1 ± 10.6	K0
18089	* 31 Tau	5.7 ± 0.3	63.1 ± 14.6	B5V
18111	HD 24190	6.9 ± 0.1	0.3 ± 0.2	B2V
18117	BD+11 533	1.3 ± 0.1	17.6 ± 5.7	F8
18151	V* CY Cam	9.2 ± 0.5	4.3 ± 2.6	B1III
18166	HD 24177	2.3 ± 0.2	46.2 ± 33.7	B9
18172	HD 23982			B5
18175	HD 283048	15.0 ± 1.1	0.2 ± 0.1	Oe...
18183	HD 24757	5.0 ± 0.0	49.1 ± 6.2	B6V
18213	* i Eri	4.0 ± 0.0	47.1 ± 2.8	B6/B7V
18216	V* tau08 Eri	5.0 ± 0.0	32.8 ± 13.5	B5V
18230	HD 24399			G8II
18246	* zet Per	15.5 ± 0.5	12.6 ± 1.9	B1Ib
18263	V* V1289 Tau	1.1 ± 0.1	18.6 ± 6.7	G5IV
18265	V* V479 Tau			F3II-III
18270	HD 24352	2.7 ± 0.2	7.0 ± 4.0	B8
18314	HD 24298	1.9 ± 0.0	50.8 ± 27.3	A3
18339	V* DO Eri			Ap SrEu(Cr)
18350	HR 1209	15.0 ± 1.1	0.2 ± 0.1	O9.5pe
18370	HD 24431	17.7 ± 2.4	2.1 ± 0.6	O9IV-V
18383	HD 24395			A7II
18434	HR 1215	8.9 ± 0.1	14.4 ± 3.7	B1.5V
18442	HIP 18442	15.0 ± 1.1	0.2 ± 0.1	B
18478	BD+67 298	2.6 ± 0.1	7.0 ± 2.9	B8
18488	HR 1205			K3I-II
18508	HR 1222	6.2 ± 0.5	63.7 ± 13.7	K0
18532	V* eps Per	12.5 ± 0.8	15.4 ± 0.8	B0.5V
18593	V* CZ Cam			B5
18614	Menkhib	24.3 ± 0.8	4.4 ± 0.3	O7.5Iab:
18704	BD+41 790	2.9 ± 0.0	17.9 ± 14.1	B8
18715	HD 25205	2.0 ± 0.0	20.1 ± 9.3	A0
18724	V* lam Tau	8.1 ± 0.2	33.2 ± 4.8	B3V + A
18727	BD+55 838	6.7 ± 0.6	34.8 ± 7.0	B3Ib
18788	* 35 Eri	4.5 ± 0.4	28.0 ± 21.0	B5V
18795	HD 25056	6.2 ± 0.6	60.8 ± 12.2	G0Ib
18796	HD 25392	1.4 ± 0.0	41.9 ± 29.6	A8/A9IVw...
18805	HR 1243			B5V
18817	HD 25663			F2/F3II
18838	HD 25195			B5
18871	HD 25132	6.6 ± 0.2	25.3 ± 5.9	B3V
18873	HD 25246	1.8 ± 0.0	12.7 ± 2.5	A2
18884	HD 25090	12.6 ± 1.3	9.5 ± 1.1	B0.5III
18904	HD 25256	1.9 ± 0.1	40.2 ± 28.1	A2
18926	HR 1258	6.1 ± 0.1	11.7 ± 2.3	B3V
18948	HD 232880	3.1 ± 0.1	50.1 ± 40.1	B8
18957	V* V1133 Tau	6.6 ± 0.0	24.6 ± 6.6	B3V
18972	HD 25487	3.0 ± 0.1	39.8 ± 23.6	B8Vev comp
18983	HD 25606	2.4 ± 0.1	43.2 ± 25.4	B9
19008	HD 25348	9.1 ± 0.1	0.2 ± 0.0	B1Vnnpe
19018	HR 1242	8.7 ± 0.2	27.8 ± 3.3	F0II
19020	HD 26045			K1II
19037	HR 1267			K1II
19039	HD 25539	5.9 ± 0.2	7.3 ± 3.7	B3V
19057	V* RX Cam			G0Iavar
19085	HD 25749			G9II-III
19088	HD 26074			A7II/III
19101	HD 25582	1.8 ± 0.1	12.0 ± 1.9	A2
19110	HIP 19110	2.0 ± 0.0	20.1 ± 9.3	A0
19131	BD+67 304	3.0 ± 0.2	10.0 ± 6.8	B8
19137	V* V1135 Tau			S4,2v
19176	HD 284149	1.3 ± 0.1	17.1 ± 5.4	F8
19178	HD 25799	6.3 ± 0.1	17.8 ± 2.0	B3V...
19197	HD 25834			K1II
19201	V* AG Per			B5V:p SB
19218	CD-31 1701	20.0 ± 0.0	0.1 ± 0.0	O8
19240	HD 281537	2.0 ± 0.0	20.1 ± 9.3	A0
19264	HD 25787	7.9 ± 0.1	3.9 ± 3.4	B2V
19276	HIP 19276			B3V
19286	BD+48 1048	6.3 ± 0.9	53.4 ± 3.5	A2
19341	HD 26081			G8II
19343	* c Per	7.6 ± 0.2	31.6 ± 4.8	B3Ve
19364	HD 281610	2.9 ± 0.3	10.0 ± 6.8	B8
19398	V* GU Eri			B5IV
19404	V* GQ Cam	6.6 ± 0.5	39.8 ± 4.5	B6Ia
19411	HD 26256	2.4 ± 0.0	48.3 ± 18.9	B9
19412	HR 1270			G8II
19466	HD 26323	2.4 ± 0.1	50.0 ± 34.8	B9
19498	BD+64 426	3.0 ± 0.1	31.6 ± 26.8	B8
19525	HR 1286			K1II-III
19578	HD 26610	2.0 ± 0.0	20.1 ± 8.4	A0V
19587	V* omi01 Eri			F2II-III
19672	V* V1137 Tau			B9IIIsp...
19679	HD 26526	8.8 ± 0.4	30.3 ± 3.7	K0
19724	HD 26928			A5II/III
19725	V* GY Eri	4.0 ± 0.0	51.9 ± 16.0	B5IV
19762	HD 283447	1.0 ± 0.0	7.0 ± 1.1	K2 EA
19811	* f Per			G5II comp
19812	* 51 Per			G0Ib...
19855	V* V891 Tau	1.0 ± 0.0	39.4 ± 14.5	G5IV
19856	HD 26994			B7III
19860	* 49 Tau	6.7 ± 0.1	35.9 ± 5.2	B3IV
19914	HD 281818	3.1 ± 0.1	45.0 ± 35.3	B8
19968	HR 1305	4.0 ± 0.0	56.6 ± 26.0	B5Vn
19972	HD 27230	1.9 ± 0.0	13.0 ± 1.8	A2m...
19986	HD 26857	10.4 ± 0.8	17.0 ± 2.1	K2
19992	V* V585 Per	7.0 ± 0.4	47.6 ± 9.1	K2
20017	HD 27262			K1II
20037	HD 26669	2.9 ± 0.1	20.0 ± 8.2	B8
20097	HD 283518	1.2 ± 0.1	2.2 ± 0.4	K3Ve-K7Ve
20160	HD 281934	0.9 ± 0.1	21.6 ± 9.1	K3Ve-M0Ve(T)
20214	HD 27507	2.4 ± 0.1	50.4 ± 37.5	B9V
20234	HR 1333	10.0 ± 0.3	17.1 ± 2.4	B1.5IV
20271	HR 1363			B5III
20330	HD 26684	5.0 ± 0.0	50.9 ± 3.2	B5

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
20354	V* V469 Per	6.0 ± 0.1	47.9 ± 8.5	B4IV
20362	BD+62 674	3.9 ± 0.1	12.0 ± 1.8	B5
20378	HD 27908	1.3 ± 0.1	11.7 ± 2.3	G1V
20381	HD 232939	4.7 ± 0.3	39.5 ± 3.5	B5
20387	HD 283571	1.6 ± 0.1	8.7 ± 1.6	F8Ve-K1Ve(T)
20388	HD 283572	1.9 ± 0.1	4.3 ± 1.9	G2III
20390	HD 284419	1.7 ± 0.3	0.5 ± 0.1	K0IIIe
20417	CCDM J04224+2049AB	6.7 ± 1.1	50.1 ± 9.6	M0III
20426	HD 27596	7.9 ± 0.9	37.4 ± 10.5	K5
20513	V* V1142 Tau	7.8 ± 1.6	35.6 ± 11.8	M...
20533	* 62 Tau	7.1 ± 0.1	30.5 ± 2.6	B3V
20554	HD 28107	3.6 ± 0.1	4.9 ± 3.6	B6V
20588	HD 281952	3.1 ± 0.1	31.6 ± 26.8	B8
20675	HD 28102	8.8 ± 0.8	25.1 ± 3.6	K5
20683	HD 27846	8.1 ± 0.4	9.5 ± 1.3	B1.5V
20689	HD 27858	6.3 ± 1.0	63.1 ± 29.8	K5
20692	HD 28087	2.9 ± 0.0	31.6 ± 7.1	B8
20725	HD 28159			M1II
20776	HR 1317	6.3 ± 0.5	63.7 ± 22.7	G6III:
20777	HD 283654	0.6 ± 0.0	23.6 ± 3.7	M0-M3Ve(T)
20778	HD 28190	2.0 ± 0.0	39.8 ± 26.8	A0
20780	HD 28150	2.0 ± 0.1	8.1 ± 1.5	A0
20793	HD 28261	2.0 ± 0.0	20.1 ± 8.4	A0
20803	HD 27968			A
20812	HD 28170	2.0 ± 0.0	35.7 ± 23.0	A1III
20860	HR 1289			B5V
20884	HR 1415	5.0 ± 0.0	3.6 ± 2.0	B3V
20908	HD 28134	4.0 ± 0.1	27.2 ± 6.7	B5
20922	* 228 Eri	10.0 ± 0.7	20.0 ± 1.3	B2V:ne
20928	HD 27623	2.0 ± 0.0	20.1 ± 9.3	A0
20958	V* V1145 Tau			M3II
20963	V* V1144 Tau	5.0 ± 0.0	47.4 ± 5.1	B5V
20974	HD 27932	6.3 ± 0.5	63.7 ± 19.0	K0
21013	HD 28482			B8III
21042	HR 1439			K0II
21060	* del Cae	7.6 ± 0.2	8.8 ± 1.1	B2IV-V
21063	V* RX Cae			F3/F5II
21068	HD 232968	3.2 ± 0.2	59.6 ± 24.8	B8
21139	* 45 Eri			K3II-III
21159	HD 283677	4.0 ± 0.0	12.5 ± 10.7	B5V
21179	V* V1147 Tau	0.9 ± 0.0	51.2 ± 4.8	K0
21182	BD+44 970	2.8 ± 0.1	7.0 ± 4.0	B8
21192	V* DZ Eri			B9III
21289	HD 28747	6.3 ± 0.6	51.6 ± 6.2	B9
21291	HD 28832	2.0 ± 0.1	20.1 ± 9.3	A0
21316	HD 29082	2.0 ± 0.0	11.0 ± 0.9	A0
21385	HD 232977	4.7 ± 0.3	41.7 ± 5.2	B5
21404	HD 29370			K0II
21408	HR 1455			G5II-III+..
21419	HD 28516	1.9 ± 0.1	12.7 ± 2.5	A2
21428	HR 1462			B7III
21435	HD 28987	7.7 ± 0.2	39.8 ± 4.6	F
21444	V* nu. Eri	8.8 ± 0.2	24.9 ± 3.0	B2III SB
21476	* 58 Per	6.7 ± 0.2	50.1 ± 6.3	G8II comp
21507	HD 29093	3.9 ± 0.1	6.3 ± 4.9	B5
21517	V* SZ Tau			F5Ib
21520	BD+44 995	6.8 ± 0.6	47.8 ± 9.3	K0V
21560	HD 29507	1.9 ± 0.0	25.1 ± 13.1	A2/A3IV
21568	HD 28816	3.1 ± 0.1	32.2 ± 27.3	B8
21601	HD 29060	7.1 ± 0.4	43.3 ± 6.3	K0
21602	HD 29309	10.0 ± 0.1	20.0 ± 2.3	B2V
21626	HD 29441	7.8 ± 0.3	22.3 ± 3.6	B2.5Vne
21632	HD 29615	1.1 ± 0.0	29.7 ± 1.7	G3V
21650	HD 286935	2.0 ± 0.1	20.1 ± 9.3	A0
21697	V* V584 Aur	1.5 ± 0.0	2.3 ± 0.5	K2
21734	BD+54 792	2.0 ± 0.0	40.4 ± 27.3	A0
21735	HD 29589	3.5 ± 0.1	1.5 ± 0.7	B8IV
21776	HIP 21776			B5
21813	HD 29647			B8III
21852	HD 283798	1.2 ± 0.0	16.5 ± 1.7	G2V
21867	HD 30253			K2II/III
21881	* tau Tau	6.4 ± 0.1	20.9 ± 3.7	B3V
21972	HR 1493			B9III
22000	V* RZ Eri			Am comp SB
22015	HD 31230	2.0 ± 0.0	73.2 ± 23.5	A1V
22042	HD 29976	1.8 ± 0.0	12.3 ± 2.2	A2
22061	HD 30112	5.7 ± 0.3	4.5 ± 3.5	B2.5V
22065	HD 30240			K1II
22075	HD 29846	4.0 ± 0.0	56.6 ± 26.0	B5
22084	HD 30124	1.9 ± 0.0	31.6 ± 19.2	A2
22104	HD 29934	2.0 ± 0.0	20.1 ± 9.3	A0
22109	V* mu. Eri			B5IV
22112	HD 30123			B8III
22114	HD 30424	2.0 ± 0.0	39.8 ± 26.8	A2V
22128	HR 1512			B5III
22139	HD 30222	2.0 ± 0.0	20.1 ± 9.3	A0
22185	HD 284839			B9III
22192	V* EX Eri	2.0 ± 0.0	28.4 ± 16.1	A2IV/V
22261	HD 30178			M2Ib
22345	HD 29909	6.4 ± 0.3	55.2 ± 6.9	G5
22356	HD 284820	2.7 ± 0.1	7.0 ± 4.0	B8
22453	* 1 Aur			K4II
22461	HD 30677	12.3 ± 0.7	12.6 ± 2.1	B1II-IIIn..
22524	HD 30738	1.3 ± 0.1	16.2 ± 5.2	F8
22527	HD 30675	6.2 ± 0.1	16.3 ± 1.8	B3V
22549	* 3 Ori	11.9 ± 0.4	15.4 ± 0.0	B2III SB
22570	HD 31244	7.0 ± 0.1	48.4 ± 4.8	A2/A3
22597	HR 1553			B5V
22605	HD 31004	2.0 ± 0.0	11.0 ± 0.9	A0V
22648	BD+62 710	2.7 ± 0.2	7.0 ± 2.9	B8
22663	V* AN Dor	8.5 ± 0.3	11.2 ± 2.0	B2/B3V
22745	HD 31072	7.4 ± 0.9	42.4 ± 10.8	K5
22761	HD 31341			K0II
22767	HD 31086	2.0 ± 0.0	23.4 ± 12.4	N...
22797	V* pi.05 Ori	12.5 ± 0.8	15.8 ± 0.2	B2III SB
22814	CCDM J04545-6025AB			F2II/IIIm
22840	HR 1574	5.0 ± 0.0	52.1 ± 2.9	B5V
22910	HD 31293	2.4 ± 0.1	4.5 ± 1.4	A0pe
22917	HD 31195	3.3 ± 0.1	35.9 ± 9.1	B7V
22925	HD 282624	1.9 ± 0.1	3.8 ± 0.7	G2IIIevar
22928	V* V408 Aur			M0Ib
22954	HD 31503	2.0 ± 0.0	20.1 ± 9.3	A0
22964	HD 282635	3.0 ± 0.1	45.0 ± 33.4	B8
23015	* iot Aur	6.9 ± 0.5	45.7 ± 9.1	K3IIvar
23024	HD 31326	2.0 ± 0.0	20.1 ± 9.3	A0
23060	HR 1595	8.5 ± 0.3	11.8 ± 2.7	B2V
23098	HD 31748	1.8 ± 0.1	12.7 ± 2.5	A2V
23102	HD 31724	1.8 ± 0.0	14.0 ± 3.7	A3
23123	* 10 Ori	6.3 ± 0.5	60.4 ± 15.9	K2IIvar
23130	HD 31799	2.4 ± 0.1	25.1 ± 16.8	B9
23143	HD 31648	2.0 ± 0.0	7.0 ± 0.8	A2
23151	V* V1061 Tau	4.0 ± 0.1	18.0 ± 9.1	B5
23200	V* V1005 Ori	0.8 ± 0.2	7.6 ± 7.0	M0.5Ve
23228	HD 31806	3.2 ± 0.1	20.4 ± 8.7	B7V
23268	* 6 Aur			K4Iab:
23349	HD 32018			B2IV
23353	HD 32112	7.1 ± 0.5	45.7 ± 8.0	K2
23359	HD 31895			K3Ib
23360	V* RX Aur			G0IV
23364	* psi Eri	7.1 ± 0.1	31.6 ± 1.0	B3V
23375	HD 31894	7.9 ± 0.1	13.4 ± 3.0	B2IV-V
23451	HD 32297	2.0 ± 0.0	20.1 ± 9.3	A0
23453	V* zet Aur			K4II comp
23490	HD 32470	2.0 ± 0.0	20.1 ± 9.3	A0V
23522	* bet Cam			G0Ib

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
23551	HR 1640	8.9 ± 0.1	19.7 ± 0.8	B2IV
23571	HD 32541	2.0 ± 0.0	51.3 ± 37.5	A0
23582	HR 1587	8.4 ± 0.5	31.9 ± 5.1	K0
23583	HR 1626			K0II-III
23585	HD 32296	1.9 ± 0.0	25.1 ± 13.1	A2
23592	HD 32481	7.0 ± 0.2	30.4 ± 2.5	B3V
23602	V* UX Ori	1.9 ± 0.1	8.1 ± 1.7	A2e
23603	HD 32328	2.7 ± 0.1	10.0 ± 6.8	B8V
23643	HR 1646			B5IV
23692	BD+52 913	15.0 ± 1.1	0.2 ± 0.1	DAw...
23699	V* V1154 Tau			B5
23712	HD 32656			B5
23714	HD 32816	2.9 ± 0.1	10.0 ± 6.8	B8V
23734	* 11 Cam	7.8 ± 0.3	25.0 ± 2.2	B2.5Ve
23745	HD 32884	2.9 ± 0.0	25.1 ± 15.1	B8V
23755	V* TU Lep			B8II
23757	HD 32867	3.0 ± 0.0	39.8 ± 8.5	B8V
23766	HR 1624			K5II
23767	* eta Aur	6.5 ± 0.1	20.5 ± 4.3	B3V
23774	HD 32672	10.0 ± 0.7	15.9 ± 1.0	B2IV
23799	HR 1644			F2IIp...
23833	V* TU Pic	4.5 ± 0.4	47.8 ± 13.9	B5III
23843	HD 33038	2.7 ± 0.1	7.0 ± 2.9	B8V
23883	* 105 Tau	11.9 ± 0.3	15.8 ± 0.4	B2Ve
23900	* 103 Tau	11.9 ± 1.1	15.4 ± 1.4	B2V...
23905	HD 33177	2.0 ± 0.0	20.1 ± 9.3	A0
23919	HD 33190	3.0 ± 0.0	50.1 ± 17.2	B8V
23933	HD 33034	6.3 ± 0.8	50.1 ± 6.5	A2
23946	HD 33090	5.0 ± 0.0	48.9 ± 4.0	B5
23953	HD 289953	1.4 ± 0.0	41.9 ± 25.0	A9III
23972	V* lam Eri	9.3 ± 0.2	20.1 ± 1.5	B2IVn
23987	HD 33713	2.4 ± 0.1	48.9 ± 24.5	B9V
24060	HD 33742			B9III/IV
24072	HR 1669	14.7 ± 0.9	11.1 ± 1.4	B2II: comp
24229	HD 33662	6.6 ± 0.5	60.8 ± 12.2	K0
24238	HD 33461	10.0 ± 0.5	15.0 ± 2.5	B2:V:nne
24297	HD 33819	2.0 ± 0.1	20.1 ± 9.3	A0V
24342	HD 33917	2.0 ± 0.0	11.0 ± 0.9	A0V
24394	HR 1710			A9II/III
24436	V* bet Ori	19.2 ± 0.0	8.3 ± 0.1	B8Ia
24458	HD 34120	3.0 ± 0.1	31.6 ± 26.8	B8V
24474	HD 34358			K1II
24478	HD 34295			A4II
24549	V* UX Aur			M4IIvar
24552	HD 34282	2.0 ± 0.0	20.1 ± 9.3	A0
24575	HD 34078	15.7	0.2 ± 0.1	O9.5Vvar
24612	CCDM J05167+1826AB	5.1 ± 0.1	7.0 ± 3.2	B3
24618	HR 1731	7.9 ± 0.1	5.1 ± 1.8	B2V
24642	HD 34250	6.8 ± 0.7	50.0 ± 5.7	F0
24649	HD 34513			F0II
24667	HD 242211			B3
24674	* tau Ori	6.2 ± 0.0	63.1 ± 14.5	B5III
24709	HD 34511	4.0 ± 0.1	18.6 ± 2.6	B5V
24716	V* V1057 Ori			M2II-III
24725	HD 35093			K1II/III
24744	V* EO Aur	6.6 ± 0.4	25.1 ± 2.5	B3V + B3V
24776	HD 34453	1.9 ± 0.1	42.9 ± 29.7	A2
24780	HD 34799			A8II:w
24795	HD 34425	4.0 ± 0.0	10.7 ± 9.0	B5
24796	HD 34426	2.7 ± 0.1	7.0 ± 3.2	B8
24811	HD 34672	3.0 ± 0.1	35.7 ± 28.5	B8V
24817	* 21 Ori			F5IIvar
24825	V* YZ Lep	5.0 ± 0.0	48.9 ± 9.9	B5IV/V
24836	V* DV Cam			B5V
24845	* lam Lep	12.3 ± 0.4	6.8 ± 2.3	B0.5IV
24847	HR 1748	7.9 ± 0.2	0.2 ± 0.1	B1.5Vn
24879	* 19 Aur	7.9 ± 0.3	34.6 ± 4.9	A5IIvar
24897	HD 34670	3.9 ± 0.1	10.0 ± 8.4	A
24898	HD 34576	8.7 ± 0.3	13.0 ± 1.5	B2V
24914	HR 1720	7.4 ± 0.6	42.1 ± 3.9	K4Iab:
24916	HD 34881			A
24922	HD 34859	2.8 ± 0.1	7.0 ± 2.9	B8V
24925	HR 1759			B8III
24938	HD 34626	7.7 ± 0.5	1.8 ± 0.9	B1.5IVnp
25007	HR 1772			B5II/III
25011	HR 1761			B5Vp
25014	HD 35042	6.3 ± 0.3	43.2 ± 10.1	B5III
25028	HR 1764	7.1 ± 0.1	31.6 ± 1.0	B3V
25041	HR 1763	12.0 ± 0.2	10.0 ± 0.7	B1V...
25044	* o Ori	8.9 ± 0.1	19.8 ± 2.2	B2IV-V
25048	* rho Aur			B5V
25053	HR 1769			B8II
25066	HD 35079	7.0 ± 0.1	29.5 ± 2.0	B3V
25088	HD 35123	2.0 ± 0.0	20.1 ± 9.3	A0
25092	V* V1261 Ori			S4,1
25118	BD-20 1071	2.0 ± 0.0	39.8 ± 26.8	A0
25142	* 23 Ori	12.5 ± 1.1	10.3 ± 0.8	B1V
25145	HD 35148	6.9 ± 0.2	27.3 ± 2.4	B3Vn
25147	HD 35225	2.0 ± 0.0	14.2 ± 3.8	A0
25177	HD 35308	2.0 ± 0.0	53.4 ± 20.2	A0V
25179	HD 35203	3.9 ± 0.1	25.1 ± 19.7	B6V
25184	HD 34903	7.5 ± 0.7	42.4 ± 9.6	K5
25202	* 8 Lep	10.0 ± 0.7	21.7 ± 2.5	B2IV
25223	HR 1781	8.5 ± 0.4	5.4 ± 5.2	B1.5V
25226	HD 34853			K0II-III
25235	V* V1156 Ori	6.3 ± 0.2	15.1 ± 4.6	B3vw He wk
25241	HD 35305	3.5 ± 0.2	53.9 ± 13.0	B6.5IV-V
25260	HD 35108	4.0 ± 0.0	11.2 ± 1.3	B5
25281	V* eta Ori	14.7 ± 1.1	10.0 ± 0.4	B1V + B2
25284	V* V425 Aur	6.2 ± 0.2	50.1 ± 6.4	B5
25288	HR 1786	6.3 ± 0.2	48.8 ± 4.8	B4IVn
25291	HR 1776			B9III
25302	* 25 Ori	11.9 ± 0.3	10.0 ± 2.5	B1V:pe
25327	HD 35502			B5V
25336	BELLATRIX	8.8 ± 0.2	22.6 ± 3.0	B2III
25337	HD 35395	12.5 ± 0.1	8.0 ± 1.0	B0.5III:
25338	HD 35549	2.0 ± 0.0	20.1 ± 9.3	A0...
25339	HD 35949			F3Ib/II
25363	HD 35327	7.1 ± 0.5	47.1 ± 2.8	F2
25368	HD 35575	5.0 ± 0.0	7.1 ± 6.0	B3V
25378	HR 1803	6.9 ± 0.1	29.3 ± 3.5	B2.5V
25386	HD 35304	6.3 ± 1.0	63.1 ± 29.4	K5
25410	* 113 Tau	6.8 ± 0.2	0.3 ± 0.2	B2Vn
25428	ELNATH			B7III
25447	HD 34803	2.0 ± 0.0	20.1 ± 8.4	A0
25473	V* psi Ori	10.0 ± 0.4	22.5 ± 1.9	B2IV
25477	HD 35730	5.0 ± 0.0	50.1 ± 4.4	B5p
25480	HD 35777	6.8 ± 0.1	0.3 ± 0.2	B2V
25492	HR 1804			B9Ib
25493	HD 35762	7.2 ± 0.3	1.4 ± 0.5	B2V
25496	HD 35792	5.9 ± 0.1	7.3 ± 2.5	B3V
25499	* 115 Tau	5.0 ± 0.0	54.8 ± 5.6	B5V
25500	V* V362 Aur			M1Ib
25508	HD 278199			B8Ib
25522	HD 35885	2.0 ± 0.1	20.1 ± 9.3	A0
25539	* o Tau	7.0 ± 0.0	22.0 ± 2.5	B2.5IV
25546	HD 35929	3.6 ± 0.3	1.1 ± 0.9	A5
25557	HD 35899	4.5 ± 0.5	27.6 ± 5.0	B5V...
25558	HD 35653	15.6 ± 1.3	7.7 ± 1.5	B0.5V
25560	HD 35573	6.9 ± 0.9	50.1 ± 12.6	K2
25563	HD 35670	3.0 ± 0.0	63.1 ± 15.6	B8
25565	V* IU Aur	5.0 ± 0.0	1.0 ± 0.6	B3Vnne
25567	HD 35881	2.9 ± 0.1	15.8 ± 12.2	B8V
25582	HR 1820	8.4 ± 0.3	9.9 ± 1.3	B2V
25606	NIHAL			G5II
25643	HD 36032	3.0 ± 0.2	10.0 ± 6.8	B8

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
25648	HD 36013	6.0 ± 0.2	7.6 ± 2.2	B3V:n
25655	HD 36012			B5Vne
25689	HD 244138	2.5 ± 0.3	1.4 ± 1.1	G5.8Ve...
25712	HD 36151	5.6 ± 0.4	63.1 ± 14.6	B5V
25725	HD 36115	2.9 ± 0.1	11.3 ± 8.0	B8
25730	HD 35984	2.4 ± 0.1	3.4 ± 1.3	F6III
25733	V* LY Aur	12.0 ± 0.8	0.1 ± 0.0	O9.5III
25740	V* AS Cam	2.9 ± 0.1	25.1 ± 20.4	B8V + B9
25751	HR 1833	9.3 ± 0.3	17.1 ± 3.5	B2V
25752	HD 36165	3.0 ± 0.1	2.7 ± 0.4	B7V
25777	HD 36113	5.0 ± 0.0	39.3 ± 8.9	B5
25786	HR 1840	9.9 ± 0.1	20.9 ± 2.3	B2IV-V
25793	HD 36112	3.0 ± 0.1	2.1 ± 0.6	A3
25813	CCDM J05308+0557AB	5.0 ± 0.0	22.7 ± 6.3	B5V
25818	HD 36312	3.0 ± 0.0	63.1 ± 16.7	B8
25844	HD 36262	5.2 ± 0.1	0.7 ± 0.4	B3V
25848	HD 244354	1.5 ± 0.1	9.8 ± 1.2	G0
25850	HD 36340	7.6 ± 0.6	4.6 ± 4.2	B2V
25859	* eps Col			K1II/III
25861	CCDM J05313+0318AB	9.2 ± 0.3	16.3 ± 2.8	B1.5V
25865	BD-15 1067	2.0 ± 0.0	20.1 ± 9.3	A0
25869	HR 1848	10.0 ± 0.4	18.7 ± 2.5	B2V
25877	V* V428 Aur	6.3 ± 0.9	63.1 ± 29.8	K5
25881	HD 36392	5.0 ± 0.0	1.0 ± 0.6	B3V
25886	HD 36337	5.0 ± 0.0	43.1 ± 4.6	B5
25897	HD 36429			B5V
25898	HD 36487			B5V
25902	HD 36457	6.6 ± 0.3	55.2 ± 7.3	G5
25906	HD 36212	7.0 ± 0.4	31.5 ± 4.7	B3II
25923	* ups Ori	21.7 ± 3.0	5.5 ± 1.1	B0V
25930	V* del Ori	19.4 ± 0.1	6.5 ± 0.5	O9.5II
25943	HD 36280	10.0 ± 0.3	0.2 ± 0.1	B0.5IVn
25945	V* CE Tau	12.1 ± 0.4	17.7 ± 0.8	M2Ib
25954	V* V1101 Ori			B7III
25969	HD 36374			B5
25979	HD 36549	3.6 ± 0.3	10.0 ± 7.0	B6Vwp...
25980	HR 1861	12.1 ± 0.5	12.8 ± 0.9	B1IV
25985	ARNEB	12.2 ± 0.7	16.1 ± 0.6	F0Ib
26020	HR 1863	5.9 ± 0.1	37.8 ± 8.7	B4Vn
26048	V* V1107 Ori	3.4 ± 0.2	1.6 ± 0.6	B6Vwp...
26057	HR 1846			B9IIIp...
26062	HD 36546	2.7 ± 0.0	7.0 ± 2.8	B8
26063	V* VV Ori	12.5 ± 0.1	11.8 ± 1.4	B1V
26064	* 120 Tau	10.0 ± 0.8	22.5 ± 3.4	B2IV-Ve
26066	HD 37227			F0II
26069	V* bet Dor	7.3 ± 0.3	43.3 ± 4.3	F6Ia
26070	HD 36710	7.1 ± 0.4	47.6 ± 9.7	K2
26085	HD 36854			A3II/III
26093	* 35 Ori	5.0 ± 0.0	7.3 ± 6.1	B3V
26098	HR 1871	7.5 ± 0.3	1.7 ± 1.4	B2V
26106	HR 1873	7.1 ± 0.1	9.3 ± 0.1	B2.5V
26116	HD 36468	2.4 ± 0.0	51.5 ± 24.5	B9
26120	HD 36827	5.0 ± 0.0	39.5 ± 7.0	B5
26132	HD 36776	2.8 ± 0.3	10.0 ± 6.8	B8
26154	HD 36841	20.0 ± 0.0	0.1 ± 0.0	O8
26176	Lambda Ori X-5	15.3 ± 0.5	7.2 ± 0.4	B0IV...
26182	V* V1045 Ori			B8IIIp
26188	HD 36898			B5
26197	HR 1886	15.5 ± 1.6	10.0 ± 0.4	B1Vvar
26199	HR 1887	15.6 ± 0.0	9.5 ± 1.0	B0.5V
26207	CCDM J05351+0956AB	26.6 ± 4.7	3.4 ± 0.6	O...
26212	HD 36895	8.1 ± 0.3	18.0 ± 3.7	B2IV-V
26213	HD 36954	6.2 ± 0.1	14.9 ± 0.9	B3V
26215	HR 1883			B9IIIMNp...
26226	HD 37063	2.0 ± 0.0	11.0 ± 0.9	A0
26233	HR 1890	9.0 ± 0.2	3.8 ± 2.7	B1.5V
26234	HR 1891	8.0 ± 0.2	25.0 ± 2.5	B2.5V
26235	* 43 Ori	15.7	0.2 ± 0.1	O9.5Vpe
26237	* c Ori	11.9 ± 0.9	6.8 ± 1.3	B2III...
26241	* iot Ori	28.3 ± 10.7	3.4 ± 0.3	O9III
26243	V* WW Lep	5.0 ± 0.0	34.0 ± 14.1	B5IV/V
26248	HD 36819	5.9 ± 0.1	21.0 ± 6.1	B2.5IV
26251	HD 37313	2.5 ± 0.1	46.7 ± 26.7	B9IV
26257	HR 1898	7.2 ± 0.2	21.1 ± 0.8	B2.5IV
26258	HD 37061	13.5 ± 1.5	0.1 ± 0.1	B1V
26263	V* V1377 Ori	7.0 ± 0.2	38.5 ± 4.4	B3IV
26264	V* iot Men			B8III
26291	HR 1878	6.3 ± 0.3	68.6 ± 22.2	K0
26304	V* V1179 Ori	2.9 ± 0.0	31.6 ± 14.5	B8V
26309	HR 1915	1.8 ± 0.0	31.6 ± 19.2	A2III/IV
26311	V* eps Ori	36.3 ± 6.2	3.3 ± 0.3	B0Ia
26314	HR 1906	6.4 ± 0.1	21.3 ± 5.0	B3Vvar
26345	HR 1911	12.0 ± 0.2	6.8 ± 1.2	B1V...
26354	BD+34 1113	6.8 ± 0.0	0.3 ± 0.2	B2Ve
26355	HD 37327	2.0 ± 0.0	25.1 ± 13.1	A0V
26364	HD 36949	6.2 ± 0.6	63.7 ± 14.6	K0
26365	HD 245380	2.8 ± 0.2	10.0 ± 6.8	B8
26369	CD-48 1893	0.7 ± 0.1	25.4 ± 12.0	K6Ve
26373	V* UY Pic	1.0 ± 0.0	23.1 ± 8.8	K0V
26386	HR 1908			K4II SB
26395	HR 1919	1.9 ± 0.0	13.0 ± 2.3	A2V
26397	HD 37032	10.2 ± 0.3	0.2 ± 0.1	B0.5V
26405	HD 37272	5.9 ± 0.4	56.9 ± 10.5	B5V
26414	HR 1913	7.7 ± 0.2	12.5 ± 0.8	B2IV-V
26426	* 20 Cam			G8II-III
26427	HR 1918	9.7 ± 0.3	5.1 ± 1.8	B1Vvar
26439	CCDM J05376-0125AB	6.3 ± 0.5	39.8 ± 4.4	B4V
26442	V* V1378 Ori	7.8 ± 0.2	2.7 ± 0.1	B1.5V
26449	HD 245546	2.6 ± 0.1	7.0 ± 2.9	B8
26451	* zet Tau	10.0 ± 1.1	22.0 ± 0.9	B4IIIp
26453	HD 37484	1.5 ± 0.0	16.9 ± 4.0	F3V
26464	V* V1379 Ori	4.0 ± 0.0	11.2 ± 9.5	B5V
26471	HD 37331	1.9 ± 0.0	39.8 ± 25.8	A2
26477	HR 1923	9.8 ± 0.1	21.2 ± 2.5	B2IV-V
26481	HD 37342			B5V
26487	HR 1920			B8III
26508	HD 37397	8.4 ± 0.3	9.7 ± 1.7	B2V
26527	HD 245637			B3
26535	HR 1933	8.4 ± 0.3	17.9 ± 3.4	B1.5IV
26551	2MASS J05384561-0235588			B0
26566	HD 245770			Bpe
26579	HD 37525	4.0 ± 0.0	13.4 ± 9.5	B5V
26581	HD 37526	5.9 ± 0.2	7.3 ± 2.5	B3V
26594	* ome Ori	12.0 ± 3.0	0.1 ± 0.1	B3IIIe
26599	HD 37387	6.2 ± 0.7	63.1 ± 22.1	K1Ib
26602	HR 1944	6.8 ± 0.4	42.5 ± 3.5	B4
26606	V* V433 Aur	9.1 ± 0.2	21.0 ± 3.0	B2IV-V
26611	HD 37366	15.0 ± 1.1	1.2 ± 1.2	O9.5V
26621	HD 37852	2.6 ± 0.0	7.0 ± 2.9	B8V
26640	* 125 Tau	5.0 ± 0.0	32.6 ± 1.3	B3IV
26683	HD 37674	5.0 ± 0.0	1.0 ± 0.7	B3Vn
26687	HD 37659	2.0 ± 0.0	11.0 ± 0.9	A0
26712	HR 1938			B9.5III-IVp
26713	HR 1950	9.4 ± 0.3	8.4 ± 2.4	B1.5V
26718	V* NO Aur			M2SIab
26727	CCDM J05408-0156AB	14.6 ± 5.1	5.6 ± 1.3	O9.5Ib SB
26728	V* V1051 Ori			B9.5IIIp Si
26736	HR 1952	8.5 ± 0.3	18.4 ± 2.5	B2IV-V
26742	V* V901 Ori	6.7 ± 0.3	1.6 ± 1.4	B2IV
26743	HD 37777	7.1 ± 0.5	45.7 ± 5.3	K2
26752	HD 37806	3.7 ± 0.3	1.2 ± 0.9	A0
26755	HD 37949	3.0 ± 0.1	20.0 ± 16.0	B8V
26772	HD 38303	1.9 ± 0.1	39.8 ± 26.8	A2mA7-A9

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
26777	* 126 Tau	6.6 ± 0.1	35.1 ± 4.8	B3IV...
26785	HD 37889	7.5 ± 0.4	1.5 ± 0.5	B2V
26803	HD 37614	7.6 ± 0.3	19.7 ± 0.8	B2III
26816	HD 37903	7.9 ± 0.1	0.4 ± 0.1	B1.5V
26821	HR 1962	6.7 ± 0.2	50.1 ± 6.4	B4/B5III
26845	HD 246338	7.0 ± 0.3	28.4 ± 2.9	B...
26872	HD 37657	7.9 ± 0.4	28.8 ± 4.8	B3Vne
26875	HD 246417	4.0 ± 0.0	10.0 ± 0.8	B5
26889	HD 37737	10.2 ± 0.3	0.2 ± 0.1	B0II:
26939	HD 38087			B5V
26943	HD 38354			B8/B9III
26954	HD 246803	1.8 ± 0.0	12.7 ± 2.5	A2
26955	HD 38120	2.7 ± 0.2	2.6 ± 1.3	A0
26964	HR 1961	7.8 ± 0.2	23.2 ± 4.0	B2.5Ve
26993	HD 246706	2.7 ± 0.2	10.0 ± 6.8	B8
26998	V* V1165 Tau	11.4 ± 0.7	4.4 ± 2.2	B1Vpe
27039	HD 38034	5.0 ± 0.1	56.6 ± 7.2	B5
27059	V* V351 Ori	1.7 ± 0.1	11.0 ± 2.7	A7IIIvar
27103	HD 38426	6.5 ± 0.2	25.1 ± 4.2	B3V
27117	HD 38352	2.0 ± 0.0	20.1 ± 9.3	A0
27172	HD 38232			F5II
27180	HD 38233	2.4 ± 0.1	39.7 ± 27.5	B9
27192	HR 1974	1.9 ± 0.0	50.1 ± 36.3	A3e...
27198	HD 247149	5.1 ± 0.1	5.2 ± 3.9	B3
27204	HR 1996	11.2 ± 1.0	12.6 ± 3.2	B1IV/V
27224	HD 38188	4.6 ± 0.4	31.6 ± 2.2	B5V
27227	HD 37856	7.9 ± 0.7	37.4 ± 6.6	K0
27243	HR 2008			K0/K1II
27265	* 129 Tau			B8IIIMNp...
27287	HD 38477	6.2 ± 0.7	63.7 ± 14.6	K0
27300	HD 38376	2.0 ± 0.0	20.1 ± 9.3	A0
27303	HR 2005	4.6 ± 0.3	51.5 ± 22.5	B5III
27309	V* V1380 Ori	4.0 ± 0.0	13.7 ± 6.5	B5
27321	* bet Pic	1.9 ± 0.1	8.1 ± 1.7	A3V
27337	HD 37764	1.9 ± 0.0	35.9 ± 22.4	A2
27348	HD 38675	7.9 ± 1.0	37.4 ± 10.5	K5
27364	* 133 Tau	7.4 ± 0.1	4.4 ± 3.8	B2IV-V
27366	SAIPH	15.5 ± 1.0	11.1 ± 0.6	B0.5Iavar
27368	HD 38755	3.6 ± 0.1	2.5 ± 1.3	B6V
27375	HD 37866	2.0 ± 0.0	20.1 ± 9.3	A0
27380	HD 38503			F8Ib-II
27390	HD 38672	5.0 ± 0.0	47.4 ± 1.6	B5
27395	HD 38800	2.8 ± 0.1	15.8 ± 8.2	B8
27438	HD 38868	2.0 ± 0.0	20.1 ± 9.3	A0
27447	HD 38658	5.6 ± 0.5	42.5 ± 3.2	B3II
27452	HD 38856	3.0 ± 0.0	39.8 ± 15.4	B8
27465	HD 247901			G0/G1Ie...
27478	HD 38750			K2II
27505	HD 39235			B5V
27512	HR 2032	8.8 ± 0.4	28.5 ± 5.2	K1III
27532	HD 39353	2.9 ± 0.1	20.0 ± 11.4	Ap...
27536	HD 39034	2.0 ± 0.0	20.1 ± 9.3	A0
27545	HD 39033	2.4 ± 0.1	59.5 ± 18.2	B9
27548	HD 38852	4.7 ± 0.3	38.2 ± 17.1	B5
27607	HD 38775	3.0 ± 0.1	39.8 ± 22.6	B8
27634	CCDM J05510+6545AB	7.2 ± 0.5	39.8 ± 2.0	F8
27642	HD 39097	6.9 ± 0.2	50.1 ± 6.5	K0
27658	* 55 Ori	8.5 ± 0.3	18.2 ± 3.5	B2IV-V
27665	HD 39378	2.4 ± 0.1	44.3 ± 34.7	B9V
27683	HD 248434			B...
27699	HD 248411			B
27750	* 56 Ori	7.0 ± 0.5	47.7 ± 7.8	K2IIvar
27773	HD 39398			G6II-III
27778	HR 2028			M2II:
27800	HD 39304			B8III
27810	V* lam Col	4.0 ± 0.0	56.6 ± 26.0	B5V
27841	HD 39455			F5II
27842	HD 39557			B5III
27850	HD 248753	9.9 ± 0.1	5.1 ± 5.3	B1Vnne
27884	HD 39716	4.6 ± 0.4	36.2 ± 3.1	B5
27900	HR 2048	6.9 ± 0.2	50.1 ± 9.1	G9II
27929	HR 2058	8.5 ± 0.4	2.2 ± 1.5	B1.5V
27937	HR 2089	6.8 ± 0.1	26.3 ± 4.9	B3V
27941	HD 39680	15.0 ± 10.0	2.3 ± 2.2	O6:pe SB
27954	HD 39526	6.2 ± 0.5	63.7 ± 14.6	K0
27965	* 57 Ori	10.0 ± 0.2	18.7 ± 2.3	B2V
27989	V* alf Ori	9.1 ± 0.4	29.1 ± 3.8	M2Ib
28008	CD-28 2561	15.1 ± 9.9	2.2 ± 2.2	G:
28049	BD+47 1213	4.8 ± 0.2	44.9 ± 10.9	B5
28069	HD 40009	2.0 ± 0.0	20.1 ± 9.3	A0
28072	HD 249218	3.1 ± 0.1	45.0 ± 35.3	B8
28089	HD 40068	2.0 ± 0.0	20.1 ± 9.3	A0
28142	V* V1384 Ori	7.8 ± 0.4	5.0 ± 3.8	B2V
28199	* gam Col	8.9 ± 0.1	25.4 ± 2.7	B2.5IV
28202	HD 40114	2.3 ± 0.1	45.1 ± 32.6	B9
28211	HD 40355	3.0 ± 0.0	38.3 ± 12.9	B8IV
28220	HD 249590	4.8 ± 0.2	42.4 ± 13.4	B5
28237	* 139 Tau	10.0 ± 1.3	22.5 ± 3.4	B1Ib
28244	HD 40110			B9II
28261	HD 40317	2.0 ± 0.0	20.1 ± 8.4	A0
28287	HR 2117			G8II
28361	HD 249845	7.4 ± 0.3	0.9 ± 0.6	B2:V:nn
28364	HD 40160			B5
28370	HR 2109			B8IIIn
28404	V* pi. Aur			M3IIvar
28431	HD 40570			K3Ib
28453	HD 40728	2.9 ± 0.1	12.6 ± 9.2	B8
28469	HD 40530			F2II
28474	HD 41071	1.0 ± 0.0	41.5 ± 14.1	G8V
28489	V* TW Col			B9IIIp SrEu+
28500	HR 2111	7.1 ± 1.0	44.7 ± 9.0	B9Iab
28513	HD 250290	8.9 ± 0.7	23.8 ± 3.3	B3Ib
28539	HD 40971	2.0 ± 0.0	20.1 ± 9.3	A0V
28562	HR 2105	6.3 ± 0.5	63.7 ± 20.9	K0
28574	CCDM J06018-1036AB	5.9 ± 0.1	63.1 ± 14.5	B5III
28607	V* EI Cam	8.8 ± 0.9	28.2 ± 7.2	K5
28675	HR 2140			K3II/IIICNv
28702	HD 41368			B5III/IV
28711	HIP 28711	15.0 ± 1.1	0.2 ± 0.1	O9V
28716	V* chi02 Ori	13.7 ± 1.4	15.4 ± 0.5	B2Iavar
28718	HD 41253			B5
28724	HD 41670			G8II
28739	HD 41383			B9.5III
28744	HR 2142	12.5 ± 1.2	14.4 ± 0.9	B2Vne+
28756	* 72 Col	8.6 ± 0.2	13.5 ± 6.6	B2V
28769	HD 41701			G8Ib/II
28783	HD 40978	8.0 ± 0.3	27.7 ± 4.3	B3Ve
28802	HD 41285	4.0 ± 0.0	10.0 ± 8.4	B5
28809	HD 41434	2.4 ± 0.0	61.8 ± 34.0	B9
28920	HD 41418	2.4 ± 0.1	56.2 ± 31.2	B9V
28921	HD 41842	0.8 ± 0.0	60.4 ± 12.4	K1V
28923	HD 41883	3.0 ± 0.1	31.6 ± 26.8	B8/B9V
28930	V* V394 Aur			M3II comp
28939	HD 41455	3.0 ± 0.0	59.4 ± 15.5	B8V
28949	HR 2154			B5IV
28973	V* XZ Lep	6.2 ± 0.1	14.3 ± 1.4	B3V
28981	HD 41756			B5
28984	V* YY Lep			M3II/III
28992	HR 2170	6.4 ± 0.1	50.1 ± 8.9	B4Vnn
29000	HD 41676	7.6 ± 0.9	38.5 ± 7.6	K2
29038	* 67 Ori	6.6 ± 0.1	25.3 ± 5.9	B3IV
29049	HD 41969	2.0 ± 0.0	20.1 ± 9.3	A0
29062	HD 41541	5.6 ± 0.4	63.1 ± 15.4	B5
29092	HD 44187	2.0 ± 0.0	11.0 ± 0.9	A0/A1V
29106	V* V916 Ori	7.4 ± 0.5	13.9 ± 3.7	B2.5V
29126	CCDM J06084+1358AB	9.1 ± 0.1	0.2 ± 0.1	B1V

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
29129	HR 2187			B8II
29131	HD 42447	3.0 ± 0.1	15.8 ± 12.5	B8IV
29148	HD 41940	7.5 ± 0.5	4.0 ± 3.8	B2V
29177	HD 42204			B5
29188	HD 41994			G5II
29196	HR 2169	7.3 ± 0.7	39.8 ± 3.5	K4III
29201	HD 42259	12.0 ± 0.8	0.1 ± 0.0	B0V
29213	HD 42918	5.5 ± 0.4	34.4 ± 4.5	B4V
29216	HD 42088	15.1 ± 9.9	2.2 ± 2.2	O6
29258	HD 42334	3.1 ± 0.1	57.3 ± 28.0	B8
29263	V* AF Col			M2II/III
29276	V* del Pic	7.9 ± 0.1	39.8 ± 4.4	B0.5IV
29310	HD 42352	10.0 ± 1.3	12.6 ± 1.5	B1III
29317	HD 41689	9.5 ± 0.5	2.5 ± 2.5	B1Vn...
29321	V* V1388 Ori	9.8 ± 0.6	15.8 ± 1.2	B2V
29326	HR 2184			K1II
29360	HD 42379	9.0 ± 0.1	12.4 ± 1.4	B1II
29362	HD 42680			K2II/III
29364	HD 42456			G5Ib
29387	HD 42748	5.0 ± 0.0	4.3 ± 3.1	B3V
29392	HD 42601	2.0 ± 0.0	41.5 ± 28.3	A0
29416	V* TV Gem	7.3 ± 1.1	44.1 ± 9.2	M1:Iavar
29417	HR 2205	10.0 ± 0.1	20.0 ± 2.1	B2V
29426	* ksi Ori	6.6 ± 0.1	34.6 ± 4.9	B3IV
29434	* 69 Ori			B5Vn
29435	HD 42454			G2Ib
29446	HD 42655	7.1 ± 0.1	0.7 ± 0.4	B2V
29464	HD 43071	7.5 ± 0.3	31.6 ± 5.4	B3Vn
29465	HD 42849			B9.5III
29470	HD 42915	1.8 ± 0.0	14.0 ± 3.7	A3V
29488	V* IP CMa			B5II/III
29490	* 36 Cam			K2II-III
29522	HD 42758			B8III
29539	HD 43088	2.6 ± 0.1	50.7 ± 13.6	B9III/IV
29563	HD 42908	8.9 ± 0.3	14.7 ± 2.0	B2Ve
29581	HD 42767	6.2 ± 0.2	63.1 ± 15.5	K5
29603	HD 43293	2.0 ± 0.0	20.1 ± 9.3	A0V
29606	HD 42736	2.0 ± 0.0	20.1 ± 8.4	A0
29629	HR 2224	5.0 ± 0.0	27.3 ± 14.3	B5V
29636	HD 43044	3.0 ± 0.1	35.7 ± 26.7	B8V
29639	HD 42527	6.2 ± 0.6	63.7 ± 13.7	K0
29665	HD 43080	1.8 ± 0.0	25.1 ± 13.1	A
29678	HR 2222	9.9 ± 0.1	7.6 ± 3.4	B1V
29681	HD 42782	5.8 ± 0.6	56.9 ± 7.9	B5
29687	V* LR Gem	12.0 ± 0.8	0.1 ± 0.0	B0IV
29694	HD 43152			K5Ib
29703	HD 43415	5.0 ± 0.2	5.4 ± 4.2	B4:Vn
29705	HR 2237			B9III
29713	HD 43286	5.0 ± 0.0	40.3 ± 9.2	B5
29715	HD 43301	4.0 ± 0.0	28.2 ± 15.4	B5
29731	HD 43185	7.9 ± 0.8	37.4 ± 8.4	K2III
29736	* 73 Ori			B9II-III
29739	HR 2232	6.1 ± 0.1	28.9 ± 3.0	B3IV
29744	HD 43208	4.5 ± 0.3	22.2 ± 9.0	B5
29763	HD 42721			G8II-III
29771	HR 2249	7.2 ± 0.2	0.3 ± 0.2	B2/B3V
29798	HR 2235			K5II
29807	* kap Col			G8II
29839	HR 2248			B7III
29849	HD 43496			B8II
29856	HD 43480			G5II
29890	HD 43331	6.3 ± 0.8	51.0 ± 3.0	K5
29900	HD 43861			B5IV/V
29901	V* V452 Aur	10.0 ± 0.9	25.1 ± 4.7	K2
29941	HR 2266	7.3 ± 0.1	14.2 ± 1.5	B2/B3V
29990	HR 2281			G2Ib
30004	HD 44102			B8III/IV
30011	HR 2271	7.6 ± 0.3	39.8 ± 4.6	B3II/III
30015	HD 43753	12.0 ± 0.1	0.5 ± 0.3	B0.5III
30019	V* V1155 Ori			B9IIIsp...
30034	V* AB Pic	1.0 ± 0.0	19.6 ± 6.1	K2V
30046	V* LU Gem	19.2 ± 1.1	5.8 ± 0.9	B0II
30049	* 12 Gem	7.0 ± 0.6	43.3 ± 3.2	A0II
30073	* 7 Mon	7.7 ± 0.1	19.8 ± 2.7	B2.5V
30099	HR 2269			K3Ib
30122	* zet CMa	7.4 ± 0.2	32.3 ± 6.9	B2.5V
30133	HD 44290	1.9 ± 0.1	12.0 ± 1.9	Ap...
30140	HD 44322	2.0 ± 0.0	20.1 ± 9.3	A0Vn...
30143	HR 2288	12.1 ± 0.3	14.5 ± 0.7	B3V
30169	HR 2276	7.5 ± 0.9	29.0 ± 7.2	B5III
30207	HD 44485			B7/B8III
30214	HR 2284	11.9 ± 0.1	9.0 ± 2.2	B1Vpe SB
30275	HD 43771	1.9 ± 0.0	39.8 ± 26.8	A2
30277	* del Col			G7II
30314	HD 45270	1.1 ± 0.0	27.3 ± 1.5	G1V
30324	V* bet CMa	12.5 ± 0.1	14.9 ± 1.3	B1II/III
30331	HD 44391			K0Ib
30341	HD 44638	6.7 ± 0.3	60.8 ± 12.2	K0
30351	V* IM Mon			B5V
30363	HD 44585	3.0 ± 0.0	2.7 ± 0.3	B7V
30382	HR 2292	6.4 ± 0.1	19.1 ± 3.7	B3V
30393	HD 44597	15.0 ± 1.1	0.2 ± 0.1	O9V
30407	V* V721 Mon	9.2 ± 0.6	27.4 ± 5.0	K5
30418	HD 45098	5.9 ± 0.2	63.1 ± 15.4	B5V
30420	HR 2303	6.3 ± 0.6	60.3 ± 13.9	K2/K3III
30426	V* IU CMa			B8III
30432	HD 44474	6.5 ± 1.2	53.6 ± 19.5	K5
30433	HD 44738			A2Ib
30438	CANOPUS	9.2 ± 0.3	26.8 ± 3.3	F0Ib
30444	HR 2316			K1II/III
30446	HD 256413			B5III
30468	HR 2309	6.0 ± 0.1	41.6 ± 5.9	B4V
30484	HD 44633	7.6 ± 0.5	39.8 ± 3.3	K0
30518	HR 2297			B8IIIn
30520	V* psi01 Aur	14.6 ± 1.8	11.8 ± 1.7	K5Iabvar
30538	HD 45142			B8/B9II
30541	V* T Mon			K1Iabv SB
30580	HD 45153	3.4 ± 0.1	39.1 ± 9.3	B7V
30597	HD 43810	6.8 ± 0.9	63.7 ± 18.6	K2
30660	HR 2325	7.8 ± 0.1	24.9 ± 3.7	B2.5V
30675	HR 2328	2.0 ± 0.0	11.0 ± 0.9	A0Vn
30700	* 9 Mon	5.5 ± 0.4	31.6 ± 9.8	B4V
30715	HD 45495			B8/B9III
30717	HR 2334			K1II
30725	HD 257546	1.9 ± 0.1	12.3 ± 1.2	A2
30738	HD 45207			F8II
30743	HD 45566	5.6 ± 0.4	37.8 ± 3.8	B4V
30754	HD 45515	2.8 ± 0.1	12.6 ± 9.2	B8
30772	* 10 Mon	9.7 ± 0.2	17.6 ± 2.8	B2V
30776	HD 45629			B9III
30788	* lam CMa	5.6 ± 0.4	39.8 ± 5.0	B4V
30800	HD 45677	7.4 ± 1.6	0.4 ± 0.2	Bpe (shell)
30840	HR 2364	5.9 ± 0.1	39.9 ± 9.4	B5IV
30844	HD 45165	3.2 ± 0.1	57.3 ± 40.9	A
30863	HD 45674	7.6 ± 0.5	44.7 ± 1.4	F0
30867	ADS 5107 ABC	8.7 ± 0.2	28.9 ± 4.2	B3Ve
30883	* 18 Gem			B6III
30943	HD 45623			B5V
30955	HD 45389	2.0 ± 0.0	20.1 ± 9.3	A0
30957	HD 45981			A3II/III
30961	HD 45789	6.1 ± 0.2	28.4 ± 3.1	B2.5IV-V
30986	HR 2367	6.5 ± 0.3	60.8 ± 11.0	K0
31011	HD 45975	3.0 ± 0.0	39.8 ± 8.4	B8V
31024	HR 2373	8.2 ± 0.5	26.4 ± 3.5	B2III
31028	HD 46131	5.0 ± 0.0	12.6 ± 3.6	B4V
31031	HD 45800			G8II
31037	HR 2380	7.9 ± 0.1	25.8 ± 4.1	B3IV/V
31042	HD 46060	2.9 ± 0.2	10.0 ± 6.8	B8

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
31066	HR 2370	9.2 ± 0.3	15.2 ± 2.4	B2V:nne
31068	V* AE Pic	7.0 ± 0.1	30.4 ± 2.5	B3V
31088	HD 46185	5.9 ± 0.1	20.1 ± 1.1	B2/B3II:
31107	HR 2374			B6III
31125	V* ksi01 CMa	12.5 ± 0.8	15.4 ± 0.8	B1III
31178	HD 46446			B2III
31184	HD 259264			A7II
31190	HR 2397	10.0 ± 0.9	22.5 ± 3.4	B2V
31196	HD 46339			B3
31199	HD 46380	9.9 ± 0.1	19.0 ± 1.6	B2Vne
31216	* 13 Mon	12.1 ± 0.7	16.9 ± 2.0	A0Ib
31225	HD 46603	2.0 ± 0.0	20.0 ± 8.2	A1IV/V
31235	HD 259431	3.5 ± 0.1	1.8 ± 0.5	B6pe
31236	HD 46264			Be
31278	HR 2395			B5Vn
31287	HD 46277			K0II
31339	HD 46646	3.0 ± 0.1	39.8 ± 8.1	B8
31344	HD 46644	7.1 ± 0.3	47.6 ± 9.7	K2
31371	V* V730 Mon	4.6 ± 0.4	32.8 ± 2.6	B5
31383	V* RW Mon	2.6 ± 0.1	3.9 ± 1.6	B8V
31384	HD 46833	2.8 ± 0.1	3.0 ± 0.6	B8III
31395	HD 46852	2.4 ± 0.1	40.5 ± 28.3	B9V
31407	HR 2435	7.9 ± 0.2	37.4 ± 4.5	B9III
31446	HR 2409			B8Ib
31463	HD 47061	4.5 ± 0.4	31.1 ± 2.7	B5V
31470	HD 46889	2.0 ± 0.0	20.1 ± 8.4	A0
31485	V* V459 Aur	3.0 ± 0.0	39.8 ± 19.8	B8
31496	HD 46952	2.0 ± 0.0	20.1 ± 9.3	A0
31498	HD 46319	2.0 ± 0.0	20.1 ± 8.4	A0
31501	HD 46397	2.3 ± 0.0	45.9 ± 27.9	B9
31502	HD 47011	3.0 ± 0.1	2.8 ± 0.4	B8/B9III
31515	HD 46868	2.7 ± 0.1	7.0 ± 2.9	B8
31519	HD 46641	1.9 ± 0.0	13.0 ± 1.8	A2
31537	HD 291907	3.0 ± 0.2	10.0 ± 6.8	B8
31541	HD 47209			G8II
31542	HD 46883	11.9 ± 0.9	10.0 ± 1.2	B0.5:V
31558	HD 47139	2.4 ± 0.0	23.7 ± 15.5	B9IV/V
31577	HD 260537			B5
31593	HR 2433	6.4 ± 0.1	20.9 ± 3.9	B3V
31603	HR 2445			K0II
31605	BD+35 1454	2.8 ± 0.3	10.0 ± 6.8	B8
31613	HIP 31613	2.0 ± 0.0	20.1 ± 9.3	A0
31622	HD 47072			F0II
31642	HD 47601			B5III
31649	HD 47369	3.3 ± 0.1	25.9 ± 5.5	B7III/IV
31658	HD 260860	2.0 ± 0.0	20.1 ± 9.3	A0
31670	HD 47600	4.5 ± 0.5	5.2 ± 3.9	B4III
31678	V* AP Men			M5II/III
31685	HR 2451			B8III SB
31700	* 8 CMa			K0II/III
31711	V* AK Pic	1.1 ± 0.0	25.9 ± 5.1	G1/G2V
31766	V* V689 Mon	17.1 ± 2.5	5.7 ± 0.4	O9.5II
31773	HD 47805	3.5 ± 0.1	57.3 ± 7.5	B7/B8V
31784	HD 47924	4.0 ± 0.0	22.0 ± 10.8	B5V
31786	HD 47719	3.0 ± 0.0	2.7 ± 0.4	B7IV
31787	HD 47417	15.2 ± 1.0	5.7 ± 1.6	B0IV
31789	* 52 Aur			B8III
31790	HR 2441			B8IIIn
31795	HD 47397	2.0 ± 0.1	20.1 ± 8.4	A1IV
31807	HD 47099	6.6 ± 1.3	55.3 ± 21.7	K5
31821	V* V356 CMa	1.1 ± 0.0	16.5 ± 4.8	K1V
31824	HD 47851	7.3 ± 0.4	29.0 ± 3.5	B2V
31827	HR 2450	7.5 ± 0.6	40.1 ± 8.5	K2III
31852	CCDM J06396+2816AB			B7III
31853	HD 47376	2.0 ± 0.0	11.0 ± 0.9	A0
31874	HD 47663	6.9 ± 0.3	50.1 ± 6.5	K0
31875	HD 48150	6.3 ± 0.1	17.8 ± 0.1	B3V
31878	2MASS J06395003-6128417	0.8 ± 0.2	12.0 ± 8.1	M1V
31884	HD 47904			B8II
31901	CD-27 3180	4.8 ± 0.2	48.5 ± 1.5	B5
31929	HD 48559			B6III
31935	HD 47993			A5II
31939	V* V641 Mon	6.3 ± 0.1	20.5 ± 1.3	B3Vnn...
31945	HR 2454			B8III
31959	HD 48165	6.3 ± 0.2	21.9 ± 0.6	B3V
31962	HD 48402	5.0 ± 0.1	6.4 ± 3.4	B5III
31978	V* S Mon	20.0 ± 0.0	0.2 ± 0.1	O7
31985	HD 48016	6.8 ± 0.5	50.1 ± 12.0	K2
31992	HR 2461			B8III
32007	HR 2475	6.1 ± 0.1	43.0 ± 6.6	B4V
32019	* 25 Gem			G5Ib
32030	HD 47961	7.5 ± 0.4	1.7 ± 0.7	B2V...
32031	HD 48240			B8II
32053	HD 48055			B5V
32054	HD 48632			F3II
32067	HR 2467	28.3 ± 5.4	2.2 ± 0.4	O6
32069	HD 48287			B8/B9III
32080	HD 48215	5.0 ± 0.0	34.0 ± 6.2	B5V
32088	HD 48282	6.9 ± 0.3	39.8 ± 4.6	B3III
32094	HD 48144	7.5 ± 0.7	42.4 ± 9.6	K5
32104	* 26 Gem	2.0 ± 0.0	50.1 ± 36.3	A2V
32108	HD 49339	5.0 ± 0.1	41.4 ± 1.5	B5V
32112	HD 48425	7.7 ± 0.2	31.6 ± 5.6	B3V
32148	HD 48857	6.3 ± 0.1	50.1 ± 6.5	B5V
32156	HD 48945	3.7 ± 0.1	8.5 ± 5.6	B6/B7V
32193	HD 48574	4.5 ± 0.4	22.7 ± 6.3	B5V
32196	HD 48347	2.4 ± 0.1	45.4 ± 32.9	B9V
32220	HD 262677			B5
32226	HR 2479	17.5 ± 2.5	6.4 ± 1.1	B0III
32246	* eps Gem	19.2 ± 0.0	8.3 ± 0.1	A3mA6-A9
32259	HD 48757			B9III
32260	HD 262936	1.9 ± 0.0	12.0 ± 1.9	A2
32269	HD 49219	4.6 ± 0.4	31.9 ± 24.6	B5/B6V
32278	HD 48774	2.0 ± 0.0	20.1 ± 9.3	A0V
32288	HD 48616	6.9 ± 0.3	47.1 ± 2.8	F5Ib
32292	* 10 CMa	17.4 ± 2.6	8.3 ± 0.5	B2V
32300	HD 48691	9.7 ± 0.3	7.8 ± 3.3	B0.5IV
32310	HD 48872	4.5 ± 0.5	44.7 ± 9.0	B5III/IV
32330	HD 49261	3.1 ± 0.1	35.7 ± 30.6	B8/B9V
32342	HD 49234	4.0 ± 0.0	10.0 ± 1.7	B4III
32354	HD 49260	6.5 ± 0.1	2.8 ± 1.7	B3V
32355	HD 48807	7.0 ± 0.3	43.3 ± 6.4	B7Iab
32356	HD 49259	5.0 ± 0.0	9.3 ± 3.3	B3IV/V
32369	HD 48640			K2:Ib
32375	HR 2513			G3Ib
32385	HR 2501	9.2 ± 0.4	23.8 ± 2.3	B+...
32397	V* V505 Mon			B5Ib
32402	HR 2515	6.2 ± 0.1	63.9 ± 14.6	K3III
32417	HD 49106	3.0 ± 0.2	25.1 ± 20.8	B8V
32418	HR 2507	5.7 ± 0.2	37.8 ± 7.4	B4Vne
32420	HD 49067	5.2 ± 0.3	36.1 ± 4.1	B3II/III
32426	HD 49126			B8III
32433	HD 48587	6.9 ± 0.3	50.1 ± 6.5	K0
32434	HR 2510	7.2 ± 0.1	31.6 ± 0.6	B3Vne
32453	HD 49594	1.9 ± 0.1	25.1 ± 13.1	A2/A3III
32455	HD 49183			G8II
32458	HD 55914	2.0 ± 0.0	20.1 ± 9.3	A1IV/V
32463	* 16 Mon	7.0 ± 0.1	7.2 ± 5.0	B2.5V
32471	HD 49254			B9III/IV
32492	* 11 CMa			B8/B9III
32494	HR 2523			K1II/IIIp+G:
32504	V* HK CMa			B7II/III
32558	HR 2508			M1II
32561	HD 49485			B8II
32584	HD 49370	2.8 ± 0.0	10.0 ± 6.8	B8
32586	HD 49330	12.0 ± 0.8	0.1 ± 0.0	B0:nnpe
32602	HD 49798	15.0 ± 10.0	2.3 ± 2.2	O6

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
32616	HD 49574	2.8 ± 0.1	10.0 ± 6.8	B8V
32627	V* V613 Mon			S5,1
32629	HD 49547	2.0 ± 0.0	45.4 ± 33.2	A1/A2III
32631	HD 49367			K1II
32637	HD 49573			B8II/III
32648	HD 50099			F2II/III
32653	V* EQ Cam	6.2 ± 0.9	63.5 ± 22.5	K5
32669	HD 49793	6.8 ± 1.2	48.2 ± 8.0	K4III
32696	HD 49699	5.0 ± 0.1	63.1 ± 14.9	B5:(ne)
32698	HR 2521			B8IIIn
32717	HD 49715	2.6 ± 0.1	3.9 ± 1.6	B8
32740	V* IS Gem			K3II
32743	V* QU Gem	7.5 ± 0.8	41.3 ± 9.7	K0III SB:
32753	V* OV Gem			B7III
32758	V* KT CMa	2.6 ± 0.1	7.0 ± 2.9	B8
32759	* kap CMa	12.2 ± 0.3	14.9 ± 0.4	B1.5IVne
32761	V* V415 Car			G6II
32766	HD 49787	9.3 ± 0.2	0.5 ± 0.4	B1V:pe
32786	HD 49888	5.6 ± 0.5	63.1 ± 14.6	B5Iab/b
32807	HD 49886	2.6 ± 0.0	3.9 ± 1.6	B8
32810	V* HZ CMa	6.8 ± 0.1	26.3 ± 4.9	B3V
32811	HD 49978	3.2 ± 0.1	10.0 ± 4.9	B7III/IV
32814	* 35 Gem	6.3 ± 0.6	59.4 ± 13.5	K3III
32815	HD 49977	9.8 ± 0.1	10.5 ± 1.4	B6ne
32821	HD 52880			K2II/III
32827	HR 2544	8.0 ± 0.1	25.0 ± 3.8	B2III/IV
32841	HD 50072	6.3 ± 0.4	48.8 ± 5.2	B5III
32864	* 42 Cam	6.4 ± 0.1	50.1 ± 9.5	B4IV
32876	HD 50091	5.8 ± 0.4	49.9 ± 1.9	B3:Ib/II
32877	HD 49038	2.4 ± 0.1	44.1 ± 22.5	B9
32882	HD 50176			B7/B8III/IV
32903	HD 49733	2.0 ± 0.0	20.1 ± 9.3	A0
32911	HD 50261	2.8 ± 0.2	10.0 ± 4.1	B8IV/V
32920	HD 50358			G8/K0IICN..
32923	HD 50138	5.0 ± 0.0	0.5 ± 0.1	B9
32947	HD 50083	12.5 ± 1.3	11.4 ± 1.2	B2Ve
32949	HD 49633			G8II
32988	HD 50393			B5/B6II/III
33005	HD 50228			B5
33006	HR 2575			F5II/III
33013	HD 50463	7.3 ± 0.2	39.8 ± 4.6	B3III
33016	HR 2587			G5Ib/II
33036	HD 50372			G6II
33076	HD 50513	3.1 ± 0.1	60.4 ± 15.8	B8
33092	V* EY CMa	9.0 ± 0.1	22.3 ± 2.1	B1Ib
33104	* 43 Cam			B7III
33113	HD 50705			B8/B9II/III
33117	HD 51491			F3II/III
33119	HD 50737	7.0 ± 0.0	0.3 ± 0.2	B2Vnne
33122	HD 51555			B6III
33177	HD 50849			B8/B9Ib
33182	HD 50939			B2/B3V
33200	HD 50938	5.0 ± 0.0	7.3 ± 4.0	B3Ve
33210	HR 2577	29.1 ± 8.1	4.0 ± 0.5	B3IVe+...
33211	HD 51038			B3V
33219	HD 50481	2.8 ± 0.1	10.0 ± 6.8	B8
33234	HD 51010			B8III
33261	V* V745 Mon	3.0 ± 0.0	25.1 ± 20.8	B8
33263	HD 51054	6.3 ± 0.8	58.7 ± 10.3	K2/K3III
33274	V* V377 CMa			B8III
33300	HD 50767	6.9 ± 0.1	0.4 ± 0.3	B2V
33313	HD 50243	3.2 ± 0.1	57.3 ± 13.1	A
33317	HD 50975			F8Ib:
33330	HR 2598	6.2 ± 0.1	15.4 ± 0.4	B3V
33341	HD 51524			K0II/III
33343	HD 51340			B5V
33345	* 18 CMa	14.7 ± 1.1	11.6 ± 0.6	B9.5V
33347	V* iot CMa	12.5 ± 1.6	15.8 ± 0.5	B3Ib/II
33351	HD 51105	6.2 ± 0.5	60.8 ± 11.4	G5
33376	HD 51361			B9Ib/II
33377	HR 2568			B8III
33391	HD 51360			B7III
33398	HD 52097			K0II/III
33400	HD 51967			B8II
33410	HD 51575	2.5 ± 0.0	17.1 ± 9.4	B8II/III
33414	HD 51481	3.0 ± 0.1	63.1 ± 16.1	B8II
33438	HD 51544			A0II/III
33442	HD 51826	4.0 ± 0.0	58.6 ± 9.6	B4IV
33447	V* HH CMa	8.1 ± 0.4	19.8 ± 3.3	B2III/IV
33463	HD 51511	2.7 ± 0.2	10.0 ± 6.8	B8
33465	HR 2597	6.9 ± 0.2	46.2 ± 1.1	F2Ib-II
33466	BD+84 132	2.0 ± 0.1	20.1 ± 9.3	A0
33473	HD 52300			B7/B8II
33489	HD 51626			G5/G6II/III
33490	HD 51507	7.4 ± 0.5	30.8 ± 2.0	B3V
33492	HR 2611	7.2 ± 0.1	11.9 ± 0.9	B2/B3V
33493	HD 51354	5.0 ± 0.0	1.0 ± 0.6	B3ne
33509	HD 51506	5.0 ± 0.0	54.8 ± 7.5	B5
33511	HD 51821	2.0 ± 0.1	20.1 ± 9.3	A0V
33515	HD 51700	6.8 ± 0.4	57.1 ± 9.7	K0
33532	HR 2614	8.9 ± 0.3	23.8 ± 2.9	B2V
33556	HD 51876			B9IIw
33558	* t Pup	6.4 ± 0.0	22.8 ± 3.6	B4IV/V
33575	HR 2616	8.1 ± 0.2	8.5 ± 3.7	B2V
33577	HR 2638			F2II
33579	ADARA	10.0 ± 1.3	22.5 ± 3.4	B2II
33591	HR 2621	5.6 ± 0.4	0.7 ± 0.4	B3V
33594	HD 51913	2.9 ± 0.2	10.0 ± 6.8	B8V
33610	HD 52220			G0Ib
33611	HD 52138	7.6 ± 0.4	1.8 ± 0.8	B2V
33612	HD 51979			B9III
33621	HD 52115			B8II/III
33635	HD 52165	5.0 ± 0.0	1.0 ± 0.6	B3V
33639	HD 52854			M0II/III
33641	HD 52467	4.6 ± 0.4	27.2 ± 5.8	B5V
33644	HR 2613			B7III
33650	* 40 Gem			B8III
33657	HD 51956			F8Ib:
33663	HD 52112	5.0 ± 0.0	1.0 ± 0.6	B3V
33664	HD 52162	5.9 ± 0.4	50.1 ± 7.1	B4II
33666	HR 2623	7.6 ± 0.1	19.6 ± 1.0	B2III
33673	HD 52356	7.0 ± 0.2	39.8 ± 4.6	B3V(n)
33686	HD 52445			B5III
33695	HD 52349			B5IV
33700	HD 52620			B9/B9.5III
33703	HR 2625	7.1 ± 0.1	31.6 ± 2.4	B3V
33721	HR 2628	8.0 ± 0.2	29.0 ± 4.3	B3Vnn
33723	HD 52266	15.0 ± 1.1	0.2 ± 0.1	O9V
33727	HD 52347			B8II/III
33729	HR 2624			B9III
33735	HD 52329	3.4 ± 0.1	1.6 ± 0.6	B6V
33745	HD 52511			B5IV/V
33754	HR 2627	9.5 ± 0.5	21.2 ± 2.6	B1Ib
33764	HD 52384	3.9 ± 0.1	11.3 ± 9.6	B6V
33769	HD 52597	8.8 ± 0.7	22.5 ± 1.9	B2/B3V
33770	CCDM J07008-2539AB	7.6 ± 0.3	9.3 ± 0.6	B2IV
33774	HR 2641			G8II/III
33775	HD 52616	3.2 ± 0.1	2.7 ± 0.3	B7/B8V
33789	HD 52287	6.3 ± 0.8	63.1 ± 29.0	K5
33796	HD 52614	3.9 ± 0.1	1.4 ± 0.4	B5V
33804	HR 2640	7.4 ± 0.1	23.8 ± 2.1	B2/B3III/IV
33814	HD 52731	5.0 ± 0.0	1.0 ± 0.6	B3V
33825	HD 53142			B8III
33846	HD 52812	7.5 ± 0.2	31.5 ± 0.8	B2V
33856	V* sig CMa	12.2 ± 0.1	16.4 ± 0.5	K4III
33875	HR 2633	8.0 ± 0.3	16.6 ± 3.2	B2IV-V
33877	HD 289531			B2

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT	HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
33883	HD 52929	2.7 ± 0.1	7.0 ± 3.2	B8/B9V	34616	HD 54911	10.0 ± 0.1	10.1 ± 1.5	B1III
33887	HD 53526			F2/F3II	34619	HD 54858			A0II...
33891	V* V926 Mon			M1Ib comp	34634	HD 55349	2.9 ± 0.0	31.6 ± 19.3	B8V
				SB	34669	HD 54995	5.0 ± 0.1	6.0 ± 3.7	B4V
33905	HD 52772			B8III	34708	HD 55397			B7II/III
33922	HD 53252	4.6 ± 0.4	33.0 ± 25.7	B5V	34711	HD 55062	2.9 ± 0.1	14.2 ± 10.7	B8
33927	V* ome Gem			G5II	34719	HD 55135	6.3 ± 0.2	39.8 ± 4.0	B4Vne
33935	HD 53019	2.0 ± 0.0	20.1 ± 9.3	A0V	34725	HD 55213			B7III
33937	HR 2635	6.5 ± 0.7	63.1 ± 13.8	M2III	34729	HD 55345	6.6 ± 0.5	60.6 ± 12.0	G8II/III
33951	HD 52986			B8/B9III/IV	34735	HD 54825			K0II
33953	V* FZ CMa	6.7 ± 0.4	15.5 ± 5.2	B3n	34749	HD 54898	2.0 ± 0.0	20.1 ± 9.3	A0
33971	V* V637 Mon	12.3 ± 0.3	10.1 ± 2.0	B1V	34752	* 63 Aur			K4II-III
33975	HD 53091	5.3 ± 0.3	22.5 ± 2.3	B4Vnn	34773	HD 54824	1.9 ± 0.1	12.7 ± 2.5	A2
33977	V* omi02 CMa	21.4 ± 2.7	7.4 ± 1.3	B3Ia	34786	HD 55523	5.5 ± 0.4	31.6 ± 6.1	B4V
33979	HD 53010			B2.5V	34798	V* MM CMa	7.3 ± 0.1	3.0 ± 0.9	B2IV/V
33987	HD 53035	4.0 ± 0.0	21.2 ± 11.6	B5III	34811	HD 56116	3.4 ± 0.1	33.5 ± 4.8	B7/B8IV/V
34006	HD 53762	8.5 ± 0.3	18.4 ± 2.4	B2IV	34817	V* V363 Pup	5.9 ± 0.1	39.9 ± 9.5	B4V
34026	HD 53003			G0Ib	34818	HD 55419	3.5 ± 0.2	63.1 ± 18.2	B7V
34037	HD 53375			G8II/III	34830	HD 55080			G8II
34041	HD 53344	7.6 ± 0.1	19.6 ± 1.6	B2/B3V	34832	HD 55493			A0/A1Ia
34045	* gam CMa			B8II	34851	HD 56023	9.3 ± 0.3	18.5 ± 3.3	B3Vn
34048	HD 53373	6.9 ± 0.1	1.9 ± 0.9	B2III/IV	34852	HD 55538	10.0 ± 0.5	15.7 ± 1.4	B2Vn(e)
34055	HR 2651	8.8 ± 1.1	29.2 ± 7.9	K5	34872	HD 55561			B8II/III
34066	HR 2656			B9IIIn	34888	HR 2723	6.3 ± 0.5	63.7 ± 21.5	K0
34067	HD 53461	5.3 ± 0.3	18.1 ± 0.8	B3III	34894	HD 55692	6.3 ± 0.3	15.1 ± 3.0	B3V
34080	V* LT CMa	6.3 ± 0.3	50.1 ± 6.4	B5III	34898	V* HO CMa			B5V
34088	V* zet Gem	6.9 ± 0.1	47.6 ± 11.8	G3Ibv SB	34924	V* GY CMa	15.6 ± 1.6	7.5 ± 0.7	B2II
34093	HD 53547	2.8 ± 0.2	10.0 ± 6.8	B8/B9V	34937	V* GG CMa	7.8 ± 0.1	15.7 ± 2.6	B2III/IV
34108	HD 53602	2.8 ± 0.0	11.0 ± 4.5	B8/B9V	34940	HR 2733	8.0 ± 0.2	16.4 ± 1.7	B2IV
34116	HD 53367	13.5 ± 1.5	0.2 ± 0.1	B0IV:e	34954	HR 2743	8.8 ± 0.2	18.4 ± 2.1	B2III
34127	HD 53676			B9III/IV	34970	HD 55810			K5Ib
34139	HD 53654	4.0 ± 0.0	10.0 ± 1.7	B5V	34981	* 27 CMa	10.9 ± 4.3	0.2 ± 0.1	B3III
34159	HD 53514			B9Ib	34982	HR 2732	7.0 ± 0.8	39.8 ± 7.8	K3III
34167	HD 53728	7.1 ± 0.1	2.7 ± 1.7	B2IV	34983	HD 56044	6.3 ± 0.2	17.2 ± 2.0	B3V
34168	HR 2645			B9IIIn	34986	HD 55885			B0.5III
34176	HD 53668	4.0 ± 0.0	52.0 ± 28.5	B6III	34998	HD 55902			B9III
34178	HD 53623	7.8 ± 0.6	7.1 ± 2.8	B1II/III	34999	HR 2739	15.8 ± 1.8	6.9 ± 1.0	B0III
34196	HD 54343			B8II	35009	HD 56066			B8II/III
34219	HD 53808			B6III	35011	HD 55649	6.3 ± 0.3	68.6 ± 20.7	K0
34227	HD 53885	5.6 ± 0.6	15.1 ± 4.7	B3V:n	35013	HD 56316	6.0 ± 0.5	50.1 ± 6.4	B5V
34236	HD 53754	7.5 ± 0.5	5.0 ± 3.1	B1II	35024	HD 56186			F8/G0II
34247	HD 53314	6.9 ± 0.6	47.8 ± 6.9	G5	35026	HD 56094	7.5 ± 0.2	6.7 ± 1.5	B2IV/V
34248	HR 2680	6.1 ± 0.1	12.6 ± 3.1	B3V	35031	HD 56284	7.4 ± 0.2	15.8 ± 1.0	B2.5V
34281	HD 54063	4.7 ± 0.3	41.5 ± 12.4	B5V	35037	* ome CMa	10.0 ± 0.8	22.5 ± 3.4	B2IV/Ve
34301	V* FN CMa	21.5 ± 3.5	5.5 ± 0.3	B0.5IV	35040	HD 56378	2.6 ± 0.0	50.6 ± 17.7	B9III
34306	HD 53778			B7Ib/II	35051	HD 56211	7.0 ± 0.2	39.8 ± 4.4	B3Vn
34331	HR 2688	7.3 ± 0.2	39.8 ± 4.7	B3III	35054	HR 2759			B4III/IV
34338	HR 2676			B9.5III	35056	HD 59104	1.9 ± 0.0	31.6 ± 19.2	A2IV/Vm...
34339	HR 2691	6.2 ± 0.1	15.9 ± 1.2	B3V	35059	HD 56039	4.4 ± 0.4	22.6 ± 4.2	B5V
34342	V* LW CMa			M2/M3II/III	35075	HD 56376	3.8 ± 0.1	27.0 ± 4.3	B6V
34350	HD 54967	6.1 ± 0.2	42.4 ± 6.0	B3V	35081	HD 56375			K2II/III
34386	HD 55478			B8III	35083	HR 2756	6.3 ± 0.0	18.1 ± 1.7	B2V
34394	CD-29 3927	2.6 ± 0.1	3.9 ± 1.6	B8	35121	HD 56961	6.4 ± 0.8	56.2 ± 7.4	K4III
34412	HD 54555	6.0 ± 0.3	26.1 ± 2.6	B3IV	35142	HD 56814			G8/K0II/III
34444	WEZEN	12.0 ± 0.6	17.6 ± 3.1	F8Ia	35149	HD 56310	9.6 ± 0.4	14.9 ± 1.9	B1/B2III
34485	HD 54575	7.9 ± 0.5	24.5 ± 4.8	B5III	35153	HD 56273	3.6 ± 0.1	49.2 ± 0.9	Asp...
34495	HR 2702	8.1 ± 0.2	21.6 ± 4.3	B3IV/V	35167	HD 56306	3.2 ± 0.2	41.4 ± 14.8	B7V
34528	HD 54816	2.9 ± 0.1	3.0 ± 0.6	B8/B9III	35168	V* MS CMa	5.9 ± 0.2	39.5 ± 3.8	B2III/IV
34536	HR 2694	24.6 ± 0.6	1.7 ± 0.8	O6	35177	HD 56430			B7/B8II
34552	HD 54979			B8/B9III	35190	HD 56581	3.2 ± 0.2	10.0 ± 7.1	B8IV/V
34555	HD 54980			F5II	35194	HD 55725	1.9 ± 0.0	42.9 ± 23.6	A2
34561	V* OS CMa	12.5 ± 0.9	15.0 ± 0.7	B1Ib/II	35202	HR 2769	5.0 ± 0.0	34.0 ± 13.3	B4V
34566	HD 54814	5.0 ± 0.2	63.1 ± 14.4	B5II/III	35208	HD 56579	7.8 ± 0.3	25.1 ± 2.4	B3V
34574	HD 54740	6.7 ± 0.3	4.5 ± 3.3	B2III	35210	* 145 CMa	7.9 ± 0.3	35.8 ± 2.5	K4III
34579	V* LZ CMa	10.0 ± 1.5	19.4 ± 1.5	B2V	35212	V* RY CMa			F7.5Ib
34597	HD 54632	7.1 ± 0.4	47.6 ± 9.1	K2	35217	HD 56501	6.0 ± 0.3	50.1 ± 6.4	B5III
34600	HD 54935			B8III	35219	HD 56200			F4II
34601	HD 55019	8.0 ± 0.3	9.1 ± 1.6	B3V	35226	HR 2770	8.0 ± 0.1	19.3 ± 3.5	B3V
34611	BD+34 1543			B5	35228	* del Vol			F6II

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
35237	HD 56493	2.0 ± 0.0	22.5 ± 10.7	A0
35241	HR 2768			A9II
35264	V* pi. Pup	9.6 ± 0.9	25.1 ± 0.6	K3Ib
35267	HD 56694	4.7 ± 0.3	38.2 ± 5.1	B5V
35278	HR 2760			B8III
35299	BD-02 2031	3.2 ± 0.1	57.3 ± 30.9	B8
35316	HD 56834			B8II
35326	HR 2774	7.0 ± 0.2	2.3 ± 1.3	B5Vn
35329	HD 56848			B6III
35342	HD 56998	3.2 ± 0.1	17.4 ± 6.8	B7III
35347	HR 2789			B8II/III
35352	HD 56800	3.0 ± 0.0	50.1 ± 16.4	B8V
35355	HD 56847	4.0 ± 0.0	43.2 ± 18.7	B5Ib
35358	HD 56955			K0II
35363	HR 2787	10.0 ± 0.5	22.5 ± 3.4	B2V+...
35391	CCDM J07186-3048AB	8.8 ± 0.3	13.9 ± 2.6	B2V
35406	V* NW Pup	8.0 ± 0.1	17.2 ± 3.4	A0V
35408	HD 57808	2.4 ± 0.0	63.1 ± 24.9	B9V
35411	HD 56714			B9III
35412	V* UW CMa	25.7 ± 7.0	2.5 ± 0.6	O7f
35413	HD 57029			B3V
35415	V* tau CMa	27.4 ± 12.0	3.3 ± 0.3	O9Ib
35427	HR 2786	6.3 ± 0.5	63.7 ± 14.6	G2II
35453	HD 57193	10.0 ± 0.6	12.6 ± 3.2	B1III
35461	V* MX CMa	9.3 ± 0.3	16.6 ± 2.0	B2V
35468	HD 57139			B5II/III
35497	HD 57919			K0II/III
35503	HD 57281			B5V
35507	HD 57234			B8II/III
35512	HD 58804			K0II/III
35514	HD 56385	2.0 ± 0.0	20.1 ± 9.3	A0
35517	HD 56243	6.8 ± 0.4	50.1 ± 10.7	K2
35532	HD 57551	3.2 ± 0.2	57.3 ± 16.8	B8III
35536	HD 56442	2.6 ± 0.1	7.0 ± 2.9	B8
35551	HD 57048			G5II
35567	HD 57969	2.0 ± 0.0	15.8 ± 10.7	A1V
35584	V* HH Pup			A3-F5II-III
35590	HD 58092			B9.5II
35597	CD-24 5234			B5
35600	V* AR Mon			K0II SB
35604	HD 57618			B5Vn
35609	HR 2799	6.7 ± 0.2	26.3 ± 4.9	B3V
35611	V* HQ CMa	10.0 ± 0.3	20.2 ± 1.4	B3V
35613	HD 58116			B9.5III
35621	HD 57968	8.0 ± 0.1	6.6 ± 3.2	B2V
35624	V* V389 Gem	1.8 ± 0.0	12.7 ± 2.5	A2
35641	HD 57759	2.0 ± 0.0	23.1 ± 11.2	A0V
35655	BD+81 238	2.8 ± 0.2	10.0 ± 3.9	B8
35669	HD 57539			B5III
35676	V* V389 Car	2.7 ± 0.0	7.0 ± 2.9	Ap...
35683	HD 58112	5.0 ± 0.0	8.2 ± 6.7	B4V
35712	HR 2801			B8III
35720	HD 57494			B9II
35727	HR 2812			B5II/III
35761	HD 58063	6.1 ± 0.2	41.6 ± 5.2	B3III
35762	HD 56788	6.2 ± 0.5	63.7 ± 13.8	K2
35767	HD 58238	6.9 ± 0.4	39.8 ± 4.6	B4III
35795	HR 2819			B3V
35796	HD 57728			G2II
35804	HD 57704	2.5 ± 0.0	67.2 ± 25.4	B9
35817	HD 58082	3.2 ± 0.1	22.5 ± 18.7	B8III
35822	HD 58216	2.7 ± 0.1	10.0 ± 6.8	B8V
35829	HD 58200	3.7 ± 0.2	43.2 ± 16.7	B5Ib/II
35830	HD 58260	5.9 ± 0.2	37.3 ± 3.3	B2/B3Vp
35855	HR 2823	7.0 ± 0.1	39.8 ± 8.4	B2/B3II/III
35859	V* V398 CMa			B9III
35868	HD 57309	2.4 ± 0.1	45.6 ± 33.1	B9
35887	HR 2824	8.8 ± 0.2	19.1 ± 2.4	B2III
35893	HR 2829			B5V
35904	V* eta CMa	19.2 ± 0.8	8.3 ± 0.5	B5Ia
35906	HD 58377	7.2 ± 0.1	39.8 ± 5.8	B3III
35933	HR 2817	13.7 ± 1.0	11.4 ± 0.9	B2Ve
35936	HD 58277			G6II
35951	HR 2825	9.4 ± 0.3	17.9 ± 2.5	B2Vne
35955	HD 58416	7.3 ± 0.2	0.6 ± 0.3	B1/B2II/III
35970	HD 58741	2.9 ± 0.1	10.0 ± 7.1	B8/B9IV
35975	HR 2831	7.0 ± 0.2	47.8 ± 4.2	A2Ib/II
35978	HD 57790			F2II
35988	HD 58512	7.7 ± 0.3	10.4 ± 0.4	B2IV
35996	HD 58563			B5III
36008	HD 60455	1.8 ± 0.0	16.3 ± 3.0	A3m...
36009	HD 58630			B5V
36023	HD 58384	2.0 ± 0.0	22.5 ± 10.7	A0
36024	HR 2841	6.3 ± 0.2	50.1 ± 6.3	B5III
36040	HD 58529	4.0 ± 0.0	7.4 ± 3.7	B5
36041	* eps CMi	6.3 ± 0.3	68.6 ± 24.9	G8III
36045	HR 2847	7.9 ± 0.1	5.6 ± 2.7	B2/B3III
36089	HD 58722			B5III
36125	V* AX Pup			F5II(R)
36134	HD 58791			B8/B9II/III
36141	HR 2840			B7II-III
36143	HR 2856	7.9 ± 0.1	15.7 ± 3.0	B4V
36158	HD 57925	6.8 ± 0.5	63.1 ± 19.6	K2
36168	HR 2855	9.5 ± 0.3	14.6 ± 2.4	B1II
36184	HD 59425	3.2 ± 0.1	63.1 ± 21.8	B8/B9V
36195	HD 59006			B8II
36211	HR 2809			B9III
36216	HD 59367			G8II
36223	HD 59076	6.3 ± 0.3	57.1 ± 12.8	A1
36225	HD 59074			B9II
36231	HD 58809	6.2 ± 0.5	63.7 ± 14.6	K2
36235	HD 58973			B5
36236	HR 2860			B5III
36243	HD 58683			B8III
36246	V* V371 Pup	4.6 ± 0.4	35.1 ± 7.6	B5V
36250	HD 59094	7.8 ± 0.6	9.7 ± 1.6	B2V:ne
36251	CCDM J07279-1133AB	10.0 ± 0.6	22.6 ± 5.3	B8Vv comp VB
36275	HD 59189			B8III/IV
36288	V* Y Lyn			M5Ib-IIvar
36299	HD 59618	5.0 ± 0.0	25.1 ± 4.6	B3III
36300	HD 59279			B8/B9III
36320	HD 59211	7.0 ± 0.2	30.1 ± 4.0	B3V
36323	HD 59364	4.2 ± 0.3	28.0 ± 13.0	B5V
36330	HD 59343	2.7 ± 0.1	17.1 ± 9.4	B8II
36341	HD 60037			K2II/III
36345	IDS 07250-3139 AB	5.8 ± 0.2	7.3 ± 2.5	B3V+...
36355	HD 59527	5.0 ± 0.0	34.0 ± 17.0	B5V
36359	HD 59480	3.2 ± 0.2	63.1 ± 30.9	B8III/IV
36360	HD 59338	2.4 ± 0.1	31.2 ± 19.7	B9III/IV
36362	HR 2873	8.5 ± 0.3	12.9 ± 4.1	B2IV
36363	* y Pup	5.9 ± 0.1	5.7 ± 4.0	B3V
36369	NGC 2392	15.0 ± 10.0	2.3 ± 2.2	O6
36404	HD 59497	9.6 ± 0.7	15.0 ± 2.1	B2V:ne
36431	HR 2874	9.3 ± 0.4	26.0 ± 2.7	A6Ib/II
36437	HD 59543	6.5 ± 0.5	29.9 ± 2.0	B3IV/V
36500	V* V350 Pup	9.7 ± 0.3	10.1 ± 2.0	B1/B2Ib/II
36514	HR 2881			G2Ib...
36521	V* U Mon			K0Ibpvar
36540	HD 59813	8.7 ± 0.4	4.4 ± 3.2	B0.5Ib
36582	HR 2885	5.0 ± 0.0	15.9 ± 3.1	B3V
36585	HD 59965	3.1 ± 0.1	10.0 ± 7.1	B8III
36629	HD 59929	8.7 ± 1.4	28.9 ± 7.4	K0
36648	HD 60195	2.5 ± 0.0	10.0 ± 4.3	B8II/III
36655	CD-27 4197			B2
36681	HD 60575			B6V
36682	V* V454 Car	8.2 ± 0.5	33.2 ± 6.9	B4/B5V

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
36693	HD 60044	3.0 ± 0.1	39.8 ± 5.4	B8
36700	HD 60282	3.1 ± 0.1	20.0 ± 16.3	B8IV/V
36717	HD 60279	3.0 ± 0.1	10.0 ± 7.1	B8/B9IV
36736	HR 2897	8.9 ± 0.3	23.8 ± 2.6	B2II
36741	HD 60498	4.0 ± 0.0	10.0 ± 1.9	B4IV
36745	HD 60753	8.9 ± 0.1	24.0 ± 1.4	B3IV
36756	HD 60479	12.0 ± 0.8	1.0 ± 1.1	O9.5Ib
36773	V* KQ Pup	15.4 ± 3.9	13.0 ± 5.0	A4Ia
36778	* z Pup	10.0 ± 0.1	20.0 ± 2.6	B2Vne
36792	HD 60668	8.0 ± 0.4	16.3 ± 1.5	B2III/IV
36798	HD 60792			G8/K0II/III
36799	HD 60930			B9II
36808	HD 60553	6.3 ± 0.6	2.9 ± 1.8	B2II
36836	HD 60552			F7II/III
36868	HD 60665			B7II/III
36885	HD 61169			B9II
36940	HD 61008			B8II
36944	HD 60879	6.3 ± 0.2	15.1 ± 4.7	B3V
36955	HD 61006	9.8 ± 0.2	19.0 ± 1.6	B2III
36967	HD 60856			B5V
36971	V* V379 Pup			B9III (p Si)
36981	HR 2921	9.9 ± 0.1	23.8 ± 1.9	B2/3V(n)
36986	HR 2923			K1II
36994	HD 61049			B8II
37001	HD 60945	3.6 ± 0.1	28.2 ± 14.8	B7/B8III
37006	HD 61025	7.3 ± 0.3	1.3 ± 0.4	B2Vne
37009	HD 60676	1.9 ± 0.0	31.6 ± 19.2	A2
37015	HD 60969	6.0 ± 0.2	39.5 ± 4.3	B3III/IV
37017	CD-31 4800	20.0 ± 0.0	0.1 ± 0.0	sdO:
37025	HD 61071	8.7 ± 0.3	24.0 ± 1.6	B2III
37034	HD 61333	6.7 ± 0.1	36.5 ± 4.0	B3V
37036	V* PT Pup	8.1 ± 0.4	29.0 ± 3.9	B2II
37037	HD 61017			B9III
37044	HD 61016			B4V
37047	HD 61045			B7/B8III
37056	HD 62038	1.9 ± 0.0	13.0 ± 1.8	A2V
37070	HD 61209	7.9 ± 0.7	29.0 ± 6.8	B8IV/V
37074	HD 60848	19.9 ± 0.1	1.3 ± 1.3	O8V:pevar
37089	HR 2933	6.9 ± 0.4	46.2 ± 1.9	F0Ib
37099	HD 61328			B3/4V + B8/9
37104	HD 61095	7.3 ± 1.0	42.4 ± 14.6	K5
37169	HD 61347	12.0 ± 0.8	0.1 ± 0.0	O9.5Iab
37174	V* MY Pup	9.0 ± 0.3	27.5 ± 3.1	F4Iab
37190	HD 61428			B9III
37222	HD 61712	3.0 ± 0.0	2.7 ± 0.3	B7/B8V
37223	HR 2954	7.9 ± 0.1	15.8 ± 2.6	B3III
37229	CCDM J07388-2648AB			B5IV
37245	HD 61948	7.0 ± 0.5	30.8 ± 1.8	B3V
37285	HD 61590	3.2 ± 0.1	10.0 ± 7.1	B7II
37297	HR 2961	6.5 ± 0.1	21.3 ± 3.5	B3V
37304	HD 61687			B4V
37315	HD 61759			K1/K2II/III
37318	HD 61946			B5IV/V
37322	HR 2963	5.0 ± 0.0	15.9 ± 9.7	B5V
37329	HR 2964	8.3 ± 0.4	24.3 ± 3.1	B3III
37339	HR 2936			F6II
37345	HR 2968	6.2 ± 0.0	63.1 ± 14.3	B4III
37357	HD 61850			K2II:+...
37378	HD 63609			G2II
37385	HD 61944	5.0 ± 0.1	5.9 ± 4.5	B4V:
37399	HR 2972	6.3 ± 0.2	50.1 ± 6.2	B5II
37404	HR 2953	6.3 ± 0.5	63.7 ± 13.7	K0
37407	HD 61523	1.9 ± 0.1	20.1 ± 9.3	A0
37428	HR 2951	7.8 ± 0.6	38.4 ± 6.9	K5
37439	HD 61957	7.0 ± 0.2	26.5 ± 3.5	B3V
37444	V* V442 Pup	10.0 ± 0.5	22.6 ± 4.4	B4Iab
37450	HR 2981	6.2 ± 0.0	15.4 ± 0.4	B3V
37462	HD 62278			B7III/IV
37470	HD 67479			A9II/III
37477	HD 62225			B6III
37502	HD 62612	7.9 ± 0.1	2.9 ± 2.4	B2V
37524	HD 62315	7.6 ± 0.3	34.8 ± 7.7	B4V
37525	HD 62506			G5II/III
37530	HR 3006	7.7 ± 0.1	21.1 ± 3.8	B2.5V
37533	HD 62663	6.3 ± 0.1	17.1 ± 1.8	B3V
37544	HD 62312	3.2 ± 0.0	50.7 ± 11.5	B8III
37558	HD 62072	2.3 ± 0.0	48.9 ± 30.7	B9
37565	HD 62542	5.8 ± 0.3	5.9 ± 3.8	B5V
37577	CCDM J07427-4234AB	6.5 ± 0.4	43.0 ± 4.5	B3II/III
37597	HD 62826	6.4 ± 0.1	20.1 ± 4.6	B3V
37623	HR 2994	5.0 ± 0.0	52.9 ± 3.6	B5V
37637	HD 62755			B5V
37650	HD 62179	2.7 ± 0.1	7.0 ± 3.7	A
37653	HD 62659	3.0 ± 0.0	57.3 ± 8.2	B8V
37656	HD 62322	2.4 ± 0.1	37.8 ± 28.6	B9
37660	HR 2992	6.3 ± 0.7	57.1 ± 8.6	A3III
37675	HD 62753	8.4 ± 0.3	9.6 ± 3.7	B3Vne
37677	* I Pup	19.2 ± 0.4	8.3 ± 0.3	A2Iab
37692	V* V385 Pup			B9IIIp (Si)
37697	HR 62803	2.4 ± 0.1	56.7 ± 19.5	B9V
37716	CD-24 5872	2.0 ± 0.1	20.1 ± 9.3	A0
37725	HD 62617			B9III
37738	CD-23 6071	2.0 ± 0.0	20.1 ± 8.4	A0
37751	V* V390 Pup	10.0 ± 1.7	16.0 ± 1.9	B2II
37763	V* V606 Car	3.2 ± 0.0	54.1 ± 13.3	B8/B9III
37765	HD 63007	5.0 ± 0.0	32.8 ± 12.2	B5V
37766	V* YZ CMi	0.2 ± 0.0	50.9 ± 17.5	M4.5Ve
37784	HD 62729	7.9 ± 0.1	3.9 ± 3.4	B2V
37803	HR 3016	8.1 ± 0.2	11.5 ± 3.3	B2V
37819	* c Pup	12.5 ± 0.7	15.8 ± 0.5	K4III
37854	HR 3031			F0II
37880	HD 63028	8.1 ± 0.5	29.2 ± 3.6	B3IV/V
37886	HD 62615	3.0 ± 0.1	25.1 ± 16.8	B8
37915	HR 3022	5.0 ± 0.0	15.9 ± 9.9	B5V
37925	V* V393 Pup			B7III
37938	HR 3025	9.6 ± 0.3	19.1 ± 2.1	B2III
37951	HR 3019			B9III
37954	HD 63165			B8II
37957	HD 63274	6.1 ± 0.2	12.6 ± 1.4	B5V
37966	V* V458 Car			B8/B9II
37970	HD 63531	8.7 ± 0.2	24.9 ± 2.2	B5Vn
37983	HD 63425	10.0 ± 0.6	18.0 ± 2.8	B1/B2Ib/II
37993	HD 63467			B9III/IV
37995	HR 3023	10.0 ± 0.8	15.8 ± 1.4	B1/B2V
37997	HD 63039	2.0 ± 0.0	20.1 ± 9.3	A0
38000	HD 63270			B8/B9III
38010	HR 3035	8.0 ± 0.2	33.2 ± 4.8	B2IV/V
38020	HR 3037	11.9 ± 0.1	15.3 ± 0.8	B1V
38028	HD 63579	7.0 ± 0.1	29.3 ± 3.6	B3V
38029	HD 63423	9.6 ± 0.3	15.1 ± 2.0	B1Ib/II
38031	V* QY Pup	6.3 ± 0.6	63.1 ± 19.7	K3Iab/b
38037	HR 3027			K5II/III
38038	HD 63358	6.3 ± 0.2	39.8 ± 3.5	B3III
38062	HD 63241	6.3 ± 0.3	68.6 ± 22.2	K0
38070	* omi Pup	15.5 ± 1.2	10.5 ± 0.7	B1IV:nne
38071	HD 63603			K2II/III
38076	HD 63641			B9III/IV
38081	HD 63870			K1II
38093	HD 63283	2.8 ± 0.1	7.0 ± 2.9	B8
38103	HD 63439	6.3 ± 1.0	63.1 ± 28.6	K5
38110	V* V395 Pup	4.5 ± 0.5	45.8 ± 5.9	B5III
38112	HD 63481			B9.5III
38133	HD 63806	5.7 ± 0.3	36.0 ± 2.6	B3III
38152	HR 3062	6.3 ± 0.3	68.6 ± 23.6	G5II
38159	V* QS Pup	10.0 ± 1.3	16.9 ± 2.1	B1.5IV
38164	HR 3055	19.3 ± 0.1	7.6 ± 0.1	B0III

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
38165	HD 63868			B5V
38170	* ksi Pup	9.4 ± 0.5	25.8 ± 3.4	G6Ia
38173	V* V398 Pup	9.7 ± 1.0	25.1 ± 3.0	A0Ia(p)
38174	HD 63593	2.0 ± 0.0	25.1 ± 13.1	A0
38184	HR 3042			B8/B9II
38201	HD 63387	6.2 ± 0.6	63.7 ± 14.6	K0
38226	HR 3076			K0II
38240	HD 64383			K2II
38257	V* CK Lyn	6.8 ± 0.8	50.1 ± 6.7	M0
38262	HD 64008	6.9 ± 0.4	50.1 ± 6.5	K2
38268	HD 64028	2.9 ± 0.0	31.6 ± 12.1	B8/B9V
38290	HD 64249			B9II
38310	HD 64507			B8/B9Ib/II
38355	HR 3074	9.1 ± 0.1	21.0 ± 3.0	B2IV-V
38370	V* QU Pup	10.0 ± 0.3	21.9 ± 2.8	B2IV
38373	* zet CMi			B8II
38408	HD 64441			B9III
38425	HD 64578	3.0 ± 0.1	15.8 ± 12.5	B8IV
38438	V* V372 Car	10.0 ± 0.2	15.8 ± 3.3	B1.5IV
38453	HD 64294			B9III
38455	V* QZ Pup	7.9 ± 0.1	24.3 ± 1.0	B2V
38457	HD 64336			B3V
38470	HD 64399	5.0 ± 0.0	6.0 ± 3.7	B3:
38477	HD 64717	8.1 ± 0.3	25.0 ± 2.3	B3V
38487	HD 64438			B9III/IV
38500	HR 3089	9.7 ± 0.2	8.9 ± 2.7	B1.5Vp
38502	V* NQ Pup			S6,2
38512	HD 64571			F8/G0Ib
38518	HR 3090	15.5 ± 0.1	11.6 ± 0.7	B0.5Ib
38523	V* TU Mon	7.6 ± 0.3	1.5 ± 0.6	B2Vn
38553	HD 64565	3.0 ± 0.0	50.1 ± 5.0	B8/B9V
38584	HD 64827			B8II
38592	HD 64905			B9III/IV
38593	HR 3091	7.6 ± 0.2	1.2 ± 0.9	B2V
38608	HD 63347	2.9 ± 0.0	31.6 ± 12.3	B8
38610	HD 64901	2.8 ± 0.1	17.1 ± 9.4	B8/B9II/III
38612	HD 65038			B5V
38652	HD 64898	6.9 ± 0.1	1.9 ± 0.9	B2III/IV
38667	HR 3100			B8III
38690	HD 65249			F2II/III
38701	HD 65297			G5Ib
38716	CPD-27 2592	12.0 ± 0.8	0.1 ± 0.0	B0V
38727	HD 65147	6.3 ± 0.1	15.9 ± 0.3	B3V
38732	HR 3101	7.0 ± 0.2	50.1 ± 4.6	B6V
38746	HD 65248	6.9 ± 0.3	41.0 ± 2.1	B6V
38770	HD 65425			G5II/III
38779	HD 65663			B8IIIe
38783	HR 3120			K4II
38795	HR 3107	7.0 ± 0.0	0.4 ± 0.3	B2V
38827	V* chi Car	7.0 ± 0.1	39.8 ± 6.7	B3IVp
38835	* j Pup			F7/F8II
38846	HR 3114	9.9 ± 0.1	23.8 ± 2.3	B2.5V
38855	HD 65079	7.7 ± 0.4	3.5 ± 3.2	B2V(ne)
38858	HD 65378	6.3 ± 0.2	15.3 ± 0.5	B3V
38861	HD 65402			B5II/III
38872	HR 3116	8.0 ± 0.2	33.2 ± 6.2	B2.5IV
38879	HR 3118			B5V
38887	HD 65622			B5Vnn
38896	HD 65658	7.1 ± 0.1	29.0 ± 1.4	B3V
38906	HD 65950			B9III
38907	V* AP Pup			F8II
38923	V* V407 Pup			M2Ia/ab
38936	HD 65774	2.6 ± 0.1	7.0 ± 2.9	B8V
38942	HD 65615	5.0 ± 0.0	19.2 ± 5.4	B4V
38947	HD 65570	2.8 ± 0.1	10.0 ± 6.0	Ap...
38957	V* V Pup	8.0 ± 0.3	29.0 ± 4.6	B1Vp + B2
38974	HD 65817	2.9 ± 0.1	3.0 ± 0.6	B8III/IV
38979	HD 65041	9.2 ± 0.3	15.7 ± 3.6	B2V
38988	HD 65895			B8/B9III
38994	HR 3147	8.5 ± 0.3	18.0 ± 3.5	B2IVnpe
39001	HD 65701			K1II/III
39013	HD 65930	9.0 ± 0.1	19.8 ± 2.3	B2V
39014	HR 3137	6.1 ± 0.2	41.6 ± 7.9	B4V
39019	HD 66064			G6II/III
39023	* 12 Pup			G8II
39028	HD 65848	6.5 ± 0.4	50.1 ± 6.4	B5III/IV
39033	HD 66027			B9II/III
39063	HD 65888	6.7 ± 0.2	3.6 ± 2.5	B2/B3V
39070	V* V460 Car			M0II
39073	HR 3152			B8III
39105	HD 65962			B9III
39107	HD 66105			B5V
39121	HD 65980			A3II/III
39137	HR 3146	7.1 ± 0.5	47.7 ± 9.9	G8Ib
39138	HR 3159	6.3 ± 0.0	16.3 ± 0.4	B3V
39142	HD 66284	3.5 ± 0.1	45.2 ± 1.7	B7III
39172	HR 3135	10.0 ± 1.1	19.7 ± 1.1	B2.5Ve
39184	HR 3156			B5Vn
39185	HD 66252			B2IV
39203	HD 66311	3.0 ± 0.1	39.8 ± 13.2	B8/B9V
39206	V* V683 Pup			B7III/IV
39220	HD 66464	7.2 ± 0.2	25.1 ± 1.7	B3III
39225	V* V461 Car	9.1 ± 0.1	19.8 ± 1.9	B2IV-V
39227	HD 66507	5.0 ± 0.0	43.5 ± 5.0	B4III
39238	HR 3161	5.0 ± 0.0	7.6 ± 2.2	B4V
39240	HD 66180	4.0 ± 0.0	20.0 ± 15.0	B5II/III
39246	HD 66522	7.4 ± 0.0	16.8 ± 2.9	B2IIIp
39270	HD 66567			K2II
39272	HD 66478	6.2 ± 0.8	63.1 ± 25.2	K2IIICN...
39277	HD 66247	1.9 ± 0.1	12.7 ± 2.5	A2V
39279	HR 3130	6.3 ± 0.5	63.7 ± 19.0	K0
39290	V* V415 Pup			B5V
39294	HD 66629			B5Vn
39310	V* V462 Car	7.1 ± 0.1	29.9 ± 1.6	B3V(n)
39321	HD 67252	3.0 ± 0.0	57.3 ± 17.9	B8/B9V
39331	HD 66396			B2III
39367	HD 66582	6.5 ± 0.1	34.3 ± 4.3	B3IV
39371	HD 66765	9.3 ± 0.3	7.3 ± 3.3	B5III
39376	V* AR Pup			Rpvar
39386	HD 67170			B8III/IV
39397	HD 66492	4.0 ± 0.0	24.0 ± 10.6	B5III
39406	HD 67559			B8III
39420	HR 3166			G8II
39429	NAOS	32.7 ± 16.5	3.2 ± 1.5	O5IAf
39431	HD 66971	3.0 ± 0.0	31.6 ± 23.2	B8/B9V
39438	HD 67277			B8III
39446	HD 66670			B4V
39467	HD 66669	2.8 ± 0.2	3.3 ± 0.8	B8IV
39487	V* MZ Pup	9.0 ± 0.6	30.4 ± 3.8	M2II
39524	* 14 Pup	6.3 ± 0.1	40.5 ± 4.2	B3III
39527	HR 3178			G5II
39530	V* V375 Car	7.1 ± 0.0	30.5 ± 2.6	B2.5Vn
39584	HR 3179	11.9 ± 0.8	16.0 ± 1.6	B3Vnp
39585	HD 67297	2.4 ± 0.1	46.7 ± 26.7	B9V
39613	HD 67385	6.7 ± 0.3	49.2 ± 2.0	B4V
39617	HR 3177	7.2 ± 0.7	43.3 ± 6.3	G1Ib
39690	HR 3187	7.9 ± 0.6	38.5 ± 5.1	K3III
39691	HD 67621	7.8 ± 0.2	10.0 ± 2.0	B3III
39696	HD 67528			G5II/III
39700	HD 67409			B7III
39732	CD-28 5472			B...
39734	HR 3183			A3Ib/II
39746	HD 68036			B8III
39774	HD 67954	5.8 ± 0.2	7.3 ± 2.5	B3V
39776	HD 67758	10.0 ± 0.6	17.2 ± 2.5	B2/B3III
39779	HD 67491	3.0 ± 0.1	15.8 ± 12.5	B8/B9IV/V
39782	HD 67522	6.3 ± 0.4	15.8 ± 2.9	B3V

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
39810	HD 67890	3.2 ± 0.1	24.2 ± 5.1	B7IV/V
39814	HD 67780			A5II
39828	HD 67778			B8III
39831	HD 68249			K0II
39834	HD 67698	6.0 ± 0.1	38.3 ± 7.9	B3III/IV
39852	HD 67670			B8II/III
39863	* zet Mon	6.2 ± 0.4	63.7 ± 14.6	G2Ib
39866	HR 3195	10.0 ± 0.5	22.6 ± 4.7	B3V
39879	HD 68372			B8III
39880	HD 68116	5.0 ± 0.0	15.9 ± 3.6	B4V
39896	CCDM J08089+3249	0.8 ± 0.2	9.7 ± 8.9	M0.5V:e
39906	* 16 Pup			B5V
39915	HD 67920			G5II/III
39919	V* NN Vel			B8Ib/II
39943	HR 3194	7.9 ± 0.1	39.8 ± 4.4	B4V
39949	HD 68518			B5V
39951	HD 68371	6.5 ± 0.2	22.8 ± 2.2	B5V
39953	* gam Vel	73.3 ± 17.0	1.1 ± 0.6	WC8 + O9I
39958	HD 67542			G0II
39961	HR 3204	9.8 ± 0.2	19.7 ± 1.3	B2IV-V
39965	HD 68111			G3Ib
39970	V* IS Vel	8.8 ± 0.1	18.4 ± 3.4	B1IVe
39984	BD-12 2364			K5Ib-II:
40003	HD 68301			K1II/III
40011	HD 68451			B2III
40016	HD 68478	7.0 ± 0.1	39.8 ± 1.3	B3IV
40019	HD 68477	2.4 ± 0.0	52.7 ± 12.0	B9V
40047	BD+75 325			O5pvar
40053	HD 68633	7.6 ± 0.7	34.8 ± 7.8	B5V
40056	HD 68474	6.3 ± 0.4	50.1 ± 6.4	B4III
40059	HD 68608			B5III
40063	HR 3219	17.5 ± 2.1	5.5 ± 1.5	B0III
40077	HR 3227	6.4 ± 0.1	22.8 ± 2.4	B3V
40085	HR 3201			B6III
40091	V* NS Pup	9.8 ± 1.7	20.0 ± 1.0	K4III
40096	HR 3226			A7Ib
40105	HD 69407			B5V
40143	HD 68678			B9III
40148	HD 68570	7.8 ± 0.3	23.4 ± 2.8	B2III
40155	V* AH Vel	7.0 ± 0.5	50.0 ± 6.2	F7p
40181	HD 68761	12.4 ± 0.2	7.8 ± 3.3	B1/B2III
40183	HR 3234			B5V
40215	* 55 Cam			G8II
40218	HD 68843	3.7 ± 0.0	15.8 ± 3.6	B6Vnn
40233	V* RS Pup	6.8 ± 0.5	53.4 ± 7.1	F8Iab
40237	HD 68687	1.7 ± 0.0	39.8 ± 24.9	A6V
40250	HD 68886	5.0 ± 0.1	7.8 ± 4.9	B3III
40251	HD 69171			B8II
40255	HD 68944	4.0 ± 0.0	56.6 ± 26.0	B5V
40259	* 20 Pup			G5Ib/II
40264	V* V428 Pup			M4II/III
40265	HD 68982	7.7 ± 0.3	31.6 ± 0.6	B3V
40268	HD 68962	6.8 ± 0.2	0.4 ± 0.3	B2/B3V
40274	* r Pup	10.0 ± 0.7	20.0 ± 1.1	B2ne
40285	V* NO Vel	9.1 ± 0.2	25.3 ± 1.2	B2.5IV
40299	HD 69168	8.2 ± 0.2	9.2 ± 2.0	B3V
40321	HR 3240	9.6 ± 0.2	14.3 ± 3.4	B2V:
40324	HR 3241	7.9 ± 0.1	12.5 ± 0.7	B2IV/V
40326	HR 3243			K1II/III
40328	HD 69106	9.4 ± 0.5	2.6 ± 2.3	B1/B2II
40341	HR 3239	12.2 ± 0.6	12.6 ± 1.5	B2V
40357	HR 3250	8.1 ± 0.2	17.5 ± 3.2	B2IV-V
40366	HD 69253	5.8 ± 0.2	4.6 ± 3.6	B4V
40373	HD 69120			B7III
40397	HD 69404	8.0 ± 0.1	33.2 ± 5.1	B3Vnne
40430	V* IX Vel	15.0 ± 1.1	0.2 ± 0.1	B+...
40443	HD 69402	5.0 ± 0.0	10.5 ± 7.6	B4V
40455	HD 69653			B7/B8III
40485	HR 3253	7.5 ± 0.6	40.1 ± 8.7	K2III
40486	HD 69444			F8II/III
40515	HD 69710	2.6 ± 0.1	7.0 ± 2.9	B8/B9V
40519	HD 69620	5.0 ± 0.1	4.0 ± 3.1	B3IV
40528	HD 69887			B5IV
40537	HD 69841			B7III/IV
40540	HD 70398			F2II
40542	HD 69437	6.6 ± 0.5	55.2 ± 7.3	G5
40543	HD 69562	8.3 ± 0.7	31.2 ± 6.6	B3III
40572	HD 70068			G8/K0II/III
40574	HD 69821	1.9 ± 0.1	11.1 ± 1.0	A1V
40596	HD 69882	10.0 ± 1.1	20.0 ± 2.3	B1III:
40600	HD 69973			B5Vn
40628	HD 69500	6.3 ± 0.9	63.1 ± 28.9	K5
40629	HD 69929	5.0 ± 0.0	1.0 ± 0.6	B3V
40662	V* IT Vel			B7III
40690	HD 70385			G5Ib/II
40740	HD 70157			B9III
40743	HD 69263	6.3 ± 1.0	63.1 ± 28.4	K5
40748	CD-29 5938			B4
40749	HD 70309	5.5 ± 0.5	31.6 ± 16.7	B3V
40764	CD-29 5941			K1.5IIb
40787	HR 3273			B8Ib/II
40789	HD 70307	2.9 ± 0.0	31.6 ± 11.1	B8/B9V
40812	HD 70263			B8/B9III/IV
40817	HR 3301			B9III/IV
40851	HD 70464			B9IIIp...
40900	HD 70393			A2IIm...
40906	HD 70531			A4/A5II/III
40916	HD 70703	2.0 ± 0.0	25.1 ± 15.1	A0/A1V
40929	HD 70731			A6/A7II/III
40932	HR 3293	10.0 ± 0.4	21.2 ± 1.6	B1.5III
40943	HR 3283	10.0 ± 0.3	21.6 ± 2.2	B2IV-V+...
40945	* w Pup	7.5 ± 0.8	39.1 ± 10.2	K2/K3III
40949	HD 72354	2.0 ± 0.0	38.7 ± 25.8	A0V
40985	HD 70639	7.3 ± 0.2	3.2 ± 2.2	B2III/IV
41024	HD 70742			B8/B9II
41037	* eps Car	8.4 ± 1.0	33.5 ± 6.9	K3III+B2V
41039	HR 3294	15.5 ± 1.1	11.1 ± 0.8	B1V
41057	HD 70950			B9III/IV
41065	HD 70796	6.5 ± 0.2	12.6 ± 2.6	B2II
41084	HD 70630	1.9 ± 0.1	34.8 ± 22.1	A2
41085	HD 70948	5.0 ± 0.0	38.2 ± 5.0	B5V
41103	HD 70947			B8II
41109	HD 70792			B9II:
41119	HD 71613			K2II/III
41145	HD 70945			B9II/IIIsp.
41162	HD 71123			B9III
41168	HD 71015	7.1 ± 0.3	39.8 ± 4.6	B2IV
41212	HD 71216			B5Vn
41221	HD 70995	7.2 ± 0.6	47.6 ± 9.7	K2
41223	HD 71405			B6III/IV
41250	V* V438 Pup	8.1 ± 0.3	29.0 ± 4.7	B3V
41288	HD 71284			B7II
41293	HD 71634			B7IV
41295	HD 71444	4.7 ± 0.3	45.8 ± 10.9	B5IV
41296	HR 3330	8.0 ± 0.1	11.5 ± 4.0	B2V
41305	CD-38 4447	12.0 ± 0.8	0.1 ± 0.0	B...
41307	* 30 Mon	2.3 ± 0.2	4.5 ± 1.1	A0V
41323	HR 3326	6.5 ± 0.1	23.6 ± 7.4	B3V
41325	HR 3306			G8II
41332	HD 71470			B8III
41363	HD 71458			K0/K1II
41420	HD 71606			B8III/IV
41463	HD 71518	8.5 ± 0.3	12.0 ± 3.2	B2V
41515	V* XY Pyx	6.7 ± 0.1	26.8 ± 4.5	B2V
41520	HD 71969	2.5 ± 0.1	52.5 ± 28.2	B9V
41534	HD 71771	9.3 ± 0.6	21.7 ± 2.6	B2II
41539	HD 72019	5.0 ± 0.0	10.0 ± 3.1	B3IV

Table C.1: – Continued. –

HIP	other ID	mass $[M_\odot]$	age [Myr]	SpT
41557	HD 72111			B8III
41599	HD 72014	19.2 ± 0.9	8.2 ± 0.5	B3Vnne
41603	HR 3345			B8II
41616	CCDM J08291-4756AP	12.5 ± 0.5	15.7 ± 0.5	B2IV
41621	HR 3356	9.5 ± 0.3	18.5 ± 3.2	B2V
41634	HD 72125			K1II
41639	CCDM J08295-4443AB	12.5 ± 1.2	12.6 ± 0.6	B+...
41640	HR 3353	6.1 ± 0.1	43.0 ± 5.8	B4V
41647	HD 71945			B3III
41656	HD 72139			B9III
41704	* omi UMa			G4II-III
41716	HD 72249	6.3 ± 0.3	31.6 ± 1.7	B3III/IV
41732	HD 72055	3.0 ± 0.1	25.1 ± 20.8	B8
41737	HR 3371	8.0 ± 0.3	33.2 ± 5.1	B4V
41750	HD 72267	4.0 ± 0.0	10.0 ± 8.4	B5IV
41774	HD 72384			B6III/IV
41780	HD 72284			K0II/III
41781	HR 3375	7.4 ± 0.0	16.5 ± 3.2	B2.5V
41803	HD 72539	4.0 ± 0.0	10.0 ± 8.4	B5V
41806	HR 3373	5.9 ± 0.3	63.1 ± 15.3	B5V
41823	HD 72537	6.3 ± 0.1	15.4 ± 1.1	B3V
41828	HD 72555	6.7 ± 0.2	26.3 ± 4.9	B2.5V
41848	HD 72514			B7/B8II
41878	HD 72648	9.5 ± 0.6	23.8 ± 2.2	B1/B2Ib
41882	HD 72754	8.1 ± 0.3	29.0 ± 3.9	B2Iape
41896	HD 72412	6.5 ± 0.5	55.2 ± 8.8	G5
41938	HD 72838			K1Ib:
41941	HD 72798	7.0 ± 0.2	39.8 ± 4.6	B5III
41970	HR 3388	8.8 ± 0.1	14.6 ± 3.8	B2/B3V
41972	HD 72600	6.3 ± 0.1	36.1 ± 0.5	B3III
41986	HR 3390	7.9 ± 0.6	38.5 ± 6.9	K3III
42001	HR 3389			B5III
42003	HD 72898	2.5 ± 0.0	67.2 ± 20.6	B9V
42008	HR 3378	6.2 ± 0.4	63.7 ± 14.6	G5III
42036	V* V451 Vel	6.7 ± 0.3	13.7 ± 2.0	B2II/III
42038	HD 73105	6.2 ± 0.0	14.8 ± 0.8	B3V
42041	HD 73010	5.6 ± 0.4	63.1 ± 15.0	B5V
42060	HD 72973	3.3 ± 0.1	38.4 ± 14.6	B7V
42063	HD 72168	1.8 ± 0.0	12.7 ± 2.5	A2
42069	HD 73127	7.8 ± 0.1	2.3 ± 1.9	B5Vn
42088	HR 3407			K1/K2II
42099	HD 72932			G8II/III
42129	HR 3415	7.2 ± 0.2	36.1 ± 4.6	B3V+...
42152	HD 73369			B9III
42160	HD 72205	1.9 ± 0.1	13.0 ± 1.8	A2
42188	HD 73742	2.5 ± 0.0	71.3 ± 23.4	B9V
42198	HD 73241			B5III
42206	HD 73990	3.4 ± 0.1	29.0 ± 3.6	B7/B8V
42211	HD 72907			G8II
42217	HD 73240	3.0 ± 0.0	48.8 ± 2.8	B8V
42236	HD 73701	5.0 ± 0.0	43.3 ± 4.8	B5V
42239	V* FO UMa	7.0 ± 0.7	44.2 ± 5.5	M0
42242	HD 73478	6.6 ± 0.3	36.1 ± 0.3	B3IV
42251	HD 73834	6.1 ± 0.1	12.3 ± 2.6	B3ne
42257	V* RZ Vel			G1Ib
42268	HD 73440			K0II/III
42270	HD 74439			K2II
42307	HD 73457			B9III
42312	* e Vel	7.8 ± 0.2	39.8 ± 4.6	A6II
42316	HD 73658	15.6 ± 1.8	10.0 ± 0.8	B1Ib
42331	HD 73227	7.0 ± 0.9	43.3 ± 8.9	K0
42336	HD 73414			K0II/III
42349	V* V363 Vel			B9II/III
42354	HD 73653	9.9 ± 0.3	23.8 ± 2.5	B2III
42378	HD 73515	1.8 ± 0.0	12.7 ± 2.5	A2
42390	HD 73847			B7III
42395	HD 73811			B8/B9III
42398	HD 73810	2.6 ± 0.1	7.0 ± 2.9	B8/B9V
42399	V* NW Vel			K2Ib BaO
42433	HD 73882	17.7 ± 2.3	1.2 ± 0.6	O8V:
42457	V* V490 Hya	2.0 ± 0.0	20.1 ± 9.3	A0
42459	V* HW Vel	4.5 ± 0.4	27.4 ± 20.4	B5V
42477	HD 73986	2.9 ± 0.0	35.7 ± 13.7	B8V
42489	V* RV Hya			M5IIvar
42501	HD 73897			B9/B9.5III
42504	V* NZ Vel	5.0 ± 0.0	20.0 ± 3.8	B4IV
42515	* bet Pyx			G5II/III
42520	HD 74480	3.4 ± 0.1	40.5 ± 2.3	B7IV/V
42530	HD 72129	6.2 ± 0.6	63.7 ± 16.8	K2
42536	V* omi Vel	7.1 ± 0.1	39.8 ± 6.2	B3IV
42568	V* V343 Car	12.5 ± 0.7	15.7 ± 0.2	B1.5III
42570	* b Vel	19.1 ± 0.9	8.3 ± 0.4	F3Ia
42595	HD 74234	9.0 ± 0.1	20.4 ± 1.3	B2V
42605	HD 74251	7.9 ± 0.3	29.0 ± 2.8	B3IV/V
42614	HR 3453	11.5 ± 0.6	13.8 ± 2.9	B1.5V
42624	* n Vel	8.7 ± 0.2	30.1 ± 2.5	A5II
42637	* eta Cha	3.0 ± 0.0	2.6 ± 0.6	B9IV
42649	HD 74985			B8/B9III/IV
42653	HD 74319	7.4 ± 0.2	34.5 ± 2.6	B3V
42698	HD 74436	7.0 ± 0.1	27.8 ± 2.5	B3V
42712	V* HX Vel	19.2 ± 1.1	6.5 ± 0.4	B1.5Vn
42726	V* HY Vel	5.9 ± 0.1	21.9 ± 8.2	B3IV
42774	HD 75485			A1V
42794	V* RS Cha	2.2 ± 0.1	4.0 ± 1.3	A7V
42799	V* eta Hya	7.0 ± 0.2	29.5 ± 2.0	B3V...
42828	* alf Pyx	11.9 ± 0.1	15.8 ± 2.8	B1.5III
42834	HR 3476	15.7 ± 0.9	9.5 ± 0.8	B0IIIn
42835	HR 3459			G2Ib
42849	HD 74922			B9.5III/IV
42854	HR 3458			B9.5III-IV
42894	HD 74644			B9.5III
42903	HD 74608	2.0 ± 0.0	20.1 ± 9.3	A0
42907	HD 75187			K1IICN...
42908	HD 74804	10.0 ± 0.6	20.0 ± 6.9	B0V
42923	HR 3479	9.1 ± 0.2	23.8 ± 1.6	B2III
42936	CCDM J08451-5843AB			B7III
42942	HD 74969			B8II
42996	HD 74979	7.9 ± 0.3	25.0 ± 3.9	B2III
43000	HD 74966	5.0 ± 0.0	37.7 ± 2.0	B4IV
43023	* a Vel	8.7 ± 0.2	29.2 ± 2.8	A1III
43029	HD 75062			B8III/IV
43030	HD 74605	6.0 ± 3.0	0.1 ± 0.1	K2
43057	HD 75129	9.3 ± 0.9	22.0 ± 3.0	B5Ib
43059	HD 75060	5.0 ± 0.0	38.2 ± 1.6	B5V
43078	HD 74740	1.9 ± 0.0	50.1 ± 36.3	A2
43085	CCDM J08466-4234AB	5.5 ± 0.4	34.4 ± 6.8	B4V
43087	HD 75127	3.0 ± 0.1	17.9 ± 14.1	B8V
43100	HR 3474			G8II...
43103	HR 3475			G8Iab:
43105	* f Car	7.1 ± 0.1	31.6 ± 3.6	B3Vne
43107	HD 75125			B8III/IV
43114	V* AI Pyx	6.2 ± 0.1	45.2 ± 4.5	B3V
43128	HD 75241	5.7 ± 0.3	47.4 ± 3.8	B4IV
43158	HD 75222	14.7 ± 1.0	10.0 ± 0.4	B0II/III
43177	LTT 3243			G0Ia0:
43179	HD 75271			B2V
43182	HD 75324	5.0 ± 0.1	31.6 ± 14.7	B5V
43209	HR 3501	8.3 ± 0.2	17.8 ± 4.2	B2IV
43285	HD 75549	6.0 ± 0.1	10.7 ± 3.2	B3V
43326	CD-42 4684s			B6III
43346	HD 75655	6.3 ± 0.2	1.9 ± 1.6	B2III
43354	V* HZ Vel			A2/A3II/III
43385	HD 75650	2.0 ± 0.0	31.6 ± 19.2	A1IV
43392	HR 3525	12.5 ± 0.4	15.8 ± 0.7	O9V
43396	HD 75722			B5IV
43398	HD 75628			B9III

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
43413	* f Vel	17.6 ± 2.9	5.6 ± 1.0	B0III
43434	HD 75721			G2II
43450	HD 75850	3.1 ± 0.1	57.3 ± 20.1	B8/B9V
43459	HD 75818			B9.5III
43462	HD 76047	5.0 ± 0.0	50.1 ± 4.4	B5V
43464	HD 75871	7.9 ± 0.5	28.2 ± 4.3	B3V
43466	HD 75869	9.5 ± 0.4	17.8 ± 3.3	B2III
43473	HD 75870	6.0 ± 0.3	9.0 ± 1.6	B3V
43494	HD 75968			B9III/IV
43499	HR 3536			B8III
43513	HD 76131			B6III
43520	HD 76004	7.6 ± 0.2	33.6 ± 6.5	B3V
43541	V* RZ Pyx	3.6 ± 0.3	10.0 ± 6.0	B6p
43589	HR 3539	6.9 ± 0.2	28.2 ± 3.1	B3Vn
43669	HR 3560	6.6 ± 0.2	56.9 ± 10.6	B5III
43673	HR 3548			K0II/III+..
43689	HD 76441	5.0 ± 0.0	25.1 ± 3.0	B4III
43699	HD 76442			B4V
43746	V* NN Hya	7.0 ± 0.6	47.9 ± 8.2	K5
43763	V* V473 Car	5.0 ± 0.0	15.9 ± 10.3	B5V
43782	HD 76403	6.0 ± 0.7	63.1 ± 21.2	K1III
43783	* c Car			B8III
43807	HR 3562	6.5 ± 0.1	34.0 ± 5.4	B3IV
43814	HD 76588	1.9 ± 0.0	11.4 ± 1.3	A1m...
43815	HD 76484			F3/F5Ib
43834	* 58 Cnc			G8II-III
43866	HD 76431	12.0 ± 0.8	0.1 ± 0.0	A
43868	HD 76510	7.5 ± 0.1	10.6 ± 1.2	B1Ib
43878	HR 3574	5.0 ± 0.0	15.9 ± 6.3	B5V
43902	HR 3557			G8II-III
43909	HD 77033	2.9 ± 0.0	31.6 ± 6.9	B8/B9Vn
43927	HD 77348			F3/F5II
43928	HD 75972	6.6 ± 0.5	55.2 ± 6.8	G5
43937	V* V376 Car	7.8 ± 0.1	12.1 ± 1.2	B2IV-V
43938	HD 76860	6.8 ± 0.8	48.2 ± 10.5	K3Ib
43955	HD 76838	6.1 ± 0.1	13.4 ± 2.3	B3V
43964	HD 77076	5.0 ± 0.0	32.8 ± 6.5	B5V
43965	HD 76955	5.0 ± 0.0	11.3 ± 5.5	B3III
43972	HD 76970			B5III
43987	HD 76898			B5Vn
44019	HD 76954	3.2 ± 0.0	57.6 ± 16.5	B8/B9III
44024	HR 3583			G8/K0II
44055	HD 77185			B8III
44068	HD 77244	7.0 ± 0.3	39.8 ± 4.6	B4/B5V
44080	HD 77017			B8/B9III
44105	HD 76868	6.7 ± 0.3	43.2 ± 10.3	B5
44181	HD 77321			G5Ib:
44194	HD 77554			B8/B9III
44213	HR 3593	7.9 ± 0.1	23.2 ± 2.1	B3Vne
44227	HD 77125	2.0 ± 0.0	37.0 ± 24.1	A0
44231	HR 3580	6.2 ± 0.8	63.1 ± 23.8	K5
44242	HD 77525	4.0 ± 0.0	28.2 ± 12.0	B5Vn
44245	V* CV Vel	8.5 ± 0.3	11.5 ± 2.7	B2V + B2V
44251	HD 77366	9.3 ± 0.4	15.5 ± 1.6	B2/B3V
44256	HR 3604			G8II
44278	HD 77523			B6III
44299	HR 3600	4.0 ± 0.0	56.6 ± 26.0	B5V
44317	HD 77566	5.0 ± 0.0	45.8 ± 4.1	B5V
44332	HD 77595			B8II
44368	V* GP Vel	15.5 ± 1.0	12.6 ± 2.4	B0.5Ib
44381	HD 77669			B9III/IV
44400	HD 77312	2.0 ± 0.0	28.6 ± 16.3	A0
44485	HD 78232			B9III/IV
44509	HD 78005	6.2 ± 0.1	33.4 ± 4.8	B4V
44562	HD 78097	7.6 ± 0.8	37.9 ± 8.0	K2III+...
44580	HD 77916	7.9 ± 0.6	37.4 ± 9.0	K2
44582	HD 77954			B7/B8II
44599	HR 3643			F6II-III
44602	HD 78076	3.0 ± 0.1	15.8 ± 12.2	B8V
44613	HR 3603			F6II-III
44618	HD 78290	5.0 ± 0.0	8.3 ± 2.4	B3IV
44626	HR 3642	9.7 ± 0.3	19.7 ± 1.1	B2IVe
44647	HD 78344	17.8 ± 2.7	3.0 ± 0.5	O9.5Ia
44649	HD 78201	3.1 ± 0.1	44.6 ± 11.8	B8/B9IV
44655	V* PR Vel	4.0 ± 0.0	10.0 ± 8.4	B5IV
44659	* ome Hya			K2II-III
44669	HD 79175			B9III
44676	LTT 3359			G5II/III
44685	HD 77770	8.1 ± 0.4	18.2 ± 3.7	B2IV
44700	HR 3612			G8Ib-II
44708	HR 3629	7.9 ± 0.1	13.5 ± 1.5	B2IV-V
44714	HD 77969	1.9 ± 0.0	22.5 ± 10.7	A2
44729	HD 78690			B8III
44784	HD 78194			K1II
44790	V* KK Vel	7.6 ± 0.3	23.2 ± 1.1	B2II/III
44798	V* kap Cnc			B8IIIMNp
44816	V* lam Vel	8.5 ± 0.4	31.2 ± 2.1	K4Ib-II
44831	HD 78348	6.2 ± 0.2	63.1 ± 15.5	K5
44832	HD 78708			B8/B9III/IV
44847	V* BG Vel			F7/F8II
44879	HD 78931	8.3 ± 0.9	23.8 ± 3.1	B3IV/V
44883	* 19 Hya			B9.5III
44961	* 20 Hya			G8II
44977	BD+01 2243	1.9 ± 0.1	12.7 ± 2.5	A2
44996	V* PS Vel	5.8 ± 0.2	37.8 ± 3.6	B4V
45014	HD 79072	6.0 ± 0.1	38.3 ± 11.0	B3III
45044	HD 78985	6.1 ± 0.2	29.8 ± 0.6	B3/B4V
45066	HD 78888	2.0 ± 0.1	20.1 ± 9.3	A0
45080	* a Car	8.8 ± 0.1	18.4 ± 1.7	B2IV
45085	V* GX Vel	16.9 ± 3.1	10.0 ± 2.2	B5Ia
45094	V* V477 Car	6.1 ± 0.2	39.5 ± 4.3	B4V
45095	HD 79278	5.3 ± 0.3	18.7 ± 8.1	B3IV/V
45101	* i Car	6.9 ± 0.1	39.8 ± 7.0	B3IV
45104	HD 78769	6.0 ± 3.0	0.1 ± 0.1	K2
45105	HD 78887			K0II
45117	HD 79149			B9III
45119	HD 79420	6.8 ± 0.3	39.8 ± 3.2	B4III
45121	HD 79421	6.1 ± 0.0	10.7 ± 1.7	B2.5IV
45122	HR 3658	7.7 ± 0.1	10.5 ± 1.4	B2IV-V
45124	HD 79032	2.0 ± 0.0	11.0 ± 0.9	A0
45127	HR 3656			B5III
45136	HD 79419			B8/B9III
45145	HD 79332			B5V
45165	HD 79446			B5II/III
45219	HR 3673			G6II
45237	HD 79573	7.8 ± 4.5	5.0 ± 2.7	WC...
45240	HD 79624	3.1 ± 0.0	33.8 ± 8.0	B8III
45257	HD 79320	1.9 ± 0.0	20.1 ± 8.4	A2
45290	V* EI Lyn			B8IIIMNp
45293	HD 79482	1.7 ± 0.0	15.8 ± 5.4	A4V
45296	HD 79864			B9II/III
45299	HD 79395	8.0 ± 0.6	37.4 ± 8.3	K2
45315	HD 80128			G6Ib
45328	HR 3679			G8II/III
45343	HD 79210	0.6 ± 0.0	31.2 ± 6.1	M0V
45344	* z Vel	5.8 ± 0.2	37.8 ± 15.6	B4V+...
45372	HD 79946	7.4 ± 0.6	39.8 ± 4.6	B5V
45395	HD 79901	2.0 ± 0.0	11.0 ± 0.9	A0V
45411	HD 79753			B9III
45437	HR 3693			G8II
45467	HD 80077	17.4 ± 2.9	6.5 ± 0.5	B2Iape
45479	HD 80212	2.0 ± 0.0	11.0 ± 0.9	A0V
45486	HD 80056			B9III
45505	HR 3692	12.0 ± 0.5	17.6 ± 2.1	K3Ib
45520	HD 80156	2.9 ± 0.1	14.2 ± 10.7	B8/B9IV
45526	* 24 Hya			B9III
45556	* iot Car	7.9 ± 0.2	37.4 ± 5.1	A8Ib

Table C.1: – Continued. –

HIP	other ID	mass $[M_\odot]$	age [Myr]	SpT
45563	HD 78584	6.2 ± 0.2	14.3 ± 1.5	B3
45580	HD 80457			F3II
45625	HD 80380	5.7 ± 0.3	14.2 ± 5.0	B3IV
45631	HR 3703			B7/B8III
45659	HD 80577			K2Ib/II
45675	V* LR Vel	14.1 ± 2.3	14.2 ± 4.0	B7Iab
45681	HD 80528			B9III/IV
45690	HD 80527			K0/K1II/III
45694	HD 80574	3.8 ± 0.2	15.8 ± 12.4	B6
45731	GJ 3547	0.6 ± 0.0	13.9 ± 1.8	M:
45734	HD 81485	1.3 ± 0.0	14.0 ± 2.1	G3V
45742	HR 3717	10.0 ± 0.5	22.6 ± 4.4	B5V
45747	HD 80328	6.2 ± 0.7	63.7 ± 14.6	K2
45776	HD 80761			B5III
45799	HD 81372			B8/B9III
45805	HD 80705	6.2 ± 0.6	68.6 ± 24.3	K1III
45817	HD 81038	7.0 ± 0.4	49.8 ± 4.6	B5Vn
45823	V* LY Vel	5.0 ± 0.0	20.7 ± 4.5	B5V
45880	HIP 45880			B2
45924	HR 3726			M3Ib
45934	HD 298369	7.6 ± 0.3	2.0 ± 1.1	B2:Vne
45941	* kap Vel	12.5 ± 0.4	15.7 ± 0.2	B2IV
45956	HD 81293			B8III
45963	V* BF Lyn	1.1 ± 0.0	15.0 ± 3.9	K2V
45966	HD 81202			B5II/III
45969	HD 81172			B7/B8III
46017	HD 81353			G8II/III
46032	HD 81370	9.2 ± 0.6	2.8 ± 2.6	B0IV:
46045	HD 81347	8.8 ± 0.3	23.8 ± 2.6	B5V
46049	HR 3740	7.5 ± 0.5	40.4 ± 5.6	K1/K2II/III
46067	HD 81369			B7III
46130	HD 81213	1.9 ± 0.0	39.8 ± 26.8	A2
46145	CCDM J09246-7025AB			B9III
46149	HD 81193	6.2 ± 0.5	63.7 ± 14.6	K2
46192	HD 81543			B9III
46205	HD 81933			G8II/III
46223	V* V415 Hya	1.8 ± 0.0	35.2 ± 21.5	A3
46224	V* V377 Car	6.9 ± 0.3	39.8 ± 4.4	B4V
46238	HD 81542			B9III
46284	HD 81599			K1II/III
46296	HD 81891	10.0 ± 1.7	20.0 ± 2.1	B3V
46305	HD 81755	6.6 ± 0.5	47.6 ± 8.8	G6III/IV
46329	HR 3745	7.6 ± 0.4	39.8 ± 4.4	B5V
46342	HD 81949			G3/G5Ib
46348	HD 81921			B9II/III
46364	HD 81946	4.6 ± 0.4	51.2 ± 2.2	B5III
46370	HD 82187			B8III
46378	HD 81745	1.8 ± 0.1	20.0 ± 8.3	A2
46458	HD 82226			B9III
46470	HD 82121			B5IV/V
46496	HD 81703	6.3 ± 0.8	63.1 ± 23.5	K5
46505	HD 82405			B8III
46512	HD 85742			B6III
46518	HD 82278			B8II
46554	HD 82346			F3Ib
46569	HR 3767	6.3 ± 0.6	57.2 ± 11.0	K2/K3III
46611	HD 298437	3.0 ± 0.1	25.1 ± 20.8	B8
46614	HD 82457			B7II/III
46622	HD 82600			K2II
46659	BD+48 1777	15.0 ± 1.1	0.2 ± 0.1	sdO:
46661	HD 82904			F0II
46678	HD 82790			B9III
46691	HD 82397			B9III
46693	HD 81547	6.6 ± 0.3	58.9 ± 9.8	K0
46755	HD 83019	8.2 ± 0.7	29.0 ± 6.0	B5IIIn...
46760	HD 83093	9.9 ± 0.1	19.0 ± 1.6	B2V
46765	HD 82764			B8III
46816	V* LQ Hya	0.8 ± 0.0	51.9 ± 14.0	K0
46843	V* DX Leo	0.9 ± 0.0	51.9 ± 19.4	K0
46885	HD 82605	1.8 ± 0.0	14.0 ± 3.7	A3
46889	HD 82988			B8III
46905	HD 83032			B7III
46912	HD 83111			K0II
46914	CCDM J09337-4900AB	6.3 ± 0.1	54.2 ± 13.2	B4IV
46928	V* zet Cha			B5V
46950	HR 3819	9.3 ± 0.2	12.6 ± 2.7	B1.5IV
46974	* h Car	9.3 ± 0.4	24.5 ± 3.3	B5II
46977	V* DK UMa	2.7 ± 0.2	0.8 ± 0.4	G4III-IV
46978	HD 83312	6.1 ± 0.1	45.2 ± 4.5	B4:psh
47005	HD 83153	5.0 ± 0.1	39.8 ± 5.5	B3/B4III
47018	V* AK Ant			A2II/IIIw..
47078	CD-49 4527B			B5
47116	HD 83358			B9III
47126	HD 83369	3.0 ± 0.0	31.6 ± 22.9	B8II
47131	V* MS Vel			M2II
47135	HD 84075	1.1 ± 0.0	21.7 ± 5.6	G2V
47137	HD 83488	5.0 ± 0.0	2.7 ± 1.8	B3V
47155	HD 83277			A6:IIw...
47183	HD 83643	2.9 ± 0.1	23.3 ± 11.8	B8/B9V
47189	* 8 Leo	6.3 ± 0.3	68.6 ± 23.6	K1III
47192	HD 83463			B9II
47193	HR 3751	7.9 ± 0.6	38.4 ± 4.9	K3III
47248	HD 83626	3.0 ± 0.1	57.3 ± 26.5	B8/B9V:
47267	* y Vel			G8II
47277	HD 83657			K1II
47296	HIP 47296	15.0 ± 1.1	0.2 ± 0.1	sdO:
47301	HD 83834			B8V
47306	HD 83622	3.5 ± 0.3	57.3 ± 22.3	B7IV
47318	HD 83495	1.9 ± 0.1	11.3 ± 1.2	A1V
47370	HD 83866			B8II
47394	HD 83853	7.9 ± 1.1	37.4 ± 10.4	K2/K3III
47397	HD 83865			B5V
47422	HD 84046			B8/B9III/IV
47451	HD 83826	6.6 ± 0.4	57.1 ± 10.6	K0III
47452	* kap Hya	5.0 ± 0.0	27.8 ± 4.7	B4IV/V
47495	HD 84101			B5V
47522	HR 3858			B5V
47549	HD 84375	6.1 ± 0.1	43.0 ± 6.6	B3III:psh
47559	HR 3868	7.8 ± 0.2	39.8 ± 4.4	B4V
47572	HD 84134			B8II
47615	HD 84799	1.8 ± 0.0	56.6 ± 40.5	A3V
47627	HR 3867			Asp...
47653	HD 84359			B8III
47676	HD 84464			B5V
47700	HD 84462	5.0 ± 0.0	47.3 ± 2.6	B5/B6V
47701	* f Leo	2.0 ± 0.0	31.6 ± 19.2	A2IV
47703	HD 84414			F6/F7II
47747	HD 84493	7.0 ± 0.2	2.1 ± 1.2	B2IV
47789	HD 84585	3.0 ± 0.1	10.0 ± 6.8	B8/B9III
47802	HD 84551			B9III
47809	HD 84891			F0II
47850	HD 84759			G8II/III+..
47854	V* l Car	8.9 ± 0.2	29.0 ± 3.7	G5Iab/Ib
47857	HD 84866	6.1 ± 0.2	56.8 ± 13.2	B4III
47868	HR 3878	15.5 ± 1.2	8.4 ± 0.6	B0IV
47876	HD 84851			B8/B9III
47880	HD 84418	6.3 ± 0.8	63.1 ± 27.2	K5
47881	HD 84610			G8II
47893	V* V487 Car			B8III/IV
47904	V* VX Hya	1.5 ± 0.1	35.8 ± 5.6	F2-F8Ib
47908	* eps Leo			G0II
47940	HD 84774			G8II/III
47950	HD 84727	6.3 ± 1.1	50.1 ± 6.4	A0III
47963	HR 3886	7.5 ± 0.2	24.0 ± 1.9	B2.5IV
48002	CCDM J09471-6504AB	9.1 ± 0.3	26.8 ± 2.9	A9

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
48129	V* IX UMa			A2II
48130	HD 85498	2.7 ± 0.2	7.0 ± 3.2	B8V
48156	HD 85642			F2II
48199	HD 85341			B9II/III
48222	HD 85469			B8/B9III
48224	* u Vel			B7III
48228	HD 85356	6.7 ± 0.3	28.3 ± 3.0	B2Ib
48251	HD 85496			B8/B9III
48253	HD 85629			B9III/IV
48256	* 16 LMi	6.2 ± 0.4	63.5 ± 18.1	K5
48260	HD 85530			G8II
48369	HD 85552			G1II/III
48374	* m Vel			G5Ib
48386	HD 85361	6.8 ± 0.3	45.8 ± 6.7	K0
48436	HD 85416	6.2 ± 0.4	63.5 ± 19.5	K5
48440	HD 85777	7.9 ± 0.4	25.7 ± 1.5	B3IV
48457	CCDM J09528-4033AB			B9.5III
48469	V* QZ Vel	12.4 ± 0.0	13.6 ± 1.6	B1V
48495	HD 85787	2.0 ± 0.0	20.1 ± 8.4	A0V
48527	V* V335 Vel	10.0 ± 0.1	25.1 ± 1.7	B2V
48547	HD 85860			B3/5V + B/A
48561	HR 3925			B+...
48586	HD 86183	4.0 ± 0.0	10.0 ± 2.6	B5V
48589	V* QX Car	8.6 ± 0.3	11.1 ± 2.1	B3V + B3V
48590	HD 85844	1.8 ± 0.0	25.1 ± 13.1	A2
48640	HD 86099	3.0 ± 0.0	51.8 ± 14.5	B8/B9V
48643	V* V423 Car			Ap...
48669	HD 86289			B8II
48679	HD 86319			B7/B8III
48697	HD 86288	6.9 ± 0.3	39.8 ± 4.4	B5III
48705	HD 86530	3.2 ± 0.1	10.0 ± 6.8	B7V
48715	HR 3944	9.0 ± 0.1	23.6 ± 3.8	B1Ib
48730	HR 3935	12.3 ± 0.5	15.7 ± 0.9	B2IV-V
48745	HD 86248			B2II
48756	HD 86135	6.2 ± 0.9	63.5 ± 24.2	K5
48761	V* V367 Car	6.3 ± 0.5	50.1 ± 6.4	B6V
48774	* phi Vel	11.7 ± 0.3	20.0 ± 3.4	B5Ib
48782	V* V492 Car	7.1 ± 0.1	31.6 ± 1.0	B3V
48799	V* IV Vel	10.0 ± 0.0	25.1 ± 1.1	B3IV
48808	HD 86438			B2II
48835	HR 3943	7.9 ± 0.2	33.2 ± 5.0	B3V
48851	HD 86202	7.5 ± 1.0	39.2 ± 8.1	K5
48868	HD 86601			B9III/IV
48943	HR 3946			B5V
48996	HD 86909	3.2 ± 0.1	39.8 ± 29.1	B8IV/V
49022	HD 86878	2.5 ± 0.1	70.8 ± 28.8	B9V
49123	HD 87222	6.3 ± 0.1	27.7 ± 3.1	B3IV
49137	HR 3955	7.0 ± 0.1	30.5 ± 2.6	B2.5V
49138	HD 87241			B9III
49149	HD 87266	5.8 ± 0.3	26.8 ± 0.9	B3IV
49160	HR 3957			K1II
49164	HR 3960	7.2 ± 0.3	44.7 ± 4.3	A9IV
49184	HD 87408	6.9 ± 0.9	39.8 ± 4.6	B7III
49201	HD 87265			B2V
49203	HD 87295	6.3 ± 0.1	39.8 ± 0.9	B3/B4IV
49218	HD 87405			Ap...
49220	V* EO Leo	6.4 ± 0.1	34.0 ± 5.4	B2.5IV
49231	HD 87144	7.5 ± 0.7	43.2 ± 8.2	K5
49233	HR 3966	7.8 ± 0.2	39.8 ± 4.6	A6II/III
49281	HR 3971	7.5 ± 0.2	39.8 ± 4.6	B4:Vne
49293	HR 3959	7.2 ± 0.4	43.3 ± 6.3	K0
49318	HD 87541			B9III/IV
49384	HD 87559	5.6 ± 0.8	64.4 ± 16.6	K3III
49394	HD 87652			B8/B9III
49468	HD 87800			B6/B7II
49480	HD 88159	1.9 ± 0.0	11.4 ± 1.3	A1V
49513	HD 87782	5.0 ± 0.1	63.1 ± 13.1	B6V
49553	HD 88079	3.9 ± 0.1	10.0 ± 8.4	B6V
49583	* eta Leo	7.8 ± 0.2	39.8 ± 4.5	A0Ib
49602	HD 88103			B8/B9III
49608	HD 88115	8.7 ± 0.5	1.9 ± 1.2	B1III
49619	HD 88015	6.5 ± 0.1	23.6 ± 1.7	B3III
49663	HD 88175			B8III
49688	HR 3934	7.1 ± 0.2	43.3 ± 6.3	K0
49695	HD 88322	6.3 ± 0.1	45.6 ± 4.7	B4V
49712	HR 3990	8.9 ± 0.3	28.8 ± 3.8	B3IV
49723	HD 88292			B8II
49729	HD 88009			G8II
49799	HD 88471			B8III
49835	HD 88591	5.0 ± 0.0	34.0 ± 15.0	B5Vnn
49840	HD 88484			K1II/III
49854	HD 88150	2.0 ± 0.0	11.0 ± 0.9	A0
49855	HD 88410			G6II/III
49909	HD 88556			B5/B6III
49934	HR 4009	10.0 ± 0.5	21.1 ± 1.7	B2IVnpe
49940	V* V338 Vel			B8III
49945	HD 88695	5.0 ± 0.0	15.9 ± 11.0	B5Vn
49947	HD 88353	2.0 ± 0.0	20.1 ± 9.3	A0
49957	HD 88660			B9III/IV
49975	HD 88716			F3/F5II
49983	HD 88733			B9III/IV
50038	HD 88894	5.0 ± 0.0	53.8 ± 4.6	B5V
50044	HR 4018	10.0 ± 0.2	25.1 ± 3.4	B4Ve
50067	HR 4022	7.7 ± 0.2	2.0 ± 1.6	B2V
50099	* ome Car			B8III
50126	HD 89403	6.4 ± 0.2	9.2 ± 3.0	B2V
50135	HD 88945	5.5 ± 0.4	31.6 ± 4.4	B4V
50171	HD 88978	6.6 ± 0.4	50.1 ± 6.4	B5III
50232	HR 4038	8.7 ± 0.2	19.8 ± 2.3	B2IV-V
50233	HD 89105			B9III
50242	HD 89203			B7III
50248	HD 89103	2.4 ± 0.1	43.2 ± 24.8	Ap...
50277	HD 89275	3.3 ± 0.1	18.1 ± 14.7	B7/B8IV/V
50310	HD 88896	6.0 ± 3.6	0.1 ± 0.1	K2
50371	V* V337 Car	6.9 ± 0.5	45.5 ± 11.1	K3II
50398	HD 89385	2.9 ± 0.0	31.6 ± 8.4	B8Vp...
50417	HD 89280	2.0 ± 0.0	28.1 ± 15.9	A2III
50437	HD 89429	2.4 ± 0.0	55.3 ± 28.0	B9V
50450	HD 89310	1.8 ± 0.0	12.7 ± 2.5	A2
50456	V* AG Ant	8.9 ± 0.3	29.0 ± 4.2	B9.5Ib/II
50519	HD 89587	7.9 ± 0.5	37.3 ± 5.8	B5III
50531	HD 89683			B8II
50555	V* GZ Vel	8.9 ± 0.7	30.3 ± 4.1	K3II
50561	HD 89740	6.0 ± 0.2	7.3 ± 4.9	B3Vn
50562	HD 89805			K2II
50576	HD 89756			F3II
50595	HD 89738	2.4 ± 0.1	55.1 ± 36.5	B9V
50619	HD 89876	4.6 ± 0.4	41.2 ± 8.2	B5IV
50646	HD 89844	7.0 ± 0.2	21.3 ± 3.5	B2IIn...
50648	HD 311613	2.0 ± 0.0	39.8 ± 26.8	A0
50666	HD 89785	2.4 ± 0.1	20.0 ± 12.0	B9V
50667	HD 89974	2.0 ± 0.0	20.1 ± 9.3	A0V:
50676	CCDM J10209-5603AB	8.1 ± 0.3	33.2 ± 5.2	B3III
50677	HD 89856			B9III:
50684	V* RS Sex	8.1 ± 0.6	25.5 ± 3.0	B2.5IV
50692	HD 89720	6.8 ± 0.3	50.1 ± 8.2	K2
50695	HD 89925			G0Iab
50719	HD 89796			G8II
50740	HD 90088	2.9 ± 0.1	10.0 ± 6.8	B8V
50764	HD 89884			B5III
50769	HD 90066			F2II
50780	V* V345 Vel	6.2 ± 0.1	15.4 ± 2.6	B3V
50816	HD 90139	2.4 ± 0.1	42.0 ± 29.8	B9IV/V
50821	HD 90151			B9III/IV
50843	HD 90177	21.4 ± 4.3	4.9 ± 0.8	B2evar

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
50855	HD 90219			K0II/IIICN.
50857	* 26 LMi	1.9 ± 0.0	13.0 ± 2.1	A2
50893	HD 90057	6.4 ± 1.1	60.1 ± 23.5	K5
50899	HD 90202	9.3 ± 0.3	0.3 ± 0.1	B0Iab/Ibn
50901	HD 90085			A4II
50916	HR 4091			K5Ib-II
50919	HD 90313	8.0 ± 0.5	19.8 ± 2.3	B1III
50938	HD 90167			K0II
50945	HD 90456	1.8 ± 0.0	31.6 ± 19.2	A2V
50953	HD 90398			B9III/IV
50974	HD 90243	1.9 ± 0.1	20.5 ± 8.8	A2/A3m...
50999	HD 90225	6.2 ± 0.7	63.7 ± 14.6	K0
51011	HD 90490	5.0 ± 0.0	34.0 ± 6.2	B5Vne
51063	HD 90578	7.0 ± 0.0	0.4 ± 0.3	B1.5III
51133	HD 90445	6.3 ± 0.5	63.7 ± 14.6	K0
51140	HR 4107	7.9 ± 0.3	38.5 ± 5.5	K3II/III
51146	HD 90484	7.1 ± 0.7	47.6 ± 9.7	K2
51169	HD 90856	2.6 ± 0.0	7.0 ± 2.9	B8V
51232	* s Car	7.5 ± 0.4	43.3 ± 6.3	F2II
51242	HD 90797			B4II/III
51246	V* V506 Car			B8III
51265	HD 90966	7.6 ± 0.2	17.7 ± 1.1	B2/B3III:ne
51290	HR 4103	6.3 ± 0.5	63.7 ± 14.6	K0
51310	V* V508 Car			B8Iab
51313	HR 4120	12.1 ± 0.2	17.6 ± 2.1	K3Ib
51322	CCDM J10290-4859AB	5.8 ± 0.2	45.9 ± 3.9	B4IV
51323	HD 91041	3.2 ± 0.0	61.2 ± 12.3	B8III
51386	NLTT 24498	1.3 ± 0.0	24.9 ± 4.8	F5
51425	V* V655 Car	5.8 ± 0.2	45.3 ± 9.2	B4IV
51444	HD 91188	7.0 ± 0.2	39.8 ± 4.6	B3III
51453	HD 91269	7.0 ± 0.2	39.8 ± 4.6	B4:V:ne
51488	HD 91307			B5V
51506	HD 91342			B9III
51544	HD 91466			B8III/IV
51548	HD 91323	5.9 ± 0.1	45.3 ± 4.5	B5III
51557	HR 4161	4.7 ± 0.3	51.3 ± 15.2	B5III/IV
51558	HD 91370	4.5 ± 0.4	27.2 ± 5.7	B5V
51560	HR 4136	5.0 ± 0.1	23.6 ± 5.3	B4
51576	* p Car	7.6 ± 0.1	39.8 ± 6.6	B4Vne
51583	HD 91337	2.0 ± 0.0	11.0 ± 0.9	Ap...
51593	HD 91477	4.0 ± 0.0	33.7 ± 8.0	B5III
51624	V* rho Leo	21.2 ± 3.6	4.2 ± 0.5	B1Ib SB
51676	V* V369 Car	11.7 ± 0.4	16.9 ± 1.2	B7Ia
51775	* 48 Leo			G8II-III
51776	HD 91907	3.1 ± 0.1	25.1 ± 16.9	B8III
51816	HR 4154			G8/K0II/III
51849	* r Car	7.9 ± 0.3	38.5 ± 4.9	K3/K4II
51857	V* V513 Car	15.4 ± 0.7	10.3 ± 0.8	B0.5Ib
51934	HD 92072			B5V
51940	HD 92087	7.0 ± 0.6	39.8 ± 4.6	B5V:
51973	HD 91840			K3II
51984	HD 92155	7.1 ± 0.1	30.5 ± 2.6	B3Vn
52032	* 36 LMi	6.6 ± 0.4	58.9 ± 11.0	K0
52043	V* V514 Car	6.6 ± 0.1	34.0 ± 5.4	B3IV
52093	BD+61 1197	2.8 ± 0.2	10.0 ± 6.8	B8
52098	* 37 LMi			G0II
52102	HR 4177	12.2 ± 0.6	20.0 ± 6.0	K4/K5III:
52103	HD 92399	6.1 ± 0.1	50.1 ± 6.3	B4/B5III/IV
52150	HR 4186			K3II
52154	* x Vel			G2II
52161	HD 92464	6.0 ± 0.2	39.8 ± 0.6	B5Vn
52172	CCDM J10395-7538AB	1.5 ± 0.0	11.3 ± 1.7	F7/F8V:
52181	GJ 398.2	12.0 ± 0.8	0.1 ± 0.0	DA:
52204	HD 92501			K5Ib
52340	HR 4206	6.0 ± 0.1	47.9 ± 7.6	B5IV
52358	HD 92850	9.8 ± 0.3	5.9 ± 5.3	B0Ib
52370	HR 4196	6.3 ± 0.0	17.1 ± 1.1	B3V
52373	HD 92686	6.7 ± 0.5	52.8 ± 11.7	K5
52379	HD 92771			A7II/III
52394	HD 92908			B9III
52419	* tet Car	14.9 ± 0.5	4.0 ± 2.0	B0Vp
52426	HD 92948			B7III
52436	HD 93010	7.2 ± 0.4	39.8 ± 4.4	B3III
52455	HD 92857	1.9 ± 0.0	13.0 ± 1.8	A2
52462	V* V419 Hya	0.9 ± 0.0	43.5 ± 12.4	K1V
52468	V* V520 Car	7.8 ± 0.1	39.8 ± 5.4	K3Ib
52487	HR 4204	8.0 ± 0.2	33.0 ± 4.7	B3:V
52488	HD 93131	19.8 ± 1.0	4.9 ± 0.3	WN7 + A
52499	HD 93067	1.9 ± 0.1	12.7 ± 2.5	A2IV
52502	HR 4205			B5Vn
52526	V* QZ Car	9.9 ± 0.1	7.2 ± 2.8	B0Ib:
52536	HD 93064			K2II
52556	HD 92954	7.0 ± 0.7	47.8 ± 4.6	K5
52562	V* RT Car			M2Ia
52566	HD 93172	1.9 ± 0.1	43.1 ± 29.9	A2IIIm...
52628	HD 93403	24.1 ± 16.1	1.9 ± 1.2	O5e
52633	HR 4234	5.0 ± 0.0	32.6 ± 15.1	B2.5IV
52639	HD 92880	7.2 ± 0.5	43.3 ± 6.3	K0
52670	HD 93484	7.6 ± 0.1	31.6 ± 5.9	B2.5V
52736	HR 4222	5.9 ± 0.1	21.0 ± 5.8	B3IV
52738	BD+47 1812			A7II
52742	HR 4221			B8/B9III
52785	HD 93739	8.6 ± 0.3	18.2 ± 3.5	B2IV
52792	HD 93527			F7II/III
52797	HR 4226			M1II
52799	HD 93714	6.5 ± 0.2	50.1 ± 6.2	B3III
52806	HD 93695			B5Vvar
52818	HD 93680			G8/K0II/III
52831	HD 93471			K2II
52834	HD 93692			B9III
52849	HD 93521	17.7 ± 2.7	3.3 ± 0.8	O9Vp
52855	HD 93721			B9.5III/IV
52868	HD 93913	7.1 ± 0.2	30.5 ± 2.6	B3V
52872	HD 93790			G3/G5II/III
52898	HD 93840	7.9 ± 0.5	23.0 ± 3.6	B2II
52903	HD 93898			B8/B9III
52970	HD 94066			B5Vn
52977	HD 94097	7.7 ± 0.2	31.6 ± 5.5	B3V
53004	HD 94112			F2II
53007	HD 94144	6.2 ± 0.2	50.1 ± 7.1	B2V
53018	HD 94108			B4V
53024	HD 94414	6.5 ± 0.2	50.1 ± 4.2	B4V
53036	HD 93847	2.4 ± 0.1	35.6 ± 14.5	B9
53057	HD 94290	5.0 ± 0.1	7.7 ± 2.1	B4V
53074	HD 94454			B8III
53089	HD 94289	7.0 ± 0.1	26.5 ± 1.7	B3V
53109	V* V523 Car	7.9 ± 1.0	37.3 ± 11.3	B5Iab
53121	HD 94346	7.1 ± 0.5	39.8 ± 4.6	B6/B7III
53151	HR 4268	6.2 ± 0.8	63.1 ± 24.4	K2II/III
53162	HD 94326			A4II/III
53183	HD 94409	3.0 ± 0.1	15.8 ± 12.2	B8/B9V
53192	HD 94494			K0II/III
53211	HD 94366	7.0 ± 0.6	43.2 ± 4.8	B6III
53231	HD 94491	6.5 ± 0.1	35.4 ± 5.3	B5V
53260	HD 94508	9.7 ± 1.0	25.1 ± 3.3	K2III
53274	HD 94546	15.0 ± 1.1	0.2 ± 0.1	WN+...
53294	HD 94473	4.5 ± 0.4	47.4 ± 2.5	B5III
53300	V* BZ Car			M2Iab
53344	HD 94565	3.0 ± 0.0	15.8 ± 4.5	B8III
53353	HD 94644	6.3 ± 0.4	50.1 ± 6.4	B5III
53498	HD 95688			B9III
53546	HR 4279	10.0 ± 0.6	25.1 ± 4.7	K1II
53557	HD 94971			F8/G0II/III
53643	HD 95602	6.0 ± 0.4	50.1 ± 5.9	B4II
53691	V* CR Cha	1.5 ± 0.1	2.2 ± 0.6	K2e
53694	HD 95222	1.6 ± 0.0	50.1 ± 34.5	A7V
53701	HR 4290	3.1 ± 0.0	45.8 ± 5.5	B8IV

Table C.1: – Continued. –

HIP	other ID	mass $[M_\odot]$	age [Myr]	SpT
53714	HD 95286			B8/B9II
53717	HD 95193			G8Ib/II
53750	HD 95098			K2II-III
53759	HD 95282			A2/A3II/III
53762	HR 4292	3.0 ± 0.0	39.8 ± 2.8	B8/B9V
53772	HD 95558			B9III/IV
53831	HD 95295	7.8 ± 0.4	39.8 ± 5.5	K0
53880	HD 305913			B5III
53966	HD 95999			G6II/IIICN.
54006	HD 96044	5.0 ± 0.0	39.5 ± 7.8	B5V
54024	HD 95725			K1II
54082	HD 96088	8.4 ± 0.7	29.1 ± 6.0	B3III
54115	HD 96268			F0II/III
54179	V* V414 Car	15.5 ± 1.5	10.0 ± 2.0	B1Iab
54226	V* QU Car			B+...
54257	HD 96675	3.5 ± 0.1	1.8 ± 0.4	B6IV/V
54266	V* V430 Car	7.6 ± 0.2	18.6 ± 1.3	B2IIIp
54269	HD 96234			K0II
54282	CD-28 8651	2.0 ± 0.1	20.1 ± 9.3	A0
54291	HR 4321			K2II
54293	HD 96507			B9III
54294	HR 4323			K2II/III
54303	HD 96344			M0II:
54327	HR 4329	8.5 ± 0.3	11.5 ± 6.9	B2V
54365	V* DI Cha	2.0 ± 0.1	2.9 ± 0.8	G1Iab:pe
54413	HD 97048	2.3 ± 0.1	4.9 ± 1.3	A0pshe
54463	V* V382 Car	21.3 ± 3.8	6.8 ± 1.9	G0Ia0
54475	HD 96917	17.8 ± 2.7	3.8 ± 0.4	O9II:
54515	* 66 Leo	2.0 ± 0.0	63.1 ± 30.4	A2
54524	CPD-61 2078			B6III
54543	V* ER Car			G1Iab/Ib
54557	HD 97300	2.4 ± 0.1	5.4 ± 2.0	B9V
54572	HD 97151	9.4 ± 0.4	14.7 ± 2.2	B2Ve
54606	HD 97222	10.2 ± 0.3	0.2 ± 0.1	B0II
54616	HD 97185	8.3 ± 0.9	23.6 ± 2.7	B4V
54630	HR 4342			B7III
54723	V* FL Leo	5.0 ± 2.0	0.0 ± 0.0	K5
54727	HD 97522	14.9 ± 0.7	10.0 ± 0.6	B1Ib-II
54732	HD 97468			K0IICN...
54733	HD 97512			B9III
54744	V* CV Cha	1.2 ± 0.1	12.7 ± 4.5	K0e
54753	V* V830 Car	6.3 ± 0.2	36.1 ± 2.0	B1:Vn
54774	HD 97617			B8/B9III
54783	HR 4353			G8II/III
54796	HD 97630			B8/B9III
54829	HR 4361	12.5 ± 0.7	14.2 ± 1.2	B1.5V
54833	HD 97762			B9III
54851	HD 97688			K0II/IIICN.
54885	HD 97851	12.0 ± 0.8	0.2 ± 0.1	B0III
54958	HD 98143			B8III
54970	HD 97895			B4V
54971	CD-65 1071	8.6 ± 1.7	30.1 ± 9.5	K4/K5III
54983	HD 97959	1.9 ± 0.0	25.1 ± 13.1	A1m...
55140	V* V535 Car	6.5 ± 0.7	63.1 ± 13.8	M2III
55149	CCDM J11175-5906ABC			B9.5/A0III
55153	HD 98314			B9III
55175	HD 98329			B9II/III
55188	HD 98363	1.9 ± 0.0	50.1 ± 36.3	A2V
55193	HD 98217			G8II
55202	HD 98386			G6II
55283	V* V903 Cen			M4/M5Ib/II
55350	HR 4389	5.8 ± 0.2	37.0 ± 14.0	B4V
55356	HD 98659			B8II
55420	HD 98733	8.9 ± 0.7	19.2 ± 2.6	B1Ib
55425	HR 4390			B5Vn
55483	HD 96870	3.0 ± 0.1	29.0 ± 13.5	B8
55505	V* TV Crt	1.2 ± 0.0	3.7 ± 0.8	K4V
55534	HD 98956			B9IIIp...
55537	HD 98922	5.0 ± 1.4	0.2 ± 0.0	B9Ve
55557	HD 99000	3.0 ± 0.0	15.6 ± 11.9	B8III
55560	* 56 UMa			G8II
55597	HR 4401	5.0 ± 0.0	27.3 ± 10.9	B5
55657	HR 4406	9.0 ± 0.1	19.8 ± 1.6	B2IV-V
55667	HR 4403	10.7 ± 2.7	15.7 ± 0.5	B2IV-V
55682	HD 99073	7.9 ± 0.8	37.4 ± 8.9	K5
55688	HD 99301			B2III/IV
55700	HD 99199	1.6 ± 0.0	50.1 ± 34.5	A7II/III
55702	HD 99317			B8/B9III
55707	HD 99316	7.5 ± 0.9	33.3 ± 6.8	B8Ib
55710	HD 99241			K0II
55712	HD 99372			B5III
55746	HD 99827	1.5 ± 0.0	10.5 ± 1.0	F5V
55782	HD 99399			B9III
55801	HD 99467			B9II/III
55831	HR 4415	8.7 ± 0.2	28.8 ± 4.7	B3IV
55851	HD 99506	2.0 ± 0.0	22.5 ± 10.7	A0
55945	* tau Leo			G8II-III
55956	HD 99785	4.6 ± 0.4	28.2 ± 7.0	B5V
55979	HR 4425	6.9 ± 0.1	27.8 ± 3.6	B3V
56021	HD 99897	15.0 ± 10.0	2.3 ± 2.2	O6
56050	V* V808 Cen	16.9 ± 3.0	8.3 ± 0.6	B2Ia
56059	HD 99831	1.7 ± 0.0	15.8 ± 5.4	Am
56065	HD 99935			B9III/IV
56114	HD 100370			B9III/IV
56130	HD 100012			K0/K1II/III
56156	HD 100126			B9II
56162	HD 100137			G8II
56176	V* V419 Cen			F7II
56191	HD 100199	11.9 ± 1.2	6.5 ± 4.7	B1Ibp
56219	HD 100150			A1II:
56244	V* V857 Cen	0.3 ± 0.0	64.0 ± 16.4	M
56313	CCDM J11327-6552AB			B7/B8III/IV
56331	HD 100444	15.0 ± 1.1	0.2 ± 0.1	O9II
56364	HR 4451			F8/G0Ib/II
56365	HD 100478			G1/G2II
56379	HD 100546	2.4 ± 0.1	5.4 ± 2.1	B9Vne
56388	HD 100456	6.2 ± 0.1	63.1 ± 13.9	K5
56406	HD 100541			G8II/III
56462	HD 100714			B8III
56473	CCDM J11347+1648AB	7.4 ± 0.7	33.8 ± 8.0	B4V
56495	HD 100753			B6III
56496	HD 100689			B9III/IV
56561	* lam Cen			B9II:
56606	HR 4472	8.9 ± 0.2	24.6 ± 2.3	B2.5IV
56619	HD 306799			M0Ib
56661	BD+56 1532	2.7 ± 0.1	7.0 ± 2.9	B8
56703	BD-16 3293B	2.0 ± 0.1	20.1 ± 9.3	A0
56709	V* V816 Cen			B5
56711	HD 101119			B9III
56726	V* V1051 Cen	22.3 ± 3.4	1.2 ± 1.2	O7n
56743	HD 101174			B4/B5IV
56748	HD 101142			B5III
56770	* 59 UMa			F2II-III
56777	HD 101090			K2II-III
56839	HD 101314	6.8 ± 0.3	60.7 ± 12.2	G2Ib
56899	V* VX Crt			M3II/III
56986	HR 4499	6.3 ± 0.4	68.6 ± 26.1	G3Ib
56992	V* V885 Cen			F0Iape
57067	V* V915 Cen			B9II/III
57076	HD 101723			G2II/III
57142	HD 101849			K1/K2II
57160	HD 101841			F3II
57192	HD 102065	3.0 ± 0.0	2.3 ± 1.4	B9IV
57240	HR 4512	6.5 ± 0.7	62.8 ± 13.6	K5III
57241	HD 101952	2.0 ± 0.0	20.1 ± 9.3	A
57244	HIP 57244	1.4 ± 0.0	35.8 ± 5.6	A9

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
57261	HD 101828			G5II
57269	V* V838 Cen	1.1 ± 0.0	19.5 ± 4.9	K0/K1Vp
57296	HD 102155			K1II
57371	HR 4519			B6III
57432	CCDM J11465-5802AB	4.0 ± 0.0	10.0 ± 8.4	B5V
57439	HR 4522			G0II
57515	HD 102435			A5II/IIIm..
57524	HD 102458	1.2 ± 0.0	16.3 ± 1.6	G3/G5Vp
57529	HD 102428			F5Iab:
57542	HD 102533			A0II
57565	V* DQ Leo			A comp SB
57567	V* V1023 Cen			A3II/III
57569	HD 102567	9.3 ± 0.3	0.5 ± 0.3	B1Vne
57589	V* V1239 Cen	0.8 ± 0.1	7.3 ± 2.8	Mp
57628	HD 102657	5.0 ± 0.0	29.8 ± 4.3	B3V
57669	* j Cen	7.1 ± 0.1	32.0 ± 0.4	B3V
57696	HR 4538			G5Ib
57710	HD 102814	1.8 ± 0.0	14.0 ± 3.7	A3V
57721	HD 102809	1.8 ± 0.0	12.6 ± 1.5	A2
57732	HR 4539			G8II/III
57787	CD-70 889			G0Ia
57843	V* V923 Cen			M3Ia-Iab
57848	CCDM J11518-6436AB	7.8 ± 0.7	32.3 ± 7.2	B4V
57851	HR 4549	5.0 ± 0.0	15.9 ± 3.1	B4V
57861	HD 103077			B5V
57870	HR 4551	4.5 ± 0.5	8.5 ± 7.1	B4III
57907	HD 103182	9.3 ± 0.9	23.8 ± 2.6	B3III
57963	HD 103270	5.9 ± 0.1	45.3 ± 4.3	B4IV
58028	HD 103353			F6Iab:
58179	BD+10 2357	2.0 ± 0.0	11.0 ± 0.9	A0
58182	HD 103655			G8II/III
58217	HD 103683			G9II-III
58285	V* T Cha	1.2 ± 0.1	32.9 ± 1.3	F5
58313	HD 103845			K0II-IIIw..
58326	HR 4573	6.0 ± 0.1	9.4 ± 3.0	B3V
58356	HD 103922			G8II/III
58367	HD 103938			B8II
58379	HR 4576			B8III
58391	HD 103962			A0II
58400	V* DW Cha	1.2 ± 0.1	1.9 ± 0.7	Kp
58402	HD 104015			B5Vsh
58452	HD 104080	2.9 ± 0.0	31.6 ± 11.1	B8/B9V
58453	HR 4582			K1/K2II
58475	HD 104122			B9III
58488	HD 104171	5.6 ± 0.9	46.5 ± 3.3	B9II
58490	2MASS J11594226-7601260	1.1 ± 0.0	6.8 ± 1.8	Kp
58520	V* DX Cha	2.2 ± 0.1	5.1 ± 1.2	B/Ape
58544	HD 104255			B8/B9III
58565	HD 104298			G6II/III
58584	HD 104346			B7/B8II
58587	V* TY Crv	15.5 ± 1.0	11.1 ± 0.7	B2IV
58648	V* HX UMa			F6II
58661	* 1 Com			G0II
58668	HD 104455			G8/K0II/III
58678	HD 104484	2.0 ± 0.0	50.1 ± 36.3	A2
58681	HD 104508	2.5 ± 0.0	17.1 ± 6.6	B8II/III
58719	V* KT Mus			M5Ib/II
58748	V* DE Cru	13.3 ± 1.7	11.4 ± 0.8	B1II
58794	HD 104722	10.0 ± 0.7	15.1 ± 2.2	B2Vne
58861	HD 104835			A2II
58867	V* tet02 Cru	9.4 ± 0.3	20.2 ± 1.9	B2IV
58875	HD 104857			G8/K0Ib/II
58883	HD 104872			B9III
58910	V* BY Cru			F0Ib-II
58922	HD 104932			F3II/III
58954	HD 104994	7.7 ± 0.5	3.9 ± 1.8	WN3p
58996	HD 105070	1.5 ± 0.1	9.6 ± 1.7	G1V
59002	HD 105059	1.7 ± 0.0	39.8 ± 24.9	A5
59046	HR 4614	8.9 ± 0.5	29.4 ± 2.9	G3Ib
59086	HD 105162			G8II
59106	HD 105272	3.0 ± 0.1	12.6 ± 9.5	B8IV
59151	HR 4617			K2II/III
59173	HR 4618	7.0 ± 0.0	6.6 ± 3.1	B2IIIne
59196	* del Cen	10.0 ± 0.7	21.2 ± 1.6	B2IVne
59200	HR 4622	8.6 ± 1.3	33.4 ± 8.9	K3/K4II
59231	V* CO Cru			A8II/IIIw
59232	HR 4625	9.8 ± 0.1	23.8 ± 1.9	B3IV
59266	HD 105580	6.8 ± 0.1	36.1 ± 3.5	B6V
59279	HD 105610			B8II
59280	G 123-7	1.0 ± 0.0	20.1 ± 4.9	K0V
59315	HD 105690	1.0 ± 0.0	35.1 ± 8.3	G5V
59449	* rho Cen	6.6 ± 0.1	23.6 ± 7.4	B3V
59461	HD 105973			B9III/IV
59488	HD 106000	7.8 ± 0.3	39.8 ± 3.3	A2II
59501	* 5 Com			K0II-III
59551	V* S Mus	12.3 ± 0.8	17.6 ± 1.6	F6Ib
59573	HD 106161			K1II/III
59588	V* V335 Hya			M4/M5Ib/II:
59607	HR 4648	6.6 ± 0.1	50.1 ± 9.4	B4III
59653	HD 106309	8.7 ± 0.5	18.4 ± 3.0	B5Ve
59662	HD 106337			B7III:
59674	HD 106342			B8II
59679	HD 106344	6.1 ± 0.1	43.0 ± 6.6	B5V
59714	HD 106419			B9III
59719	HD 106456			K0II/III
59747	V* del Cru	8.9 ± 0.1	18.5 ± 3.4	B2IV
59760	HD 106556			G5II
59803	GIENAH CORVI			B8III
59823	HD 106616	8.0 ± 0.2	4.4 ± 2.5	B1Ib/II
59830	HD 106635	6.0 ± 0.2	8.8 ± 1.4	B3V
59899	HD 106782			B5V
59935	V* AB Cru	8.6 ± 0.4	6.8 ± 3.2	B0IVvar
59959	HD 106881	5.1 ± 0.1	1.0 ± 0.6	B3Vnn
59987	HD 106970			B8III
60000	* bet Cha	5.0 ± 0.0	22.7 ± 6.7	B5Vn
60009	* zet Cru	6.4 ± 0.1	18.5 ± 3.2	B2.5V
60078	HD 107097	5.0 ± 0.3	63.1 ± 14.3	B9IV
60082	HD 107098			K0II
60095	HD 107174	2.0 ± 0.0	20.1 ± 9.3	A0
60128	V* DM Cru	8.1 ± 0.7	33.3 ± 5.8	A0Iab
60134	HD 107233			A4II
60148	HD 107265	2.0 ± 0.0	20.1 ± 9.3	A0V
60153	HD 107250			B9III
60169	HD 107285			G2/G3Iab/Ib
60308	HR 4702	6.8 ± 1.2	48.2 ± 7.8	K4III + (F)
60371	HD 107693			K0:II/III+.
60376	HD 107668	3.2 ± 0.0	42.9 ± 10.4	B8III/IV
60455	V* R Cru			F7Ib/II
60546	HD 107980	10.0 ± 0.4	25.1 ± 3.6	B9V
60553	2MASS J12244737-7503088	1.0 ± 0.0	17.5 ± 2.1	K3Ve
60570	HD 108002	8.9 ± 0.3	23.8 ± 2.8	B1Iab
60573	CD-80 474			B5
60627	HD 108073	3.9 ± 0.1	15.8 ± 13.8	B6V
60629	CPD-68 1650B	3.3 ± 0.1	1.7 ± 0.7	B6V
60710	HR 4732	6.2 ± 0.1	13.4 ± 2.2	B3Vn
60718	* alf Cru	15.6 ± 0.1	10.8 ± 1.4	B0.5IV
60720	BD+21 2418	2.0 ± 0.0	20.1 ± 9.3	A0
60730	HD 108294	2.8 ± 0.1	20.0 ± 12.0	B8/B9V
60761	HD 108374			B8/B9III
60770	HD 108282			G0Ib
60782	CCDM J12275-7640AB			B8III
60809	HR 4742			G5II
60823	* sig Cen	6.7 ± 0.1	26.3 ± 4.9	B3V

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
60831	HD 108574	1.1 ± 0.0	20.7 ± 6.2	G5...
60905	HD 108610	6.5 ± 0.2	34.0 ± 4.1	B3V
60944	V* MO Mus	7.1 ± 0.6	39.8 ± 4.6	B5Ib
60947	HD 108689			F0/F2II
60971	CPD-64 1943			F5Iab
60974	HD 108719	9.3 ± 0.5	15.0 ± 1.8	B2
60979	V* V928 Cen			M2II/III
61018	HD 108835	2.0 ± 0.0	20.1 ± 9.3	A0
61045	HD 108791			G8/K0II
61175	HD 109061			G8II/III
61193	HD 108927			B5V
61199	V* gam Mus			B5V
61266	HD 109198			B8III
61281	* kap Dra			B6IIIp
61284	HD 109138	1.0 ± 0.0	24.0 ± 9.2	K0V
61286	V* U Cen			Me
61290	V* KL Com	9.3 ± 0.6	26.6 ± 3.9	K0V
61294	HD 109199	6.0 ± 0.3	36.8 ± 3.9	B3/B4IV
61359	* bet Crv			G5II
61404	V* BO Mus			M6II/III
61405	HD 109435			A3II/III
61431	HD 109399	12.2 ± 0.8	10.0 ± 0.7	B1Ib
61468	HR 4794	1.7 ± 0.1	10.7 ± 1.5	A7III
61498	HR 4796	2.2 ± 0.1	5.3 ± 0.6	A0V
61506	HD 109550			B9II
61520	V* DP CVn	3.5 ± 0.6	0.4 ± 0.2	G5
61585	V* alf Mus	8.8 ± 0.1	18.4 ± 3.4	B2IV-V
61602	BD+25 2534			Bp
61634	HD 109753			B9III/IV
61717	HD 109946	2.0 ± 0.0	20.1 ± 9.3	A0m...
61758	HD 109938			A4II
61766	HD 110017			K0II/III
61789	* l Cen			B8II/III
61796	V* FH Mus	3.0 ± 0.0	39.8 ± 7.2	B8V
61808	HD 110061	3.2 ± 0.1	57.3 ± 15.8	B8III/IV
61809	V* U Com	1.4 ± 0.0	35.8 ± 5.6	A9
61833	HD 110022			B8III/IV
61839	V* Y UMa			M7II-III:v
61842	HD 110130			K1II/III
61885	HD 110163			B9III
61916	HR 4818			K3II
61958	BD+18 2647	15.0 ± 1.1	0.2 ± 0.1	Op
61981	V* R Mus			F7Ib
62024	HD 110502			A3II
62025	HD 110434			B8/B9III
62027	HR 4830	15.5 ± 0.5	11.4 ± 0.8	B2pe
62083	HD 110591			G8II
62098	HD 110480	1.9 ± 0.0	28.4 ± 16.1	A2V
62110	HD 110511			F0II/III
62115	HD 311884	15.1 ± 9.9	2.2 ± 2.2	WN6 + O5V
62212	HR 4841			F6Ia
62243	HD 110720	2.0 ± 0.0	14.2 ± 3.9	A0V
62312	HD 110924			K0II/III
62322	CCDM J12463-6806AB	9.0 ± 0.0	14.7 ± 3.5	B2V
62327	HR 4848	6.0 ± 0.0	7.7 ± 2.2	B3V
62361	HD 111222	2.8 ± 0.0	12.6 ± 7.0	A
62362	HD 110832			B9II
62434	V* bet Cru	12.1 ± 0.2	12.5 ± 0.8	B0.5III
62455	HD 111420			K3II-III
62464	HD 111108			B9III
62522	HD 111313			B9III
62555	HD 111283	6.9 ± 0.6	44.6 ± 1.3	B6IV
62566	HD 111373	4.2 ± 0.2	33.1 ± 5.3	B5IV
62571	HD 111331			K2/3III:+B/A
62587	HD 111290	7.8 ± 0.1	23.5 ± 1.5	B2III
62595	HD 111486			K0II
62608	HR 4862			G8Ib/II
62646	HR 4868			A5II
62692	HD 111608	2.0 ± 0.0	20.1 ± 9.3	A1IV
62732	V* DS Cru	9.7 ± 0.7	25.1 ± 2.4	A2Iab
62810	HD 111846	1.9 ± 0.0	13.0 ± 1.8	A2
62820	HD 111808	3.1 ± 0.1	46.0 ± 6.9	B8IV
62821	HR 4882			G8Ib/II
62829	HD 111822	9.5 ± 0.5	9.7 ± 2.1	B0.5III
62840	HD 311979	5.0 ± 0.0	2.5 ± 1.7	B3
62913	V* BU Cru	6.3 ± 0.2	5.9 ± 3.8	B3Ib:
62919	V* DT Cru			B3
62953	HD 111990	14.7 ± 1.6	11.6 ± 1.1	B3Ib
62981	V* EF Mus			K1II/III
62986	V* S Cru			F7Ib/II
63003	HR 4898	7.7 ± 0.0	9.1 ± 2.0	B2IV-V
63005	HR 4899	5.0 ± 0.0	15.9 ± 9.7	B5Vne
63007	V* lam Cru	5.0 ± 0.0	53.3 ± 7.5	B4Vn
63045	HD 112192	7.1 ± 0.1	10.9 ± 0.1	B5Vn
63049	HD 112147	12.0 ± 0.8	0.1 ± 0.0	B0:IV:pe
63117	HR 4908	33.1 ± 15.5	3.1 ± 0.1	O9Ib
63167	HD 112295			B8/B9II/III
63170	V* DW Cru	15.5 ± 1.3	12.6 ± 2.4	B0.5Ia
63250	V* V856 Cen	7.0 ± 0.3	22.0 ± 2.9	B2Ib
63253	V* BF CVn	0.5 ± 0.0	41.3 ± 11.5	M0Vvar
63256	HD 112484	6.6 ± 0.3	13.0 ± 2.8	B2V
63266	HD 112587	2.0 ± 0.0	20.1 ± 9.3	A0
63317	HD 112733	1.0 ± 0.0	37.4 ± 7.6	G5V
63322	BD+39 2587	0.9 ± 0.0	49.9 ± 5.0	G6V
63334	HD 112754			G4II
63356	HD 112814			G9II-III
63365	HD 112607			B7/B8III
63368	V* BQ CVn	3.0 ± 0.5	0.3 ± 0.2	G8III-IVp
63443	HD 112866			G8/K0II/III
63449	HD 112784	12.0 ± 0.8	0.1 ± 0.0	O9.5III
63475	HD 112841			B9Ib/II
63541	HD 113009	3.8 ± 0.2	3.9 ± 2.7	B6V
63565	HD 112999			B6III(n)
63678	HD 113199	1.9 ± 0.1	15.8 ± 5.4	A2V
63688	HR 4930	8.4 ± 0.3	8.5 ± 2.4	B1.5IIIne
63725	HD 113280	3.0 ± 0.2	17.1 ± 9.4	B8II
63742	V* PX Vir	1.0 ± 0.0	40.9 ± 8.2	G5V
63795	HD 113451			B9III
63832	HD 113475	2.4 ± 0.1	58.4 ± 35.7	B9V
63835	HIP 63835	15.0 ± 1.1	0.2 ± 0.1	OB+e
63940	HD 113656	5.7 ± 0.5	10.0 ± 2.5	B3Vn
63945	* f Cen	5.0 ± 0.0	32.8 ± 13.6	B5V
63958	V* IS Vir	3.5 ± 0.5	0.2 ± 0.1	K0
63970	BD+33 2300		[a]	F8
63972	HR 4941			K0II/III
64004	HR 4942	8.0 ± 0.1	11.5 ± 3.5	B1.5V
64016	HD 113782			K0II
64036	HD 113886			G6II/III
64086	HD 114061	2.0 ± 0.0	11.0 ± 0.9	A0
64093	HD 114062	1.9 ± 0.0	34.0 ± 21.4	A1m...
64121	HD 113991	5.0 ± 0.1	6.2 ± 4.9	B3III
64149	HD 114397	7.8 ± 0.5	39.8 ± 4.5	K0
64201	HD 114121			F5II
64217	* 15 CVn			B7III
64223	HD 114168			B9III/IV
64237	HD 114401			K1II
64272	HD 114213	7.9 ± 0.5	20.9 ± 2.1	B1Ib:
64287	HD 114274	2.4 ± 0.1	45.4 ± 32.9	B9IV
64312	HD 114520			F2II
64437	HR 5009			K0Ib
64523	HD 115019			K2II
64543	HD 114988			G2II
64557	HR 4991			K5II
64572	V* V956 Cen			F9Ib
64578	HD 114800	8.1 ± 0.4	18.2 ± 3.8	B2Vpe
64587	HR 4976	6.3 ± 0.5	57.1 ± 7.4	F8Ib
64622	HD 114981	6.2 ± 0.0	40.5 ± 3.9	B4V:ne

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
64624	CCDM J13147-6335AB	15.1 ± 0.1	0.2 ± 0.1	O9:V
64647	HD 115066			K0II
64658	HD 115067			B8II/III
64665	HD 114887	5.0 ± 0.0	15.8 ± 2.2	B4III
64667	HD 114998	6.3 ± 0.1	15.1 ± 1.1	B2/B3III
64778	V* UY Cen	17.3 ± 2.5	7.8 ± 1.0	K5pvar
64820	HR 5002	6.3 ± 0.6	58.4 ± 17.8	K2Ib/II
64863	HD 115335			B9III
64894	HD 115399			K5II/III
64910	HD 115436			B9III
64929	HD 115473	8.1 ± 0.8	4.0 ± 2.0	WC...
64940	HD 115564			B8III
65002	HD 115601			K1II
65020	HD 115770			B5III
65033	HD 115652			B8II/III
65082	HD 115836	2.0 ± 0.0	20.1 ± 9.3	A0V
65108	HR 5024			F3/F5II
65181	HD 115846	6.6 ± 0.1	24.6 ± 3.5	B3V
65192	HD 116139	6.2 ± 0.9	63.5 ± 24.2	K5
65223	HD 116053	5.0 ± 0.1	25.1 ± 7.4	B3III
65247	HR 5036	12.5 ± 1.3	12.6 ± 2.1	B2.5Ib
65271	HR 5035	5.9 ± 0.1	6.2 ± 3.9	B3V
65321	HD 116186			G5II+...
65388	HIP 65388			B2
65398	V* LT Mus	4.0 ± 0.0	46.0 ± 16.1	B6III/IV
65474	V* alf Vir	12.5 ± 0.8	13.8 ± 1.6	B1V
65492	V* V379 Cen	3.8 ± 0.1	1.4 ± 0.4	B5V(n)
65522	* 67 Mus			Ap
65593	HR 5060	7.9 ± 0.7	38.8 ± 6.4	K3III
65601	HD 116859			B9.5III/IV
65630	HR 5063	9.2 ± 0.7	23.8 ± 2.5	B3IV
65644	HD 117044			F0II
65647	HD 116816			B9III
65688	HD 117014	2.7 ± 0.1	7.0 ± 2.9	B8V
65695	HD 116750			G8II
65722	HD 116950			B8Ib/II
65760	HD 117000	10.0 ± 0.6	25.1 ± 4.7	F2Ia
65896	V* SS Hya	2.0 ± 0.0	11.0 ± 0.9	A0V
65915	V* FK Com			G5II
65936	* d Cen	7.1 ± 0.4	45.7 ± 10.0	G8II/III
65965	HD 117484	2.4 ± 0.1	43.8 ± 17.3	B9V
66013	HD 117535			K0II
66020	BD+72 622B	[a]		F8
66045	HD 117733			F3II/III
66057	HD 117445			F5II/III
66069	HD 117155			K2II
66129	HD 117806			A4II/III
66141	HD 117880	2.5 ± 0.0	63.8 ± 24.9	B9IV/V
66153	HD 117704	7.1 ± 0.1	0.9 ± 0.6	B1III
66210	HD 117812			G8II/III
66236	HR 5103			B8III
66252	V* EQ Vir	0.6 ± 0.0	28.2 ± 8.4	K7V
66278	HD 117930			B9III
66291	HIP 66291			B3p
66339	HD 118246			B5e
66341	HD 117979			B8II/III
66379	HD 118137	6.9 ± 0.4	48.4 ± 8.0	A0/A1V
66390	HD 118256			B5IV
66415	HD 118226			B9III/IV
66451	HD 118356			B7II/III
66467	HD 118643			K3II
66475	CCDM J13377+5043AB	9.3 ± 0.4	26.7 ± 3.0	F3III comp
66515	HD 118483	6.8 ± 1.2	48.0 ± 11.1	K4III
66524	HD 118450			B5II
66575	HR 5124	8.7 ± 0.6	30.3 ± 5.0	G5Ib
66586	HD 118792	2.0 ± 0.0	20.1 ± 8.4	A0
66657	V* eps Cen	11.8 ± 0.2	15.8 ± 3.8	B1III
66690	HR 5143			G5II:
66732	HIP 66732	20.0 ± 0.0	0.1 ± 0.0	sdO
66822	HD 118033	2.5 ± 0.0	56.1 ± 37.4	B9IV
66850	HD 119103			B8III
66917	HD 119222			B6III
66925	HR 5151	15.6 ± 1.6	10.0 ± 0.5	B0.5III
66951	HD 119664	2.0 ± 0.0	11.0 ± 0.9	A0
66957	HD 119338	4.0 ± 0.0	10.0 ± 1.0	B5V
66960	HD 119225			B9III/IV
66975	HD 119256			K1IICNp...
67012	HD 119452			B9III/IV
67042	HD 119109	6.2 ± 0.1	43.7 ± 4.7	B4V
67049	HD 119298			B8III
67100	HD 119512			G8II/III
67108	HD 119423	5.4 ± 0.4	28.4 ± 4.3	B4:Vne
67279	HD 120086	7.0 ± 0.1	0.9 ± 0.6	B2V
67296	HD 119817	3.1 ± 0.1	50.1 ± 27.1	B8V
67301	ALCAID	6.1 ± 0.0	10.0 ± 2.4	B3V SB
67326	HD 119974			B6III
67330	HD 119889	3.0 ± 0.1	3.2 ± 0.7	B8III
67385	HD 120297	6.9 ± 0.3	50.1 ± 12.6	K2
67393	HD 120059			B9III
67422	CCDM J13491+2659AB	1.0 ± 0.0	16.5 ± 1.4	K2
67454	HD 120157			K1II/III
67464	V* nu. Cen	8.5 ± 0.3	18.1 ± 3.4	B2IV
67465	HD 120194			B8II/III
67472	HR 5193	9.1 ± 0.1	19.8 ± 1.5	B2IV-Ve
67663	HR 5206	9.8 ± 0.1	19.3 ± 1.3	B2Vp
67669	V* V983 Cen	5.0 ± 0.0	50.9 ± 3.2	B5
67677	HD 120577	3.2 ± 0.2	15.8 ± 12.5	B8III
67687	HD 120576	3.1 ± 0.1	20.0 ± 16.0	B8V
67720	HD 120578	4.0 ± 0.0	25.1 ± 8.0	B5II
67724	HD 120598			B8III
67736	HD 120613			B8/B9III
67748	HD 120697			B8/B9III
67786	* h Cen	6.1 ± 0.1	50.1 ± 2.6	B4IV
67796	HD 120680	12.3 ± 0.8	11.4 ± 1.2	B2V
67815	HD 120886	2.0 ± 0.0	11.0 ± 0.9	A0V
67821	HD 120784			B9III
67836	HR 5217			B5III
67847	HD 120909			B8II
67869	HD 120786			B8/B9III
67909	HD 120976			B9III
67930	HD 120979			B9III
67933	HD 120993			B8III
67951	HD 126047	2.4 ± 0.1	49.9 ± 37.1	B9
67969	HD 120948	5.0 ± 0.0	1.0 ± 0.6	B3V
67981	HD 121177			B8/B9II
67983	HD 121160			B7/B8III
68002	* zet Cen	7.8 ± 0.1	39.8 ± 5.5	B2.5IV
68005	HD 121098	2.5 ± 0.0	17.1 ± 9.4	B8II
68034	HD 121228	7.0 ± 0.4	29.9 ± 2.1	B2Ib
68056	HD 121209			B9.5III/IV
68100	HD 120845	4.0 ± 0.0	40.3 ± 17.1	B5V
68124	HD 121483	7.5 ± 0.3	24.1 ± 1.0	B2V
68163	HD 121254			F5II
68178	V* V412 Cen			M3Iab/Ib
68226	HD 121639			B9III
68245	* phi Cen	8.5 ± 0.3	18.1 ± 3.4	B2IV
68247	HD 121315	6.2 ± 0.3	50.1 ± 6.4	B4III
68258	V* BH Vir	1.7 ± 0.2	6.3 ± 1.4	F8V
68282	HR 5249	7.9 ± 0.1	13.0 ± 1.2	B2IV-V
68344	HD 121807			B8/B9III
68359	HD 121899	3.0 ± 0.0	20.0 ± 16.0	B8V
68399	HD 121857			B7II
68431	HR 5240			B9III
68435	HD 122058			K1II/III
68448	HD 122075			K2II
68496	HD 122116			B7II

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT	HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
68523	HR 5260	7.2 ± 0.4	39.8 ± 6.6	F6II	70206	HD 125464	3.1 ± 0.1	31.6 ± 26.8	B8/B9V
68540	HD 122098	2.9 ± 0.1	2.8 ± 0.4	B7II	70217	HD 125533	3.2 ± 0.1	50.2 ± 20.3	B7II
68557	HD 122036			F2Ib/II	70248	* eps Aps	6.1 ± 0.1	41.6 ± 7.1	B4V
68564	HD 122179			B8/B9II/III	70270	V* HX Lup	11.9 ± 0.9	12.6 ± 1.1	B1III
68582	HD 122118			K1II/III	70277	HD 125669			B8/B9III
68644	HD 122449			B5III	70290	V* V1003 Cen			M5II
68702	V* bet Cen	15.5 ± 1.0	11.1 ± 0.6	B1III	70300	V* V761 Cen	7.8 ± 0.1	3.6 ± 0.8	B2V
68704	HD 122450	7.8 ± 0.2	19.7 ± 1.1	B2Ve	70320	HD 125809			G5Ib
68733	HD 122361			G5II/III	70337	HD 125829			B7III
68773	HD 122454			K0II/III	70349	HD 126378	6.9 ± 0.5	45.8 ± 8.0	K0
68781	HD 122705	1.9 ± 0.0	31.6 ± 19.2	A2V	70361	HD 125811			B6III
68784	HD 122419			F2Ib/II	70429	HD 126717	1.9 ± 0.0	44.6 ± 29.7	A3
68817	HD 122669	9.4 ± 0.4	0.5 ± 0.3	B0.5Ve	70441	HD 126062	2.0 ± 0.0	31.6 ± 19.2	A1V
68862	V* chi Cen	8.2 ± 0.2	8.8 ± 4.5	B2V	70477	HD 126043	6.3 ± 0.5	36.1 ± 1.6	B4V
68868	HD 123233	2.0 ± 0.0	26.7 ± 14.6	A0V	70492	HR 5379	7.8 ± 0.2	39.8 ± 3.2	A3Ib
68877	HD 122925			B7III	70530	V* IP Lup			B8/B9II
68879	V* FZ Boo	6.3 ± 0.9	63.1 ± 24.5	K5	70551	HD 126164	2.1 ± 0.1	31.6 ± 19.2	A0Vn
68904	V* CZ CVn	3.0 ± 0.0	0.6 ± 0.3	K0	70553	V* FF Vir	2.0 ± 0.0	39.8 ± 26.8	A2p
68975	HD 123041	2.9 ± 0.1	17.1 ± 9.4	B8II/III	70574	V* tau01 Lup	10.0 ± 0.3	21.5 ± 2.0	B2IV
68985	HD 123057	2.8 ± 0.3	10.0 ± 6.8	B8/B9V	70586	HD 126402			M2II:
69006	HD 123224			B8/B9II	70612	HD 126447			G3II/III
69011	HD 123247	2.5 ± 0.0	48.6 ± 8.2	B9V	70624	HD 126152			K0Ib/II
69015	HD 123440	2.0 ± 0.0	11.0 ± 0.9	A0	70645	HD 126343	6.3 ± 0.6	60.5 ± 13.9	K1II
69034	HD 123413			K0II/III	70691	HD 126524			K1II
69053	HD 123100			B9II	70765	HD 126818	2.0 ± 0.0	20.1 ± 8.4	A0V
69122	HR 5292	6.0 ± 0.1	63.1 ± 15.6	B5IV	70809	HD 126759			Ap...
69134	HD 123320			B9II	70824	HD 126692			A3II
69216	HD 123506	5.1 ± 0.1	3.3 ± 2.2	B2/B3III	70866	HD 126973	6.6 ± 0.5	51.4 ± 11.5	K2III
69247	HD 123884	2.5 ± 0.1	56.3 ± 43.0	B8/B9Iap...	70875	HD 126627			A5II
69320	HD 123721			B9II	70877	CD-69 1240			B2III
69358	V* V1203 Cen	6.0 ± 0.5	50.1 ± 6.3	B4/B5III/IV	70905	HD 126807			B8III
69395	HD 124092			K2II	71013	HD 127087			B8III/IV
69396	HD 123940	5.0 ± 0.0	42.5 ± 6.7	B4/B5IV	71042	HD 127112			B7III
69455	HD 124305	1.4 ± 0.0	54.9 ± 12.0	A9V	71055	CCDM J14318-7616AB			G6II+...
69462	HR 5308	6.2 ± 0.7	63.1 ± 13.9	K5III+...					
69491	V* V716 Cen	5.9 ± 0.2	63.1 ± 14.6	B5V	71071	HD 127456			K1II/III
69584	HD 124182	6.0 ± 0.1	45.9 ± 3.9	B5III	71096	HD 127493	12.0 ± 0.8	0.1 ± 0.0	B0
69591	HD 124197	7.4 ± 0.2	31.6 ± 5.8	B5V	71105	HD 127346			B9III
69618	HR 5316	5.7 ± 0.3	39.8 ± 19.7	B4Vne	71121	V* sig Lup	7.6 ± 0.1	19.2 ± 5.5	B2III
69619	V* V821 Cen			B3p	71124	HD 127160			B8III
69625	HD 124483	7.5 ± 0.8	41.4 ± 9.4	K2III	71163	HD 127427			G8II/III
69640	HD 124300			B2V	71176	HD 127530			B8/B9II/III
69648	HD 124395	5.7 ± 0.1	7.3 ± 2.5	B3V	71189	HD 127767			A6II/III
69654	HD 124198			G8/K0Ib/II	71194	HD 127449	7.0 ± 0.1	9.2 ± 0.8	B2/B3Vn
69655	HR 5319			K3III	71216	HD 127317	6.5 ± 0.2	2.4 ± 1.4	B3Vn
69716	HD 124398			G8II/III	71217	HD 127428			B7III
69719	HD 124488	3.0 ± 0.0	10.0 ± 7.1	B8III	71237	HD 127987	1.9 ± 0.1	25.1 ± 13.1	A2
69739	HD 126066	6.2 ± 0.5	63.7 ± 13.9	K2	71264	HD 127489	7.9 ± 0.6	9.3 ± 3.1	B2Vne
69763	HR 5320	9.5 ± 0.3	18.1 ± 3.4	B1.5III	71352	* eta Cen	12.0 ± 0.0	5.6 ± 1.4	B1Vn + A
69778	HR 5306			K2IIp	71353	HR 5439	3.6 ± 0.0	2.5 ± 1.3	B6V
69803	HD 124531	3.0 ± 0.0	19.9 ± 6.3	B8III	71381	HD 128509	1.9 ± 0.0	50.1 ± 36.3	A2
69834	HD 123396			G8/K0II/III	71388	HD 127614			B8Ib/II
69848	V* MX Vir			F2II	71398	HD 127924			B8III/IV
69858	HD 125576	2.0 ± 0.0	35.0 ± 15.8	A0	71436	HD 128643	6.5 ± 1.2	54.0 ± 15.3	K5
69868	HD 124749			B8II/III	71441	HD 128336			A2II
69883	HD 124893			B8III	71442	HD 128239			B9.5/A0III/
69892	HD 124979	20.0 ± 0.0	0.1 ± 0.0	O8.5	71447	HD 127699			K0II
69906	HD 124995			B8III	71492	V* V737 Cen			G0/G1Ib
69910	HD 124909	8.0 ± 0.1	0.4 ± 0.1	B1III	71498	HD 128155	1.9 ± 0.1	12.9 ± 1.8	A2V
69929	V* CS Vir			Ap Si(Cr)	71536	* rho Lup			B5V
69978	V* V1001 Cen	6.4 ± 0.2	50.1 ± 7.1	B4IV/V	71555	HD 128022	2.7 ± 0.1	17.1 ± 9.4	B8II/III
69996	* iot Lup	6.9 ± 0.1	18.9 ± 3.6	B2.5IV	71622	HD 128322			B9II
70014	HD 125117			B8/B9III/IV	71668	HD 128293	11.9 ± 0.8	14.2 ± 2.9	B3Vne
70042	HD 124834	6.8 ± 0.1	39.8 ± 3.5	B3III/IV	71677	HD 128418			F3Ib
70057	HD 125959	1.9 ± 0.0	39.8 ± 26.8	A2	71701	HD 128673			K1II
70069	* v Cen	7.9 ± 0.4	37.3 ± 4.5	B6Ib	71712	V* EG Boo	6.2 ± 0.6	60.5 ± 11.9	K5
70108	HD 125728			G8II	71746	HR 5461			K0/K1II
70145	HD 125771	6.3 ± 1.0	63.1 ± 29.8	K5	71860	V* alf Lup	10.0 ± 1.3	22.5 ± 3.4	B1.5III
70149	HD 125541	1.4 ± 0.0	45.9 ± 3.9	A9V	71865	* b Cen	6.3 ± 0.0	17.8 ± 2.0	B2.5V

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
71870	HD 128294			B9III
71877	HD 128937	6.2 ± 0.2	50.1 ± 6.3	B4III:
71885	HD 128963	2.7 ± 0.1	7.0 ± 3.0	B8/B9Vp...
71942	HD 129090			B7II
71945	HD 129632	2.4 ± 0.1	50.3 ± 28.2	B9
71975	HD 129281			B9II/III
72105	CCDM J14449+2704AB	7.9 ± 0.1	39.8 ± 4.5	A0
72121	V* BU Cir	7.9 ± 0.1	23.2 ± 1.8	B2III
72158	HD 129831	1.8 ± 0.0	25.1 ± 13.1	A2/A3V+...
72159	HD 129189	2.6 ± 0.1	7.0 ± 2.9	B8/9Vp:
72171	HD 129330			G5Ib/II
72224	HD 129532			K2II
72257	V* V553 Cen			G3Ib/II
72276	HD 130029			G5II
72308	HR 5498	7.0 ± 0.6	48.4 ± 4.8	A1III/IV
72310	HR 5513	6.3 ± 0.6	63.1 ± 13.9	K4/K5III
72313	HD 129965	2.6 ± 0.1	7.0 ± 2.9	B8V
72316	HD 130384	1.8 ± 0.0	12.7 ± 2.5	A2
72332	HD 129740	4.6 ± 0.4	48.3 ± 2.4	B5III
72364	HD 129795	7.2 ± 0.2	11.7 ± 0.7	B2/B3Vn
72375	HD 130119			B8III
72385	HD 130120			K0II/III
72424	HD 130152	3.5 ± 0.2	57.3 ± 11.5	B6Ib/II
72438	HR 5500	9.5 ± 0.3	23.8 ± 2.1	B2.5V
72480	HD 130766			K3II
72482	HD 130206	7.2 ± 0.8	45.0 ± 6.6	K3/K4III+..
72499	HD 130705			K4II-III
72503	HD 130393			K1II/III
72510	HD 130298	15.1 ± 9.9	2.2 ± 2.2	O7.5...
72518	HD 130021	7.8 ± 0.2	2.4 ± 2.0	B3III
72532	HD 130378			B8II/III
72556	HD 130286	6.3 ± 0.4	50.1 ± 6.4	B7II
72569	HD 130380	6.9 ± 0.4	50.1 ± 4.7	F8II
72578	HD 131444	6.3 ± 0.5	63.1 ± 22.2	K5
72583	V* AV Cir			F7II
72592	HD 130287	4.5 ± 0.4	37.4 ± 3.2	B5IV
72602	HD 130494			G3/G5II:
72683	* omi Lup			B5IV
72702	* 10 Lib			K0II/III
72710	V* V1018 Cen	8.2 ± 0.6	10.6 ± 3.4	B2:p
72773	V* AX Cir			F8II + A/F
72800	V* V1019 Cen			B7II/III
72816	HD 130764	5.9 ± 0.4	50.1 ± 6.4	B5Vn
72843	HD 131168	5.2 ± 0.2	3.3 ± 2.5	B3Ve
72862	HD 132188	6.2 ± 0.3	63.5 ± 15.1	K5
72903	HD 131258			G8II
72917	HD 131124			B9III/IV
72965	* zet Cir	7.5 ± 0.2	31.6 ± 4.6	B3Vn
72983	HD 130942			B5V
72989	V* CR Cir			M2/M3II
73000	HD 131325			B5V
73020	HD 131172			B5V
73059	HD 131698			A0II/III
73111	IDS 14497-4728 AB			B+...
73118	HD 131491	7.0 ± 0.3	39.8 ± 4.6	B5V
73129	* tet Cir	9.3 ± 0.6	27.1 ± 6.8	B4Vnp
73155	HD 131612	4.5 ± 0.5	39.5 ± 8.7	B5III
73216	HD 132561	1.9 ± 0.0	42.9 ± 29.7	A2
73247	V* CS Cir			B6II/III
73250	HD 132041	4.0 ± 0.0	10.5 ± 8.8	B8II/III
73266	HD 132094	2.4 ± 0.1	70.7 ± 24.8	B9V
73273	* bet Lup	8.8 ± 0.2	24.3 ± 2.9	B2III
73298	HD 131738	2.9 ± 0.1	10.0 ± 7.1	B8IV/V
73315	V* EH Lib	1.4 ± 0.1	35.8 ± 5.6	A8.5
73334	* kap Cen	8.6 ± 0.2	18.3 ± 3.4	B2IV
73345	HD 132101			B5V
73374	HD 131803			B6III:
73396	HD 132137			B8II
73405	HD 131909	2.6 ± 0.1	7.0 ± 2.9	B8V:
73415	HR 5547			G8II
73439	HD 131760			B9.5III
73469	HD 131805	4.0 ± 0.0	28.2 ± 16.9	B5V
73494	HD 132127	5.0 ± 0.0	31.5 ± 8.3	B4V
73500	HD 132004	5.0 ± 0.0	34.0 ± 6.9	B5V
73504	HD 132224			B8II
73516	HD 132834			A3II/IIIm..
73535	HD 132761	1.9 ± 0.0	13.0 ± 1.8	A2/A3IV
73555	* bet Boo	5.0 ± 1.3	0.0 ± 0.0	G8III
73580	HD 132594			G5II
73603	HD 132420			B8Ib/II
73624	HR 5595	5.0 ± 0.0	3.6 ± 2.5	B3V
73685	HD 132629			A4II/III
73697	HD 132520			K2II
73702	CCDM J15038-6649AB			B9III
73720	HD 133294			B8II
73730	HD 133909	2.0 ± 0.0	31.6 ± 19.2	A2
73749	HD 132985			B8II
73771	HR 5545	7.1 ± 0.4	43.3 ± 6.3	G8Ib
73777	HD 133259	1.0 ± 0.0	7.2 ± 0.9	K(1)V + G
73788	HD 132906			B8Ib/II
73789	HD 133178			K1Ib/II
73807	CCDM J15051-4703AB			B5
73838	HD 132988	1.4 ± 0.0	35.8 ± 5.6	Ap Si
73869	V* IU Dra	1.0 ± 0.0	33.9 ± 7.5	G5
73881	HD 133399	6.7 ± 0.2	3.0 ± 1.9	B3V
73897	HD 132907			B5III
73959	HD 135118	1.9 ± 0.0	13.0 ± 1.8	A2
73964	HD 133440			B9III
73966	HD 133518	7.0 ± 0.1	31.6 ± 4.6	B3III
73969	HD 133729	3.9 ± 0.1	15.8 ± 13.8	B6/B7V
74070	HD 134282			G8II
74091	HD 132501	5.0 ± 0.0	1.0 ± 0.6	B4/B5III/IV
74100	HR 5625	3.4 ± 0.0	36.4 ± 4.5	B7V
74110	HD 133699	7.5 ± 0.2	32.3 ± 2.3	B3V
74117	* lam Lup	8.6 ± 0.3	28.8 ± 4.4	B3V
74122	HD 133790			K0II/IIICN.
74141	HD 133385	11.1 ± 1.4	15.7 ± 0.8	B2Vn
74171	HD 133903			B9.5III/IV
74187	HD 131744			A7II
74248	HD 133811			B9IIIp...
74295	HD 134411			B2III/IV
74305	HR 5637	7.5 ± 0.5	40.3 ± 5.0	G2Ib/II
74333	HD 134852			F2II
74360	HD 134556			K2II/III
74368	V* BW Dra	12.0 ± 0.8	0.1 ± 0.0	B0
74405	V* NY Aps	1.0 ± 0.0	42.5 ± 14.2	G8/K0V:
74421	HR 5628			B8/B9III
74425	HD 134945	7.9 ± 0.9	37.4 ± 8.7	K5
74447	HD 134598	5.4 ± 0.5	63.1 ± 14.0	B6/B7III
74449	* e Lup	5.9 ± 0.1	25.2 ± 6.0	B3IV
74470	HR 5645	12.1 ± 0.6	17.6 ± 3.0	K4Ib
74490	HR 5655			B8III
74539	HR 5658			G8/K0II
74552	CCDM J15140-6121AB			B5V
74565	HD 134974	1.2 ± 0.1	13.2 ± 1.6	G6/G8V:
74600	* 26 Lib			B9III
74604	* i Lup	6.9 ± 0.2	46.0 ± 2.5	F3III
74613	HD 135326	2.0 ± 0.0	20.1 ± 9.3	A0
74634	HD 134877	15.0 ± 1.1	0.2 ± 0.1	WN...
74636	HD 135055			G8II
74663	HD 133921			K1II/III+..
74680	HD 135485			B3V
74707	HR 5667	12.5 ± 1.4	15.8 ± 1.1	F:+...
74716	HR 5668	8.2 ± 0.4	28.8 ± 4.3	B3IV
74729	HD 135058			B8/B9III/IV

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
74750	HR 5661	14.8 ± 0.1	8.5 ± 2.3	B0.5V
74778	V* del Cir	31.5 ± 13.3	3.0 ± 0.3	O8.5V
74816	HD 135355	6.6 ± 0.4	60.6 ± 12.0	K3/K4
74820	CCDM J15174-5414AB			B8III/IV
74857	* f Lup			K1II/III
74859	HD 135551			G8IICN...
74869	CCDM J15180-6835AB			B8II
74875	HR 5682			Am
74881	V* U CrB	3.3 ± 0.1	35.3 ± 9.5	B7Vv SB
74918	HD 136010			K1II-III
74938	V* FS Dra	7.0 ± 1.5	50.5 ± 24.5	K5V
74941	HR 5680	29.1 ± 10.3	3.2 ± 0.5	O7Iab:
74963	HD 135553	1.4 ± 0.0	35.8 ± 5.6	A9V
74967	HD 135674			B7/B8II/III
75002	HD 135899			G5/G6II/III
75051	HD 135788			B9.5III
75079	HD 135917	10.0 ± 0.9	12.6 ± 2.1	B1III
75091	CCDM J15207-6729AB	6.6 ± 0.1	22.8 ± 7.1	B3V
75095	HD 136003	11.5 ± 1.7	15.7 ± 0.9	B2Ib
75097	V* gam UMi			A3II-III
75110	* 28 Lib			G8II/III
75141	V* del Lup	11.9 ± 0.3	15.7 ± 0.7	B1.5IV
75174	HD 136711			K3II-III
75187	V* OT Ser	8.0 ± 7.0	0.0 ± 0.0	M9
75210	HD 136482	3.0 ± 0.0	35.1 ± 10.9	B8/B9V
75257	HR 5726	7.7 ± 0.6	36.7 ± 4.3	K4III
75264	* eps Lup	9.1 ± 0.1	20.4 ± 2.2	B2IV-V
75304	HR 5712	6.1 ± 0.1	39.9 ± 9.4	B4V
75323	* gam Cir	6.0 ± 0.2	63.1 ± 14.5	B5III + F8
75349	HD 136537	6.9 ± 0.3	50.1 ± 6.5	G2II
75430	V* GH Lup			G2Iab
75434	CD-63 1083	12.0 ± 0.8	0.1 ± 0.0	B0
75440	HD 136506	2.4 ± 0.1	37.3 ± 25.3	B9V
75509	HD 137119	1.8 ± 0.1	17.8 ± 6.3	A2V
75523	HD 136899			B8III
75534	HD 136969			G8/K0II/III
75582	HD 136860	3.0 ± 0.0	22.5 ± 18.4	B8IV
75639	HD 137250			K1II
75647	HR 5736	4.0 ± 0.0	56.6 ± 26.0	B5V
75658	HD 136977			B8II/III
75688	HD 137742	1.9 ± 0.1	17.9 ± 6.4	A2
75711	HD 137595	7.8 ± 0.7	23.6 ± 2.9	B2II/III
75729	HD 137779	2.0 ± 0.0	20.1 ± 8.4	A0
75742	HR 5738	6.3 ± 0.3	68.6 ± 19.5	G2Ib
75769	CCDM J15287-3118AB	1.5 ± 0.1	8.7 ± 0.9	G6/G8
75771	HD 137620			B8III
75787	V* V376 Lup			B9III
75812	HD 137355			K1II
75873	HD 137384	6.8 ± 0.2	16.0 ± 3.1	B2/B3IV
75924	V* KR Lup	1.4 ± 0.1	9.0 ± 1.7	G6V
75952	HD 137935	2.6 ± 0.0	7.0 ± 2.9	B8/B9V
75955	HD 137865			B9III/IV
75959	HD 137366	7.0 ± 0.1	29.4 ± 2.1	B3V
75965	HD 138306	1.8 ± 0.0	12.7 ± 2.5	A2
75980	HD 137958			G3II/III
76000	HD 137683			B7II/III
76011	V* NN Aps			Ap SiCrFe
76013	HR 5730	12.0 ± 0.0	6.5 ± 1.7	B1npe
76048	HR 5753	3.8 ± 0.1	13.5 ± 6.1	B6/B7V
76070	HD 137965	1.9 ± 0.1	11.1 ± 1.0	A1IV/V
76126	* zet Lib	6.3 ± 0.0	15.7 ± 0.8	B3V
76171	HD 138347			K1II/IIICN
76236	HD 138363			K1II
76285	CD-75 822			B1Vn
76297	V* gam Lup	9.4 ± 0.3	18.6 ± 2.2	B2IV
76304	HD 138779	1.5 ± 0.0	9.3 ± 1.4	G2V
76341	HD 138536			B8III
76371	* d Lup	5.9 ± 0.1	21.9 ± 6.8	B3IVp
76395	HR 5790	2.9 ± 0.1	3.0 ± 0.6	B8/B9V
76401	HD 138196			B7/B8II/III
76415	HD 138860			B8II/III
76416	HD 138694			B5IV
76423	V* tau04 Ser			M5II-III
76426	V* BI CrB	2.0 ± 0.0	34.7 ± 22.9	A0
76434	HD 138679			B2III
76464	HD 139035	3.2 ± 0.0	61.8 ± 20.4	B8/B9III
76483	HD 138680			B9.5III/IV
76581	HD 139068			B8II
76598	HD 139992	2.5 ± 0.0	56.7 ± 23.3	B9
76600	* tau Lib	6.8 ± 0.0	26.3 ± 4.9	B2.5V
76605	HD 139409			G8II/III
76606	HD 139206	5.0 ± 0.0	47.4 ± 8.6	B5V
76623	HD 139070			G8II/III
76629	V* V343 Nor	1.0 ± 0.0	20.1 ± 4.3	K0V
76633	HD 139486	2.4 ± 0.0	53.6 ± 33.2	B9V
76642	HD 137179	6.3 ± 0.3	3.3 ± 2.2	B2III
76664	HR 5757			K2II
76687	HD 139236	6.2 ± 0.9	63.1 ± 28.1	K2III
76733	HR 5831			G8II
76767	HD 138758	2.8 ± 0.0	7.0 ± 3.2	Ap...
76768	CCDM J15405-1842AB	0.8 ± 0.0	33.1 ± 10.3	K3/K4V
76811	HD 139004			B9III
76849	HD 139616			B8III
76881	HD 139636	2.9 ± 0.1	10.0 ± 6.8	B8/B9III
76894	HD 139471	9.3 ± 0.8	27.8 ± 6.8	K2/K3II
76924	HD 139828	6.2 ± 0.3	63.9 ± 17.0	K3III
76934	HD 139534			K0II/III
76943	HD 140037	4.5 ± 0.5	47.1 ± 1.6	B5III
76945	* 4 Lup	5.0 ± 0.0	15.9 ± 13.8	B5V
76947	V* FW Dra	7.3 ± 1.1	43.8 ± 13.4	K5
77023	V* FQ Lup			M5/M6II:
77029	HD 139913			A4II/III
77042	HR 5836			G0Ib
77056	HD 140079			B8III
77072	HD 140042			B8/B9II/III
77092	HD 140700			K5II-III
77099	HD 140175			B8III/IV
77150	HD 140475	1.9 ± 0.0	31.6 ± 17.3	A2V
77157	V* HT Lup	1.4 ± 0.2	0.6 ± 0.3	Ge
77178	HD 141243	6.2 ± 0.2	63.1 ± 14.7	K5
77199	V* KW Lup	1.0 ± 0.0	16.3 ± 5.6	K2V
77227	V* PT Ser			B8III
77239	HD 140523			K1II-III+..
77242	HD 140406	6.3 ± 0.4	63.1 ± 13.7	K2II/III
77278	HD 140619			B9III
77320	HD 140022	3.2 ± 0.0	71.3 ± 28.5	B8V
77375	HD 140679			G8/K0II/III
77396	HD 140973			F6II
77403	HD 140842	7.6 ± 0.6	44.7 ± 5.0	A7II
77452	HD 140926	7.1 ± 0.1	0.7 ± 0.4	B2/B3Vnne
77471	V* SS Lib			A8/A9II
77481	HD 141166			B8III
77524	HD 141277	1.4 ± 0.1	9.8 ± 2.9	K0V:
77542	HD 141569	2.4 ± 0.1	5.6 ± 1.4	B9
77562	HR 5869	3.0 ± 0.0	39.8 ± 17.7	B8V
77575	HD 141297			K1II/IIICNIb
77634	* chi Lup			B9.5III-IV
77635	* b Sco	8.3 ± 0.2	9.2 ± 5.4	B1.5Vn
77645	V* V360 Nor	9.9 ± 0.5	15.9 ± 1.5	B2II
77658	HD 141408			K0II
77659	HD 142264	2.0 ± 0.0	20.1 ± 9.3	A0
77676	HD 142053			K1II-III
77701	HD 141545	4.0 ± 0.0	14.4 ± 12.4	B5III/IV
77720	HD 141645			B6III

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
77724	HD 141562			B7/B8II
77730	HD 141687			G5II/III
77761	HD 140316	3.0 ± 0.0	37.9 ± 20.3	B8V
77764	CD-61 5101	2.9 ± 0.2	10.0 ± 6.8	B8
77778	HD 141765	2.4 ± 0.1	47.2 ± 34.6	B9IV
77811	V* lam Lib	5.6 ± 0.4	4.0 ± 3.1	B3V
77835	HR 5913			F5II-III
77840	CCDM J15536-2520AB	6.9 ± 0.0	27.3 ± 4.0	B2.5Vn
77858	HR 5906	5.0 ± 0.0	15.9 ± 4.6	B5V
77859	V* V1040 Sco	6.8 ± 0.2	0.4 ± 0.3	B2V
77864	HD 142300	2.0 ± 0.0	11.0 ± 0.9	A
77909	V* V927 Sco			B8III/IV
77927	HR 5898			B9II
77939	* 47 Lib	7.9 ± 0.1	6.9 ± 1.1	B2/B3V
77960	HD 142424	1.7 ± 0.0	16.6 ± 6.1	A4IV/V
77976	HD 142279	6.3 ± 0.5	31.6 ± 2.3	B3III/IV
77982	* kap TrA	7.0 ± 0.2	55.2 ± 7.3	G6VII
77990	HR 5900			Amvar
77995	HR 5931			B8III
78004	HD 142304	5.9 ± 0.1	23.3 ± 2.4	B3/B4V
78005	HD 142218			B9II
78036	HD 142138			B9.5III
78078	V* HR Lib			A2Ib/II
78092	HD 142527	3.0 ± 0.1	1.6 ± 0.6	F6III
78094	HD 142560	1.0 ± 0.0	55.7 ± 8.7	G5Vpe
78104	* rho Sco	8.1 ± 0.1	20.5 ± 3.4	B2IV/V
78131	BD+03 3104B	3.3 ± 0.1	1.6 ± 0.6	B6V
78145	HD 142468	8.8 ± 0.2	21.9 ± 2.3	B0.5Ia
78168	HR 5934	5.6 ± 0.4	0.7 ± 0.5	B3V
78171	HD 142913			K0II/III
78172	HD 142158	2.5 ± 0.0	33.3 ± 21.7	B9III
78183	V* V928 Sco	3.2 ± 0.0	43.2 ± 3.2	B8/B9III
78203	HD 142674	2.5 ± 0.0	37.6 ± 23.2	B9III
78207	* 48 Lib			B8Ia/Iab
78229	HD 142051	3.4 ± 0.0	35.9 ± 8.2	B7Vn
78246	V* V913 Sco	5.0 ± 0.0	54.8 ± 5.6	B5V
78265	V* pi. Sco	12.5 ± 0.8	15.1 ± 0.4	B1V + B2V
78266	HD 142823	1.8 ± 0.1	12.7 ± 2.5	Ap...
78279	HR 5920			B7III
78317	V* RY Lup	1.1 ± 0.0	31.8 ± 4.6	G0V:var
78345	2MASS J15594951-3628279	0.8 ± 0.0	30.7 ± 12.3	Kp
78351	HD 142589	2.0 ± 0.0	20.1 ± 8.4	A1IV/V
78355	HR 5937			B5IV
78367	HR 5945			G5Ib
78384	* eta Lup	7.0 ± 0.1	39.8 ± 3.5	B2.5IV
78401	* del Sco	19.6 ± 0.0	5.7 ± 0.4	B0.2IV
78405	HD 143119			G3Ib
78440	HD 143153			B8III/IV
78476	V* S TrA			F8II
78483	HD 143441	1.5 ± 0.1	9.6 ± 1.2	G0V
78526	HD 143028	3.1 ± 0.1	57.6 ± 27.1	B7Ib/II
78540	HD 143321	5.0 ± 0.0	15.9 ± 9.8	B5V
78582	HD 143104			B2V
78592	* ups Her			B9III
78604	HD 143287			B8/B9Ib/II
78655	HR 5967			B6III/IV
78681	HD 143899			G6/G8II
78682	HD 143448	7.3 ± 0.4	38.5 ± 3.5	B3IV
78683	HD 143449			B
78684	HD 143677	2.0 ± 0.1	3.8 ± 1.1	G8V
78702	HD 143956	2.4 ± 0.1	40.8 ± 15.0	B9V
78710	HD 143548	7.9 ± 0.6	37.4 ± 8.2	K1II/III
78731	V* QY Nor			B9II/IIIp..
78754	HD 143927	2.8 ± 0.1	3.2 ± 0.7	B8/B9V
78774	HD 143978	1.2 ± 0.0	25.4 ± 4.7	G0V
78805	HD 143906			F3II/III
78809	HD 144175	2.4 ± 0.0	58.2 ± 24.7	B9V
78820	HR 5984	12.5 ± 0.8	13.8 ± 0.8	B0.5V
78821	CCDM J16054-1948C	7.4 ± 0.3	1.0 ± 0.7	B2V
78846	HD 144408	2.0 ± 0.0	20.1 ± 9.3	A0
78855	HD 144053			B9III
78884	HD 143983			K6II
78918	* tet Lup	6.5 ± 0.1	21.3 ± 3.5	B2.5Vn
78928	HD 143853	6.2 ± 0.4	68.6 ± 22.2	K1III
78933	* ome Sco	11.1 ± 1.2	10.0 ± 6.6	B1V
78943	HD 144432	1.9 ± 0.1	6.0 ± 0.6	A9/F0V
78951	HD 143967	3.5 ± 0.1	32.1 ± 7.8	B7III
78964	HD 144338	6.2 ± 0.7	60.6 ± 15.8	G8/K0II
78968	HD 144586	2.4 ± 0.1	46.7 ± 36.9	B9V
78989	HR 5979			F2II
78994	V* SX Her	6.4 ± 0.5	55.2 ± 6.9	G3pe-K0(M3)
79031	HR 5998	3.1 ± 0.1	37.5 ± 5.5	B8IV/V
79035	HD 144262	3.2 ± 0.1	10.0 ± 7.1	B6Ib/II
79055	V* V365 Nor	11.6 ± 1.2	17.6 ± 3.0	K5III
79080	V* V856 Sco	2.3 ± 0.1	4.0 ± 1.8	A8/A9
79081	V* V1027 Sco	2.4 ± 0.1	4.5 ± 1.6	A1/A2III
79225	HD 145458			G8II-III
79230	HD 144965	6.8 ± 0.3	24.7 ± 2.4	B3Vne
79251	HD 144596			B9.5III
79261	HD 144855			M1II
79279	HD 144969	11.2 ± 2.1	15.7 ± 1.0	B1III
79298	HD 144860			B9II
79357	HR 6050			K4II+...
79374	CCDM J16120-1928AB	9.0 ± 0.2	19.8 ± 1.9	B2IV
79404	* 13 Sco	7.8 ± 0.1	2.5 ± 0.7	B2V
79439	HD 145631	2.5 ± 0.0	50.1 ± 26.8	B9V
79466	CD-53 6479	6.7 ± 0.3	3.8 ± 2.7	B2III
79476	V* V718 Sco	1.6 ± 0.0	16.2 ± 3.7	A8III/IV
79494	HD 145414			G8Ib/II:
79528	HD 145914	2.0 ± 0.0	20.1 ± 9.3	A0
79530	V* V1051 Sco	4.0 ± 0.0	48.2 ± 7.9	B6IV
79571	HD 145597			K2II/III
79572	HD 145194			B9III/IV
79573	HD 145283	3.1 ± 0.1	57.4 ± 23.9	B8/B9IV/V
79664	* del TrA			G5II
79687	HD 146234			F6/F7II
79739	HD 146285	2.9 ± 0.1	10.0 ± 7.1	B8V
79740	HD 146284			B9III/IV
79775	HD 146332	6.3 ± 0.1	39.8 ± 3.8	B3III
79785	HR 6066	2.5 ± 0.0	55.3 ± 9.6	B9V
79790	HR 6058	6.5 ± 0.5	53.4 ± 3.5	F9Ia
79794	HD 146020			B9III
79830	HD 145585			B9II/III
79853	HD 146815			G7II
79864	HD 146268	1.8 ± 0.1	12.3 ± 2.2	A2V
79932	V* S Nor	7.2 ± 0.6	47.4 ± 7.3	F8/G0Ib
79940	HD 146501	3.8 ± 0.1	20.0 ± 11.7	B6:Vn...
79974	V* RV CrB	1.4 ± 0.0	35.8 ± 5.6	A9
79987	HD 146899			A5II
79992	V* tau Her			B5IV
80009	HD 146973			A5II/III
80021	HR 6087			G8II
80024	V* V933 Sco			B9II/III
80052	HD 146383			B9III
80071	HD 146295	3.0 ± 0.0	57.3 ± 12.3	B8/B9V
80079	* omi Sco	7.9 ± 0.1	39.8 ± 4.6	A4II/III
80112	V* sig Sco	19.2 ± 0.0	8.2 ± 0.2	B1III
80126	HD 147196	3.8 ± 0.1	13.6 ± 8.6	B6/B7Vn
80132	HD 146920	2.7 ± 0.2	7.0 ± 2.9	B8V
80141	HD 146921			B8/B9III
80142	HD 147001	3.3 ± 0.1	25.9 ± 7.4	B7V
80210	HD 146152			G0II/III
80212	HR 6085			G2Ib

Table C.1: – Continued. –

HIP	other ID	mass [M⊙]	age [Myr]	SpT
80224	HD 147384	2.0 ± 0.0	20.0 ± 8.3	A0V
80244	HD 146827	3.0 ± 0.1	48.7 ± 7.4	B8/B9II/III
80304	HD 147157	4.0 ± 0.0	50.1 ± 16.6	B6V
80305	HD 147417	7.5 ± 0.7	40.3 ± 9.9	G3IIICN...
80308	HD 147434			B6II/III
80311	HD 147592	2.0 ± 0.0	20.1 ± 9.3	A0V
80322	HD 147980			K1II-III
80338	HD 147648	2.6 ± 0.1	10.0 ± 5.7	B8II
80361	HD 147347	6.3 ± 0.6	50.1 ± 6.2	B5III
80371	HD 147701	3.9 ± 0.0	10.0 ± 2.7	B5III
80377	HD 147702	2.0 ± 0.0	31.6 ± 19.2	A1/A2IV
80401	HD 147556			B8/B9II/III
80405	V* V760 Sco	6.5 ± 0.2	39.8 ± 4.5	B4V
80448	HD 147633	1.0 ± 0.0	18.6 ± 2.5	K0/1V: + F
80458	HD 147911	2.0 ± 0.0	11.0 ± 0.9	A0V
80461	HD 147888	5.6 ± 0.4	12.6 ± 1.6	B3/B4V
80462	HD 147889	7.4 ± 1.6	0.4 ± 0.2	B2III/IV
80473	CCDM J16255-2327AB	8.7 ± 0.2	14.0 ± 6.4	B2V
80493	HD 147955	2.4 ± 0.0	59.7 ± 26.1	B9V
80557	V* V374 Nor	3.8 ± 0.2	3.9 ± 2.7	B5III
80563	V* V348 Nor	8.0 ± 0.2	18.4 ± 4.2	B1/B2II/III
80569	* chi Oph	10.0 ± 0.9	22.5 ± 3.4	B2Vne
80575	HD 147569	2.9 ± 0.2	14.2 ± 10.7	B8V
80582	* eps Nor	6.3 ± 0.1	50.1 ± 5.0	B4V
80675	HR 6114			B9III
80721	HD 148259	7.4 ± 0.2	25.4 ± 2.1	B2Ve
80752	HD 147694			F5II/III
80763	V* alf Sco	12.1 ± 0.5	16.1 ± 1.0	M1Ib + B2.5V
80772	HD 148191			G3Ib/II
80778	HD 148499			B9III
80782	HR 6131	18.1 ± 1.7	8.3 ± 0.5	B1.5Iap
80799	HD 148562	1.9 ± 0.0	13.0 ± 1.8	A2V
80815	* i Sco	6.1 ± 0.0	11.2 ± 1.3	B3V
80820	HD 148382			B8III
80851	HD 148701			A5II/III
80858	HD 148081			B9III
80865	HD 146967	3.0 ± 0.0	11.3 ± 8.0	B8/B9III
80874	HR 6125			K0II/IIICN.
80911	HR 6143	7.8 ± 0.1	20.9 ± 2.1	B2III-IV
80913	HD 148473			B8II
80917	HD 149067			G8II
80940	HD 148860			B9.5III
80941	HD 149132	1.5 ± 0.7	0.0 ± 0.0	K2
80945	V* V1058 Sco	19.2 ± 0.0	8.3 ± 0.1	B1Ia
80948	HD 148359			B9III
80950	HD 148549	3.9 ± 0.1	10.0 ± 7.0	B5/B6III
80976	HD 148586			F8Ib/II
80988	HD 148969	1.4 ± 0.0	41.9 ± 29.6	A8/A9IV:+..
80990	V* UV Oct			A9:Ia/Iab
81007	* n Her			B9.5III
81031	HD 148597			B9III
81100	HD 148937	15.4 ± 9.7	2.2 ± 2.2	O6e
81104	HD 150142	6.9 ± 0.3	45.8 ± 6.4	K0
81122	V* mu. Nor	26.4 ± 3.9	4.2 ± 0.3	B0Ia
81144	HD 149019	6.3 ± 0.9	50.1 ± 6.4	A0Ia
81145	HD 149382			B5
81168	HD 148740			B6III
81172	HD 149077			A0Ib
81214	HD 149231			B3V
81216	HD 149100	9.0 ± 0.3	23.0 ± 2.1	B3V:n
81221	HD 149247			G8II
81256	HD 149313			B1:Ve
81266	* tau Sco	15.0 ± 0.1	5.7 ± 1.7	B0V
81289	HR 6183			G8II
81305	V* V918 Sco	24.2 ± 0.7	4.7 ± 0.6	O9Ia
81361	HD 149342	6.2 ± 0.6	63.5 ± 18.8	K2III
81377	* zet Oph	19.8 ± 0.0	3.0 ± 0.3	O9.5V

HIP	other ID	mass [M⊙]	age [Myr]	SpT
81427	HD 149455	3.3 ± 0.1	20.6 ± 7.4	B7III/IV
81438	V* OS Aps			M4/M5II/III
81472	V* V1003 Sco	5.9 ± 0.1	19.7 ± 5.1	B2.5IV
81508	V* V954 Sco	10.0 ± 0.6	17.6 ± 2.9	B2IV
81620	HD 150090	6.3 ± 0.7	60.5 ± 13.7	G8Ib
81624	HD 150193	2.5 ± 0.1	2.5 ± 0.7	A1V
81630	HD 150537	2.0 ± 0.0	11.0 ± 0.9	A0
81639	HD 150151			B5III
81645	HD 150093			B4II/III
81678	CCDM J16411-4745AB			B6III
81696	HD 150135	15.1 ± 9.9	2.2 ± 2.2	O7V
81724	HR 6196			G8II/III
81733	HR 6188	12.5 ± 0.5	15.8 ± 0.4	B1II
81736	HD 150197	15.0 ± 1.1	0.2 ± 0.1	O9Ib
81741	HR 6192			G1II
81807	HD 150200			B6II/III
81814	HD 150085			G3III
81823	HD 150097	6.2 ± 0.1	63.1 ± 15.8	K3III
81832	HD 150456	7.0 ± 0.2	10.0 ± 2.2	B2III:
81847	HR 6197	8.2 ± 0.7	33.3 ± 6.1	F5Iab
81850	HD 150250			B8III/IV
81861	HD 150765	6.2 ± 0.7	63.6 ± 23.2	K5
81904	HR 6210			B9II/III
81928	BD-06 4491	5.7 ± 0.5	50.1 ± 6.9	B5
81963	HD 151352	6.2 ± 0.7	63.5 ± 22.5	K5
81971	HD 151029	1.9 ± 0.0	13.0 ± 1.8	A2
81972	HR 6214	5.8 ± 0.2	3.5 ± 2.8	B3V
81997	HD 150577			B7II/III
82000	* 46 Her			F8II+...
82034	HD 150548	5.0 ± 0.0	1.0 ± 0.6	B3V
82037	* 16 Oph			B9.5III
82038	HD 151011			K5II
82109	BD+41 2747	1.8 ± 0.1	12.0 ± 1.9	A2
82110	HR 6215	8.1 ± 0.2	21.6 ± 3.0	B2IV-V
82133	HD 151355	3.0 ± 0.2	22.5 ± 18.4	B8
82140	* 25 Sco			K0II
82171	HR 6219	15.5 ± 1.1	10.7 ± 1.0	B0Iab
82195	HD 151097			F8Iab
82204	HD 153372	6.3 ± 0.5	63.7 ± 14.6	K0
82216	V* V776 Her			B9p (Cr)
82217	HD 151346			B8II
82221	HD 151173	6.3 ± 0.3	41.7 ± 7.6	B4II/III
82254	HD 151395	5.0 ± 0.0	12.6 ± 3.2	B4V
82273	* alf TrA	8.4 ± 0.6	31.7 ± 6.9	K2IIb-IIIa
82304	HD 151782	7.5 ± 0.8	42.3 ± 10.6	K5
82323	V* V1121 Oph	0.9 ± 0.1	1.4 ± 0.7	K5Ve(T)
82324	* 48 Her			K1II-III
82378	V* V1290 Sco	12.0 ± 0.8	0.1 ± 0.0	O9.5IV
82385	HD 152032			G8II-III
82391	HD 152154	6.9 ± 0.5	47.9 ± 2.1	K2
82442	V* V2355 Oph			B5V
82443	HD 151865			B9III
82453	HR 6244			B8II/III
82472	HD 151977			A1II
82475	HD 152115	2.0 ± 0.0	25.1 ± 13.8	A0
82504	* 51 Her			K2II-III
82514	V* mu.01 Sco	10.0 ± 0.1	20.2 ± 0.4	B1.5IV + B
82517	HR 6233			B8II/III
82526	V* V823 Her			B9.5p (Cr)
82528	HD 151688	5.0 ± 0.0	39.3 ± 4.9	B4/B5III
82545	HR 6252	8.6 ± 0.2	18.3 ± 3.4	B2IV
82561	HD 152002	7.6 ± 0.4	18.6 ± 1.1	B2III
82596	HD 152180			B4III
82604	HD 152482	6.4 ± 0.6	52.2 ± 8.9	K5
82617	HD 152078	5.0 ± 0.0	10.0 ± 3.8	B3III
82649	HD 151571			M1II/III
82650	V* V1068 Sco			M3II/III
82658	HD 151540	7.5 ± 0.7	39.8 ± 4.4	B5V

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
82669	V* V900 Sco	21.5 ± 4.2	5.9 ± 0.9	B1Ia
82670	HD 152101			B5V
82671	V* zet01 Sco	21.4 ± 2.7	5.9 ± 0.7	B1Iae
82676	HR 6260	19.2 ± 0.9	7.3 ± 1.0	B0.5Ia
82677	HD 153166	6.9 ± 0.3	45.8 ± 8.0	K0
82678	HD 152046			B7II
82686	HD 152748			G8II
82691	V* V1007 Sco	15.0 ± 0.0	1.2 ± 0.7	O7e
82706	HR 6265	9.0 ± 5.6	5.2 ± 2.6	WC+...
82716	HR 6266			F5Ib-II
82723	HD 152220			K1II
82747	HD 152404	1.5 ± 0.0	13.0 ± 2.6	F5V
82775	HR 6272	24.4 ± 0.8	3.9 ± 0.2	O8Iab+...
82783	HD 152424	20.4 ± 1.9	5.9 ± 0.7	O9Ia
82786	HD 152456			B8/B9IIIsp.
82787	HD 152603			B9.5II/III
82798	V* V644 Her			F5II
82800	HD 152631			A7II
82804	HD 151836			B8/B9III
82817	V* V1054 Oph	0.3 ± 0.0	9.2 ± 4.5	M3Ve
82822	HD 152655			B9III
82832	HD 152524	7.0 ± 0.8	48.9 ± 7.3	K2II/III
82839	HD 152657			B8II
82848	V* V1070 Sco			B7II
82850	HD 152540			B9II/III
82868	HR 6274	6.3 ± 0.1	17.9 ± 1.9	B3Vnpe
82882	HD 152321	2.7 ± 0.1	17.1 ± 9.4	B8II/III
82911	V* V861 Sco	15.6 ± 1.4	8.4 ± 0.7	B0.5Ia
82932	HD 152373	2.9 ± 0.1	10.0 ± 6.8	B8Vn...
82936	HD 152723	20.0 ± 0.0	0.1 ± 0.0	O7
82985	V* V847 Ara	4.0 ± 0.0	63.3 ± 17.2	B5III
82991	HD 152640			B5III
83003	V* V341 Ara	15.0 ± 1.1	0.2 ± 0.1	O...
83012	HD 329213			B1.5V
83022	HD 152936	3.9 ± 0.1	10.1 ± 3.0	B5III/IV
83039	HD 152853	6.7 ± 0.3	4.7 ± 3.5	B2III
83040	HD 152642	3.0 ± 0.0	28.4 ± 9.3	B8IV/V
83059	V* RV Sco			G0Ib
83071	HD 152670	2.4 ± 0.1	37.3 ± 25.4	B9V
83132	HD 153105			B7III
83173	CCDM J16599-7325AB			B9III
83250	V* V849 Ara			M3/M4Ib
83254	HR 6325	8.7 ± 1.3	28.9 ± 6.8	K3III
83266	HD 153382			B8III
83278	HD 153608			B9III/IV
83291	HD 154928	6.2 ± 0.4	63.7 ± 14.6	K2
83323	HR 6304	10.0 ± 0.6	22.5 ± 1.8	B2IVne
83338	HD 153262	8.3 ± 0.3	9.1 ± 1.7	B2:Vnne
83340	HD 153575	12.0 ± 0.8	0.1 ± 0.0	B0III/IV
83377	HD 152827			K1II
83427	HD 153695	2.7 ± 0.1	7.0 ± 2.9	B8V
83453	HD 153662			F0II
83498	HD 153840			B8III
83505	HD 154002			B9.5III
83535	HR 6320	5.0 ± 0.0	34.0 ± 19.5	B5IV
83574	V* V1073 Sco	23.7 ± 1.5	4.0 ± 0.2	B2Iab
83576	HD 152103			G3/G5II
83587	HD 153980	3.4 ± 0.1	38.0 ± 12.0	B7/B8V
83602	HD 154042	6.3 ± 0.4	0.9 ± 0.6	B2II
83629	HD 154293	6.5 ± 0.4	50.1 ± 6.1	B5III
83635	HR 6353	12.5 ± 0.1	11.8 ± 1.6	B1V
83643	HD 154635			K0II
83649	HD 154383			B9II
83674	V* BF Oph			G0II
83706	V* V1074 Sco	19.3 ± 0.8	6.0 ± 0.7	O9.5Iab
83721	HD 154385	9.6 ± 0.3	11.1 ± 2.9	B1Ib
83737	BD-00 3226	2.0 ± 0.0	11.0 ± 0.9	A0
83740	HR 6354			B8/B9II
83749	HD 154173	2.4 ± 0.1	31.2 ± 22.5	B9/B9.5V
83801	HD 154547			B5III
83834	HD 155061	6.2 ± 0.5	63.7 ± 13.8	K2
83858	HD 154589			F2II
83895	* zet Dra			B6III
83910	HD 154374			G8II/III
83920	HD 154921	2.0 ± 0.0	20.1 ± 9.3	A0V
83932	HD 154853			B8III/IV
83946	HD 155316	1.8 ± 0.0	17.9 ± 6.4	A2
83973	HD 154811	12.6 ± 0.6	1.8 ± 2.3	O9.5Ib
83976	HD 155048			K0II/III
83984	HR 6356			B8II/III
84010	CCDM J17103-4644AB	8.9 ± 0.3	22.4 ± 1.8	B1Ib
84015	HD 155015			B8/B9II/III
84038	V* V940 Her	9.7 ± 1.3	25.1 ± 3.3	K5
84063	HD 154813			G5/G6Ib
84073	HD 155020	8.8 ± 0.3	20.4 ± 1.4	B2IV
84080	HD 155216			F0II/III
84134	HD 155273	5.6 ± 0.5	12.6 ± 11.1	B3IV
84139	BD+29 2958			G8II-III
84226	HR 6389	12.1 ± 0.2	15.7 ± 0.6	B1Ib
84238	HD 155416	11.7 ± 0.5	16.7 ± 1.5	B8Iab-Ib
84239	HD 155878			G8II
84260	HD 156110	7.7 ± 0.1	31.6 ± 4.2	B3Vn
84268	HD 155298	4.7 ± 0.3	9.1 ± 7.5	B4IV
84282	V* FV Sco	6.2 ± 0.2	40.5 ± 2.8	B4IV
84310	HD 155587			B9III
84317	HD 155190			B7III/IV
84326	HD 155790			B9III/IV
84338	HD 155409	7.3 ± 0.3	14.7 ± 4.4	B2III
84345	CCDM J17146+1424AB			M5IIvar
84380	* 67 Her			K3IIvar
84385	V* V942 Her	8.0 ± 1.1	32.8 ± 8.8	K5
84401	HR 6397	33.7 ± 15.2	2.9 ± 0.4	O9
84420	HD 155056	1.8 ± 0.1	12.7 ± 2.5	A2V
84433	HD 156166	2.0 ± 0.0	39.8 ± 26.8	A2
84434	HD 155670			B7/B8II
84443	HD 156179	6.3 ± 0.6	63.7 ± 14.6	K2
84444	HD 155889	10.0 ± 0.5	20.2 ± 1.1	B1/B2Ib/II
84483	HD 155896	9.9 ± 1.5	15.8 ± 1.3	B7Ve
84500	V* U Oph			B5Vnn
84554	HD 156099			B8/B9III
84573	V* u Her	9.3 ± 0.2	7.0 ± 3.1	B1.5Vp
84586	V* V824 Ara	1.4 ± 0.1	5.1 ± 1.8	K1Vp
84587	HD 156651	4.0 ± 0.0	28.2 ± 18.5	B5
84599	HR 6430	7.1 ± 0.3	45.7 ± 8.0	K2
84612	HD 156201	14.6 ± 1.9	10.2 ± 0.7	B0.5Ia
84625	HR 6425			G8/K0II
84642	V* V857 Ara	1.0 ± 0.0	42.5 ± 14.2	G8/K0V
84650	HR 6422			B5III
84671	* e Oph			K4II-III
84680	V* V818 Her			M...
84687	HD 156292	9.3 ± 0.3	14.1 ± 2.7	B0V
84710	HD 156657	6.0 ± 0.8	63.1 ± 28.1	K5
84717	HD 156275			B9III/IV
84731	HR 6408	8.2 ± 1.0	33.3 ± 6.8	K2IIICN...
84735	HD 156409	7.1 ± 0.2	22.3 ± 2.6	B2II:ne
84745	HD 156468	12.5 ± 0.5	10.0 ± 1.1	B2V:ne
84748	HR 6427			B9III
84794	V* V647 Her	0.2 ± 0.0	11.8 ± 3.2	M4
84829	HD 156779			B2II
84897	HD 156706			B9III/IV
84946	BD+40 3135	7.0 ± 0.7	47.6 ± 9.6	K2
84970	V* tet Oph	8.9 ± 0.1	18.5 ± 3.4	B2IV
85001	HD 157616	6.2 ± 0.5	63.7 ± 14.1	K2
85015	HD 157059			A3II/III
85035	V* V636 Sco	6.4 ± 0.8	53.4 ± 3.5	F7/F8Ib/II
85049	HR 6438			G8Ib/II

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
85069	HD 156693			B9/B9.5II/I
85079	* iot Ara	8.3 ± 0.4	25.4 ± 1.0	B2IIIne
85095	V* DW Aps	3.8 ± 0.2	10.0 ± 8.4	B6III
85103	HD 159048	6.3 ± 0.5	63.7 ± 14.6	K0
85112	HR 6485			B9.5III
85116	HD 156905	6.4 ± 0.3	50.1 ± 4.5	B4III
85138	HD 156709	5.0 ± 0.0	55.0 ± 5.7	B5V
85147	HR 6440	9.1 ± 0.4	20.3 ± 1.9	B2IV
85159	HD 157241	6.1 ± 0.2	38.5 ± 3.9	B4IV
85162	HR 6460			B7III
85169	HR 6447			B8Ib/II
85171	HD 157416			B9III
85223	HD 157317			B6V
85258	* bet Ara	6.9 ± 0.7	45.7 ± 5.4	K3Ib-II
85267	* gam Ara	12.5 ± 0.7	15.7 ± 0.2	B1Ib
85276	HD 158084	6.9 ± 0.3	47.6 ± 8.0	K2
85294	HD 158038			K2II
85331	HD 157857	20.0 ± 0.0	0.1 ± 0.0	O7e
85355	* sig Oph			K3IIvar
85357	HD 157624	6.6 ± 0.4	39.8 ± 6.0	B3III
85372	HD 157751	2.4 ± 0.0	61.9 ± 28.1	Ap
85377	V* V1229 Sco	5.0 ± 0.0	41.8 ± 3.2	B4III
85383	HD 157793			A1II/III
85385	HR 6502	5.0 ± 0.0	47.4 ± 8.6	B5V
85387	HD 157865			B8/B9III
85398	HD 157698			B5IV:
85405	HD 157969			K0II/III
85409	HR 6478	8.3 ± 0.7	33.3 ± 5.9	B9II
85435	V* V859 Ara			M2II
85453	HD 157988			B8/B9III
85471	HD 158120			B9III
85476	HD 157957			B7III
85484	HD 157560	4.0 ± 0.0	44.1 ± 5.6	B6/B7IV
85520	HR 6487			G8II/III
85530	HD 155454	10.0 ± 0.1	20.0 ± 2.3	B2V
85549	HD 158042	6.9 ± 0.4	43.2 ± 5.2	B5III
85560	HD 158869	6.9 ± 0.7	50.1 ± 7.2	K5
85600	HD 158374			K1II/III
85668	HD 157772			B7/B8III
85670	* bet Dra	6.3 ± 0.5	63.7 ± 23.9	G2II
85696	* ups Sco	11.4 ± 0.7	20.0 ± 3.4	B2IV
85728	HD 158219			B8/B9III
85751	HR 6505			B7II/III
85755	* c Oph	3.9 ± 0.1	1.1 ± 0.9	A0V
85783	HR 6520			B9II/III
85785	HD 159239	1.9 ± 0.0	13.0 ± 1.2	A2
85788	HR 6513			F8/G0Ib
85792	* alf Ara	8.6 ± 0.2	13.8 ± 6.2	B2Vne
85827	HD 158584	5.0 ± 0.0	8.7 ± 7.1	B3III
85851	HD 158775	4.0 ± 0.0	20.0 ± 17.6	B5II/III
85860	HD 158960			G8/K0II+...
85885	HD 158859	9.1 ± 0.5	23.6 ± 2.1	B2II
85889	HR 6523			B9Ib/II
85902	HD 158747			B9III
85903	HD 158800			A6II
85919	HD 158846	7.0 ± 0.4	32.3 ± 1.5	B5IV:
85927	V* lam Sco	12.5 ± 0.7	15.3 ± 0.6	B1.5IV+...
85937	HD 158781			B5III
85972	HD 159091			B7III
86023	HD 159320			B9II/III
86026	HD 159041			B9Ib/II
86031	HD 159111	3.6 ± 0.3	8.9 ± 6.0	B6IV
86046	HD 159504	2.4 ± 0.1	35.6 ± 23.7	B9
86064	HR 6530			B9III
86088	HR 6525			B5II/III
86107	HD 159736	9.3 ± 0.8	27.8 ± 7.3	K5
86126	HD 159380			B8II
86153	V* V959 Her			M1II
86227	CCDM J17373-4915AB			B8III
86228	* tet Sco			F1II
86231	HD 159574			B9Ib
86238	HD 159652	6.5 ± 0.3	31.6 ± 1.7	B3IV
86246	HR 6557	7.9 ± 0.6	35.5 ± 4.5	G2Ib
86253	HD 159684	10.0 ± 0.6	14.6 ± 3.3	B2Vne
86269	V* V950 Sco			F5Ib
86284	* 57 Oph			B8II-IIIMNp
86291	HD 159845	7.0 ± 0.4	39.8 ± 4.4	B3III
86342	HD 159897			B9III/IV
86359	HD 158952	2.0 ± 0.0	20.1 ± 9.3	A0V
86414	V* iot Her	6.7 ± 0.1	36.4 ± 5.6	B3V SB
86426	HD 160329	1.8 ± 0.0	12.7 ± 2.5	A2
86432	V* V994 Sco	6.6 ± 0.3	35.4 ± 2.9	B3IV/V
86450	V* GT Dra			A
86476	HR 6578			K2.5Ib
86487	HD 160319	7.4 ± 0.3	31.6 ± 0.8	B3Vne
86490	HD 160150			F3/F5II
86508	HD 160335	5.0 ± 0.0	13.1 ± 2.6	B4V
86547	HD 160323			B2II
86575	HR 6590	6.3 ± 0.5	63.7 ± 19.0	G7III
86625	HD 160884	6.3 ± 1.0	63.1 ± 30.4	K5
86653	HD 160575	10.0 ± 0.8	19.9 ± 0.9	B1/B2II
86670	V* kap Sco	10.0 ± 0.2	25.1 ± 1.7	B1.5III
86678	HD 160913	2.0 ± 0.0	20.1 ± 9.3	A0
86683	HD 160825			B9III/IV
86709	V* V965 Her			M1II
86732	HR 6604			F5II
86735	HD 160648			B6III
86740	HD 161268			K1II
86747	CCDM J17436-5701AB			B9III
86752	HD 160841			B9III
86768	HR 6601	11.6 ± 0.4	14.4 ± 2.0	B1.5V
86784	HD 160653	4.4 ± 0.4	43.1 ± 5.4	B5III
86790	HD 160754			G5II
86799	HD 160876			B7III
86807	HD 161101			G6II/III
86884	HD 161306	12.0 ± 0.6	0.2 ± 0.0	B0:ne
86937	HD 155522			F0IIw...
86941	HD 161658	2.0 ± 0.0	11.0 ± 0.9	A0
86944	HD 161572	3.9 ± 0.0	35.7 ± 16.7	B6V
86949	HD 161327			A0Iab-Ib
86954	HD 161573	6.0 ± 0.1	40.8 ± 4.3	B4V
86960	V* V2320 Oph	5.0 ± 0.0	41.3 ± 6.8	B5V
86986	BD+39 3226			sdOp
87030	HD 161434	4.0 ± 0.0	56.6 ± 11.5	B6V
87033	HD 161312	3.3 ± 0.3	10.0 ± 7.1	B6II/III
87040	HD 161378			B8II
87068	HD 161644			A3II/III
87072	V* X Sgr	6.5 ± 0.2	51.7 ± 6.8	F7II
87073	HR 6615	12.2 ± 0.1	16.5 ± 0.5	F3Ia
87085	HD 161561			B8II
87099	HR 6617	8.7 ± 0.6	30.3 ± 5.1	G3/G5Ib
87102	HD 161575			B9IIIsp...
87105	HD 162094	6.3 ± 0.0	17.1 ± 1.8	B3V
87107	V* V2386 Oph	6.7 ± 0.3	50.1 ± 4.3	M...
87127	HD 161013			B8III
87134	HD 161649			B8/B9Ib/II
87139	CCDM J17482-3644AB	4.0 ± 0.1	12.8 ± 4.4	B5/B6V
87163	HR 6621	6.9 ± 0.2	48.8 ± 6.2	B3Vn
87181	HD 161667			B8Ib/II
87191	V* V393 Sco	7.7 ± 0.5	32.5 ± 6.4	B3III
87220	HR 6628			B8Ib/II
87230	HD 161854	2.4 ± 0.1	52.1 ± 39.1	B9V
87239	HD 162060	1.8 ± 0.0	14.0 ± 3.7	A3
87244	HD 162163	7.9 ± 1.0	37.4 ± 10.2	K5
87251	HD 162318	7.4 ± 0.7	39.8 ± 2.9	K2
87260	HD 161672			F2II

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
87277	HD 161877			B6II/III
87280	* z Her			Bpsh
87294	HR 6631	8.8 ± 0.2	29.8 ± 3.3	A6Ib
87298	HD 161931			B9III
87314	V* V539 Ara	7.9 ± 0.1	25.0 ± 0.6	B2V + B3V
87345	V* RY Sco			F6Ib
87379	HR 6632			B9.5III/IV
87397	HD 162089	6.5 ± 0.2	2.6 ± 2.2	B2III
87430	HD 162648	6.9 ± 0.8	50.1 ± 7.2	K5
87436	HD 162559	1.7 ± 0.0	14.0 ± 3.7	A3
87460	V* V957 Sco			B6Ib
87502	HD 162206			B9III/IV
87504	HD 163113	6.3 ± 0.5	63.7 ± 13.7	K0
87505	HD 162418	7.0 ± 0.3	20.0 ± 4.3	B2II
87508	HD 162494	7.3 ± 0.3	11.6 ± 5.9	B2/B3V
87513	HD 162775	6.2 ± 0.7	63.7 ± 14.6	K2
87522	HD 162154			G8/K0II
87529	HR 6652			B9III
87560	V* V958 Sco			B8/B9III
87567	HR 6657	5.4 ± 0.4	63.1 ± 19.3	B4III
87588	HD 162779	3.2 ± 0.1	10.0 ± 7.1	B6:Ib+...
87671	HR 6668			B9.5/A0III
87673	HD 162381	3.0 ± 0.0	12.6 ± 9.5	B8/B9III
87698	HD 162888			B9.5III
87712	HD 163017	7.0 ± 0.2	20.6 ± 4.2	B2II/III
87722	HR 6671			B9.5III
87723	HD 162765			F3II/III
87728	* 34 Dra			F2.5II-III
87742	HD 157756			G8II
87747	V* V441 Her	9.2 ± 0.5	26.7 ± 3.4	F2Iavar
87788	LHS 3340	0.9 ± 0.0	50.1 ± 23.3	G4
87798	HD 163139			B9.5III
87808	* tet Her	7.9 ± 0.6	37.4 ± 5.6	K1IIvar
87809	HD 163227			B6/B7III
87812	V* V2052 Oph	10.0 ± 0.4	22.5 ± 3.6	B2IV-V
87819	HD 163296	2.3 ± 0.1	4.9 ± 1.1	A1V
87821	HD 162895			B8III
87839	HD 163273	3.1 ± 0.1	10.0 ± 7.1	B8III
87844	HD 163251			B7II/III
87853	HD 163274			B9III/IV
87864	HD 162806			K0II
87866	HR 6690			B9III
87869	HD 162932			F2II/III
87880	HD 163428	9.8 ± 1.8	23.4 ± 6.8	K5II
87886	V* V1092 Sco	7.6 ± 0.2	8.5 ± 1.1	B5Vn
87897	HD 163304	3.2 ± 0.1	10.0 ± 5.7	B7III
87928	HD 163071	9.2 ± 0.5	23.8 ± 2.9	B4III
87953	HD 163072			A8II
87974	HD 163862	2.8 ± 0.3	10.0 ± 6.8	B8
87998	V* nu. Her	6.5 ± 0.3	50.0 ± 6.2	F2II
88004	HD 163522	6.3 ± 0.1	1.2 ± 1.0	B1Iab:p
88012	HR 6692	8.1 ± 0.5	28.8 ± 4.2	B3II/III
88055	HD 164252	7.0 ± 0.4	39.8 ± 3.2	A1V...
88056	HD 164045	1.9 ± 0.0	39.8 ± 26.8	A2
88109	HD 163745			B5II
88111	HD 164235	2.0 ± 0.0	20.0 ± 8.3	A0
88123	HD 163868	8.9 ± 0.2	13.4 ± 1.7	B2/B3V:ne
88126	HD 164002	9.2 ± 0.4	12.3 ± 2.5	B1/B2II
88128	* 93 Her			K0II-III
88137	HD 164103	6.0 ± 0.3	27.5 ± 2.5	B3IV
88147	HD 163900			B8/B9II
88149	* 66 Oph	8.8 ± 0.1	14.2 ± 3.6	B2Ve
88156	HIP 88156	12.0 ± 0.8	0.1 ± 0.0	B
88171	HD 164165			B8/B9III
88192	* 67 Oph	8.4 ± 1.0	33.2 ± 8.0	B5Ib
88193	HD 164188	8.2 ± 0.6	7.0 ± 4.2	B1Ib/II
88201	HD 164222	7.0 ± 0.2	28.4 ± 2.8	B3V
88213	HR 6719	9.0 ± 0.1	21.0 ± 1.8	B2IV
88258	* 6 Sgr	10.0 ± 2.1	22.6 ± 4.7	K2III
88270	HD 164129			B9III
88294	HR 6708			B7/B8II/III
88305	HD 164809			K0II-III
88309	HD 164320	5.6 ± 0.3	63.1 ± 15.7	B7II
88312	HD 164321	6.8 ± 0.6	43.2 ± 3.5	B5II/III
88328	HD 163878			G8II/III
88331	* 96 Her	7.1 ± 0.1	39.8 ± 8.5	B3IV
88346	* 97 Her	6.1 ± 0.1	11.7 ± 2.3	B3Vn
88369	HD 164455	7.1 ± 0.3	29.4 ± 1.6	B2III/IV
88380	* 7 Sgr			F2/F3II/III
88399	HD 164249	1.4 ± 0.1	15.9 ± 4.9	F5V
88409	HD 164700	5.5 ± 0.5	31.6 ± 5.6	B3III
88411	V* GX Dra	6.2 ± 0.8	63.7 ± 17.6	K0
88434	V* V978 Her			M5II-III
88439	HD 164738	7.2 ± 0.4	34.8 ± 5.9	B3III
88443	HD 163927	5.0 ± 0.0	63.1 ± 13.2	B5III
88463	HD 164741	7.0 ± 0.4	20.0 ± 1.9	B2Ib/II
88475	HD 164546			B8II/III
88496	HD 315032	7.4 ± 0.4	1.5 ± 0.5	B2Vne
88504	HD 164945			B9II/III
88518	HD 166091			K5II-III
88523	HD 164776	4.0 ± 0.0	28.2 ± 16.9	B5Vn...
88541	HD 164972			F2/F3II
88561	HD 165177	1.9 ± 0.1	42.9 ± 30.6	A2
88562	HD 165473			K0II
88567	V* W Sgr			G0Ib/II
88568	HD 165435			F3II
88620	V* V354 Pav			M3II/III
88629	HD 165063	6.2 ± 0.2	39.0 ± 2.4	B4ne
88652	HD 165319	14.8 ± 0.9	5.0 ± 1.3	O9.5Iab
88670	HR 6755			B8III-IV
88671	HR 6757			G8IIp
88702	HD 164806	9.1 ± 0.8	23.8 ± 4.6	B3III
88709	HD 165293			G8II/III+..
88711	V* V712 CrA			M4II
88714	* tet Ara	8.9 ± 0.1	28.2 ± 5.1	B2Ib
88720	HD 165365			B7/B8III
88730	HD 165446			F3II
88738	HD 165383			B9III
88743	V* V832 Ara			G8/K0II/IIIp
88760	HR 6762	10.0 ± 1.7	15.7 ± 1.0	B1/B2Ib
88774	BD-07 4561	2.0 ± 0.0	50.1 ± 36.3	A0
88817	HR 6782	1.8 ± 0.0	14.0 ± 3.7	A3V
88821	HD 166093			K3II
88824	HD 165470	6.5 ± 0.2	2.8 ± 1.8	B2III
88828	HD 165688	15.0 ± 1.1	0.2 ± 0.1	WN...
88829	BD+15 3370	2.0 ± 0.0	20.1 ± 9.3	A0
88855	V* AX Sgr	7.1 ± 0.5	47.6 ± 9.7	G5Ia
88856	HD 165763	7.8 ± 5.1	5.0 ± 2.7	WC...
88859	HR 6759			B7/B8II
88876	V* V4381 Sgr	7.0 ± 0.4	44.7 ± 2.2	A2/A3Iab
88880	HD 166410	2.0 ± 0.0	67.2 ± 25.4	A0
88884	V* V4382 Sgr	7.5 ± 0.3	1.2 ± 0.3	B1/B2II
88886	* 102 Her	10.0 ± 0.1	20.0 ± 1.1	B2IV
88888	HD 164750			K0II/III
88943	HD 165921			B6III:
88966	HD 165794			A7/A8II
88981	HR 6785			K1II
88982	HD 166052	5.4 ± 0.4	12.6 ± 3.9	B3IV
88984	HD 166144	7.9 ± 0.5	32.7 ± 5.7	K2
88995	HD 314031			B0.5V
89029	HD 166167			B9.5Iab...
89060	HD 166287	8.9 ± 0.8	19.0 ± 2.5	B1Ib
89061	HD 166291	5.0 ± 0.1	10.0 ± 8.4	B3II
89107	HD 166417			B9II/III
89121	HD 166198			B7/B8II
89135	HD 166138	3.7 ± 0.1	2.5 ± 1.3	B5II
89146	HD 166326			B9III

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
89164	V* V4159 Sgr	7.7 ± 0.3	15.5 ± 0.3	B1Ib
89176	HD 166425	3.6 ± 0.3	1.6 ± 0.6	B6III
89189	HD 166450	7.2 ± 0.4	34.8 ± 3.4	B4III
89217	HD 165938	4.7 ± 0.3	31.9 ± 7.0	B5III
89224	HD 166453	5.9 ± 0.4	50.1 ± 6.3	B5III
89263	HD 166803	6.6 ± 0.3	10.0 ± 0.9	B1/B2Ib
89279	HR 6826			B9IIIn
89290	V* V692 CrA	7.7 ± 0.3	32.2 ± 5.6	B2.5III
89302	HD 166789			B6III
89330	HD 166790			B7II
89357	HD 166861			B8/B9III
89361	HD 166810			B8/B9III
89366	HD 166968			B8II/III
89382	HR 6774			B7/B8II/III
89384	HD 167067	3.3 ± 0.1	1.6 ± 0.6	B6V
89386	HD 166751			K3Ia
89391	HD 167244	2.0 ± 0.0	20.1 ± 8.4	A0
89392	HD 167016			B8III/IV
89394	HD 166252			F0II
89397	HD 167279	7.4 ± 0.7	42.8 ± 8.9	K5
89404	HD 167003	9.6 ± 0.4	0.4 ± 0.3	B1Ib/II
89413	BD+14 3460	2.0 ± 0.0	20.1 ± 9.3	A0
89453	HD 167335			B7III
89492	HD 167782			G8II
89502	HD 167233	6.1 ± 0.1	40.8 ± 0.9	B3III
89511	HD 167433			B7II/III
89519	HD 167497	5.0 ± 0.0	3.3 ± 2.4	B2Ib
89535	ESO 457-2	7.4 ± 0.5	4.0 ± 2.1	WC
89551	HD 167785	7.0 ± 0.1	0.9 ± 0.6	B2V
89553	HD 168269	6.3 ± 0.6	58.2 ± 11.6	K5
89557	HD 167212			B9II/III
89584	HD 167633	15.0 ± 10.0	2.3 ± 2.2	O6
89605	HR 6819	6.3 ± 0.0	46.5 ± 6.4	B3IIIpe
89617	HD 167506			G8II
89630	HR 6841	17.9 ± 3.1	2.3 ± 0.7	O8/O9
89637	V* RS Sgr	6.6 ± 0.1	26.3 ± 4.9	B3/B4IV/V
89641	HD 167838	13.7 ± 3.1	11.1 ± 1.5	B3Ia/Iab
89646	HD 167898	2.0 ± 0.0	20.1 ± 9.3	A0
89647	HD 167815	8.5 ± 0.5	0.7 ± 0.5	B1/B2III
89659	HD 167863			B6II/III
89660	HD 167686			B8II
89677	HR 6851	6.4 ± 0.2	50.1 ± 6.4	B5V
89678	HR 6842	6.3 ± 0.6	58.5 ± 17.8	K3III
89681	V* MY Ser	24.3 ± 7.7	3.2 ± 0.5	O8/9f
89683	HR 6854	7.9 ± 0.7	37.4 ± 8.2	K5
89688	HD 168201	6.3 ± 0.9	63.1 ± 24.9	K5
89708	HD 167846			B7/B8III
89736	HD 168080	9.6 ± 0.3	15.8 ± 1.4	B1Ib/II
89737	HD 166925	2.6 ± 0.1	57.7 ± 30.2	B9III
89743	BD-13 4930	15.0 ± 1.1	0.2 ± 0.1	O9.5V
89755	HD 168245			G7II
89773	* 105 Her			K4II SB
89786	HD 168121	2.9 ± 0.1	3.2 ± 0.7	B8/B9III
89789	HD 168413	6.2 ± 0.9	63.1 ± 29.8	K5
89828	HD 168393			F5II
89831	HD 168352	6.3 ± 0.2	5.6 ± 4.1	B2II
89856	HD 168444	11.9 ± 1.0	6.3 ± 3.2	O9.5/B0Iab
89859	HD 168236			B5III
89864	HD 167917			K1II/III
89866	HD 168062			B6III
89874	V* FK Ser	1.0 ± 0.2	0.5 ± 0.3	K5Ve+K7Ve Li
89896	HD 168655	6.2 ± 0.5	63.1 ± 13.9	K5
89902	HD 167806	7.0 ± 0.1	0.3 ± 0.2	B2V
89910	HD 167918			B5III
89920	HR 6856			K2II
89933	HD 168552	7.7 ± 0.5	27.3 ± 4.0	B2/B3Ib/II
89938	HD 168567	6.3 ± 1.0	57.7 ± 24.9	K3III
89955	V* V715 CrA			A0II/III(p)
89956	V* V4029 Sgr	10.1 ± 2.0	15.8 ± 1.1	B4:Iae
89963	V* V4030 Sgr	12.4 ± 0.7	11.4 ± 0.9	B2/5Ia(e)
89968	V* Y Sgr			F8II
89975	HD 168957	7.4 ± 0.1	31.6 ± 5.2	B3V
89977	HR 6873	7.0 ± 0.1	30.8 ± 0.8	B3Ve
89992	HD 168675	6.3 ± 0.3	0.9 ± 0.6	B2Ib/II
90001	V* V4390 Sgr	10.1 ± 0.6	20.0 ± 4.2	B9V:
90018	HD 167991			G5II/III
90034	HD 168814			A1Ib
90062	HD 168917	9.0 ± 0.2	10.6 ± 2.7	B0/B0.5II/I
90071	BD+04 3722	2.7 ± 0.1	7.0 ± 2.9	B8
90074	V* V4050 Sgr			B7Ib/II
90081	HD 168936			A1IIp...
90096	HR 6881			B5V
90113	V* V4393 Sgr	6.8 ± 1.3	48.1 ± 10.9	K5/M0III:
90185	KAUS AUSTRALIS			B9.5III
90200	HR 6875	6.3 ± 0.2	0.9 ± 0.7	B2.5Vn
90206	HD 168596			B7III
90228	HD 169417	1.8 ± 0.0	12.7 ± 2.5	A2
90231	HD 168791			K3II/III
90252	BD+16 3492	2.8 ± 0.3	10.0 ± 6.8	B8
90289	* 21 Sgr	7.9 ± 0.1	39.8 ± 4.6	A1/A2V
90295	HD 169798	7.2 ± 0.2	23.2 ± 1.5	B2.5IV-V
90314	HD 170027	6.9 ± 0.4	50.1 ± 6.5	K2
90336	HR 6893			B7III
90361	HD 170028	6.2 ± 0.1	13.0 ± 2.3	B3V
90369	HD 169673	9.6 ± 0.4	19.8 ± 1.1	B1Ib
90377	HD 170051	6.8 ± 0.2	0.3 ± 0.2	B2V
90382	V* RZ Sct	10.0 ± 1.7	22.6 ± 4.4	B3Ib
90398	HR 6924	6.4 ± 0.1	21.1 ± 3.7	B3V
90400	HD 169657	5.3 ± 0.4	63.1 ± 13.9	B5II
90422	* alf Tel	6.0 ± 0.0	24.1 ± 7.0	B3IV
90426	HD 170287	2.0 ± 0.0	20.1 ± 8.4	A0
90443	HD 170054	4.0 ± 0.0	33.5 ± 12.4	B6IV
90452	HD 169679	6.2 ± 0.7	44.7 ± 5.1	B8/B9III
90453	HD 170230	2.0 ± 0.0	12.9 ± 2.4	A0
90488	HD 170559	8.4 ± 0.8	32.5 ± 8.3	K0
90494	HR 6919			B8III/IV
90497	HR 6928			B8III-IV
90507	HD 169791			B8III
90515	HD 170015			B9II
90552	V* V493 Sct	9.2 ± 0.6	19.1 ± 1.6	B1Iab
90589	BD-04 4476			B3
90599	V* V451 Oph	2.4 ± 0.1	42.0 ± 29.8	B9V
90604	HR 6921			B9III
90610	HR 6929	13.7 ± 1.9	11.4 ± 1.6	B2Vnne
90661	HD 170429			B6/B7Ib/II
90676	HR 6941	9.9 ± 0.1	19.5 ± 2.9	B2V
90692	HR 6940			G8II-III
90701	HD 170516			B9.5III
90707	HD 170634	3.3 ± 0.2	50.3 ± 6.5	B7V
90713	* 23 Sgr			G8Ib/II
90749	HD 170604	7.2 ± 0.2	6.2 ± 3.6	B1Ib
90761	V* QT Ser	7.6 ± 0.5	39.8 ± 4.4	B5
90768	HD 170714	9.6 ± 0.4	2.3 ± 1.9	B1Vne
90784	HD 170700	7.2 ± 0.2	0.5 ± 0.4	B1/B2Ib/II
90791	V* X Sct			F5I
90797	V* nu. Pav			B8III
90804	IDS 18259-1052	10.0 ± 0.3	15.8 ± 1.4	B2V
90815	V* V357 Pav			B8III
90821	HD 170502	3.0 ± 0.0	57.3 ± 12.1	B8V
90853	HR 6938	7.7 ± 0.1	39.8 ± 5.3	B3III
90871	HD 170640			B9III
90872	HD 170798	1.8 ± 0.1	47.4 ± 33.9	A2III
90886	HD 171383	8.9 ± 1.3	30.5 ± 9.8	K5
90897	HD 170904			B8II
90905	* d Dra	7.8 ± 0.2	39.8 ± 5.7	F7Ib
90913	V* V450 Sct	12.5 ± 1.2	15.8 ± 1.3	K3Iab

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
90927	HD 170196			B9III
90939	HD 170991			K0/K1II/III
90950	V* V4398 Sgr	15.6 ± 1.7	8.4 ± 0.7	B0Ia/ab
90953	HD 170978	6.2 ± 0.1	31.5 ± 2.3	B3III/IV
90970	HR 6971	6.1 ± 0.2	41.6 ± 7.9	B4V
90971	V* V2393 Oph			B8IIIp SiSr:
90992	HD 170943			B5III
91003	HD 171198	20.0 ± 0.0	0.1 ± 0.0	O7:
91004	* 24 Sgr	12.1 ± 0.3	20.0 ± 4.2	K3III
91014	HR 6960	10.0 ± 0.3	21.3 ± 1.8	B2III/IV
91043	V* V889 Her	1.2 ± 0.0	28.8 ± 4.5	G0V
91049	HD 171871	7.8 ± 0.2	23.5 ± 1.5	B2IIp
91050	HD 170806			F3II
91066	* 25 Sgr	8.4 ± 0.7	31.8 ± 6.3	F2II
91119	HR 6984			B5Vn
91130	HD 171348	7.9 ± 0.1	3.6 ± 3.0	B2Vnne
91149	HD 171352			K1II
91161	HD 171683	2.9 ± 0.1	14.2 ± 10.7	B8
91233	HD 171874			F6II
91235	HR 6997			B8II-IIIp..
91238	HD 171611	6.3 ± 0.4	31.6 ± 1.5	B3IV
91251	HD 171662	6.3 ± 0.6	59.1 ± 17.2	K3/K4III
91267	HD 171690			B9III:
91276	HD 171736			G8Ib
91292	V* V717 CrA	7.9 ± 0.5	33.3 ± 5.6	G6IICNIV
91302	HD 171952	6.3 ± 1.0	57.9 ± 23.7	K5
91334	HD 171696			B5III
91352	CCDM J18379-0023AB	10.8 ± 1.6	14.2 ± 0.9	B2V
91359	V* V534 Lyr			B9Ib
91369	HR 6989			B8II/III
91373	V* XY Lyr			M4.5II
91380	HD 171878			B9.5III/IV
91405	HR 6990			B8III
91444	HD 172470	7.4 ± 0.7	42.4 ± 8.7	K5
91477	V* V452 Sct			A3:Ia
91499	HR 7008			F8Ib-II
91538	HD 172425	2.0 ± 0.0	20.1 ± 9.3	A0
91594	HD 172588			F0II-III
91598	HD 172508			K0II-III
91599	HD 172488	9.6 ± 0.4	5.5 ± 4.7	B0.5V
91659	HD 172744			K2II
91677	HR 7014	8.6 ± 0.7	26.9 ± 4.3	F2/F3Ib/II
91707	HR 7033	5.9 ± 0.2	63.1 ± 15.3	B5V
91713	HD 172535	6.9 ± 0.3	32.8 ± 4.7	B3IV/V
91777	HD 172579			B5III/IV
91809	HD 173214	2.0 ± 0.0	11.0 ± 0.9	A0
91816	HD 173171	2.4 ± 0.0	23.9 ± 15.7	B9
91820	HR 7041	6.2 ± 0.1	63.5 ± 15.9	K5
91822	HD 173003			B5
91826	HD 172854	6.6 ± 0.4	38.5 ± 1.3	B3III
91828	BD+35 3342B	2.0 ± 0.1	20.1 ± 9.3	A0
91845	* eps Sct			G8II
91851	HD 173034	6.3 ± 0.5	63.7 ± 13.7	K0
91874	HD 172756	4.0 ± 0.0	12.3 ± 3.5	B5III
91879	HD 342867	3.1 ± 0.1	22.5 ± 18.4	B8
91898	HD 173525	6.2 ± 0.2	63.1 ± 16.2	K5
91909	HD 173274	2.0 ± 0.1	20.1 ± 9.3	A0
91910	V* V1331 Aql	10.0 ± 0.1	2.6 ± 0.5	B1Vvar
91911	HIP 91911	7.5 ± 0.4	4.0 ± 2.0	WC...
91918	HR 7029	7.2 ± 0.1	0.7 ± 0.6	B2V
91964	HD 172583	2.0 ± 0.0	39.8 ± 26.8	A1mA8-F0
91974	HR 7035			B8III
91987	HD 173371			B9III
91988	HD 173526			G4II
91989	HR 7031			K1/K2III+..
92034	HD 173388	6.8 ± 1.1	50.1 ± 12.6	G5Ib
92038	HD 173375	6.8 ± 0.3	48.8 ± 4.9	B5III
92041	* phi Sgr			B8.5III
92055	V* RZ Oph			F3Ibe comp
92056	HR 7117			K0II-III
92072	HD 173047			B8/B9II
92073	HD 174157	1.8 ± 0.1	12.0 ± 1.9	A2
92076	HD 173846	2.8 ± 0.1	2.7 ± 0.6	B8
92123	HD 173705	1.8 ± 0.0	13.9 ± 3.6	A3
92130	HD 173357			M2/M3II/III
92133	HR 7084	8.9 ± 0.2	24.6 ± 3.5	B2.5V
92136	HR 7055	9.2 ± 0.6	24.7 ± 2.0	F2Ib-II
92154	HD 173570			B7III/IV
92175	* bet Sct			G5II...
92178	CCDM J18472+3124AB			G8II+...
92202	V* R Sct	10.0 ± 0.7	25.1 ± 4.7	K0Ibpvar
92216	HD 174125	2.6 ± 0.1	3.9 ± 1.6	A
92228	HD 174126			K2II
92235	V* V356 Sgr			B9III
92243	HR 7081	6.6 ± 0.2	35.1 ± 4.9	B3IVp
92271	HD 174180			K1II-III
92301	HR 7072	6.8 ± 0.5	53.4 ± 3.5	A1V + K1III
92316	NOVA Aql 1918	12.0 ± 0.8	0.1 ± 0.0	sdB(Nova)
92319	HD 174298	8.1 ± 0.2	18.4 ± 3.1	B1.5IV
92390	* 29 Sgr	5.9 ± 0.4	71.3 ± 26.1	K2III
92391	HR 7083	6.3 ± 0.3	63.1 ± 17.9	K2Ib
92393	HD 174391	7.1 ± 0.1	29.8 ± 3.7	B3V
92398	* 8 Lyr	7.0 ± 0.0	39.8 ± 7.8	B3IV
92429	HD 174170			G5II/III
92434	HD 174485	7.0 ± 0.2	50.1 ± 6.3	A0
92456	HD 174328	6.7 ± 0.5	51.7 ± 12.5	K1II/III
92478	V* HS Her			B5III SB
92486	HD 229700	2.0 ± 0.1	20.1 ± 9.3	A0V
92488	HR 7094	7.9 ± 0.3	37.4 ± 5.5	F2Ib
92490	CD-41 13159B	2.4 ± 0.1	36.5 ± 24.6	B9III
92512	V* omi Dra			K0II-III SB
92521	HD 174467			A3II
92525	HD 174232			G8II/III
92529	HD 174517			B5III
92550	HR 7112			K1II-III
92590	HD 175081	5.0 ± 0.0	34.0 ± 6.9	B5n
92609	* lam Pav	12.5 ± 0.8	15.8 ± 0.2	B2II-III
92657	HD 343306	3.0 ± 0.1	29.9 ± 25.2	B8
92671	HD 174801			B8/B9II
92680	V* PZ Tel	1.2 ± 0.0	12.8 ± 1.7	K0Vp
92687	HR 7093	6.2 ± 0.1	55.6 ± 10.9	B4III
92728	* 11 Lyr	7.9 ± 0.1	21.1 ± 2.3	B2.5V
92729	HD 175863	7.9 ± 0.1	34.6 ± 7.9	B4Ve
92733	HD 174919	6.2 ± 0.7	63.1 ± 21.6	K2III
92747	* 33 Sgr			G8/K0II
92758	HD 174973			B8III/IV
92761	* 32 Sgr	7.9 ± 0.2	37.4 ± 5.9	K1II
92763	HD 175060			B8/B9II
92780	HD 174996	5.7 ± 0.3	17.9 ± 3.5	B3IV
92787	V* V913 Aql			M5II
92791	V* del02 Lyr			M4IIvar
92808	HD 175046			B7II
92814	HR 7119	10.0 ± 0.2	25.1 ± 1.7	B3II
92834	HD 175142	1.8 ± 0.0	14.0 ± 3.7	A3:m...
92845	* 35 Sgr			K1Ib/II
92852	HD 175277			B8II/III
92855	NUNKI	7.6 ± 0.2	31.6 ± 6.2	B2.5V
92865	V* V1182 Aql	20.0 ± 0.0	0.1 ± 0.0	O8:Vnn
92871	V* V1285 Aql	0.4 ± 0.1	15.9 ± 6.6	M2Ve
92904	HD 175544	7.8 ± 0.3	3.0 ± 2.5	B2V
92919	V* V775 Her	0.8 ± 0.0	54.6 ± 5.6	K0V
92931	HR 7128			B6III
92957	HD 175803	6.6 ± 0.2	23.6 ± 1.4	B3V
92963	HR 7143			B9III
92975	HD 174583			K0II/III

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
92979	HD 175098	2.0 ± 0.0	20.1 ± 8.4	A0V
92989	V* V686 CrA			B3V
93000	HD 175623			B8II/III
93014	HD 175478	4.0 ± 0.1	41.1 ± 20.5	B6V
93015	V* kap Pav			F5Ib-II:
93024	HD 176052	2.7 ± 0.1	3.6 ± 0.8	A
93034	HD 176132	6.3 ± 0.8	63.1 ± 23.8	K5
93051	* 64 Ser			B9IIIp...
93057	* 36 Sgr	7.9 ± 0.1	39.8 ± 4.5	B9.5Ib
93065	HD 175773	4.6 ± 0.4	48.9 ± 1.2	B5III
93085	* 37 Sgr			G8/K0II/III
93111	HD 176230			K1II
93118	HD 175876	19.9 ± 0.6	1.2 ± 1.3	O7/O8
93124	V* FF Aql	7.0 ± 0.2	46.0 ± 3.8	F8Ib
93132	HR 7155			B8III
93171	HD 176254	10.0 ± 1.5	15.8 ± 1.0	B2IV
93175	HR 7171			B7III-IV
93177	V* V543 Lyr	6.4 ± 0.1	21.8 ± 3.1	B3V
93194	SULAFAT			B9III
93210	V* V545 Lyr	5.0 ± 0.0	48.9 ± 3.0	B5IV
93213	HD 176063			B9.5III
93218	HR 7173	12.5 ± 0.5	15.3 ± 1.3	B2Vp
93225	HR 7166	5.0 ± 0.0	30.9 ± 6.9	B4V
93234	HR 7164			G5/G6II
93235	HD 176185			B8Ib/II
93264	HD 176164	4.0 ± 0.0	55.7 ± 25.7	B6IV
93279	* lam Lyr	6.3 ± 0.7	58.4 ± 18.9	K3III
93299	V* LV Dra	6.6 ± 0.1	9.5 ± 2.8	B2.5IV
93340	* 49 Dra			G5IIbCN...
93348	HD 176800	2.4 ± 0.1	25.1 ± 17.0	B9
93368	HD 176269	3.0 ± 0.0	2.9 ± 0.9	B7/B8V
93378	HD 175897	1.5 ± 0.0	9.5 ± 1.2	G0V
93393	HR 7202			B5V
93395	HD 176818	9.2 ± 0.2	0.3 ± 0.2	B1V
93396	HD 176914	7.9 ± 0.7	29.0 ± 6.4	B5
93404	HR 7200	9.4 ± 0.3	20.9 ± 2.3	B2IV-V
93411	HD 176630	6.3 ± 0.2	47.1 ± 3.6	B4IV
93412	HD 176383	1.3 ± 0.0	24.4 ± 4.5	F5V
93413	HD 177006	5.0 ± 0.0	31.1 ± 8.1	B5
93416	HD 174480	2.0 ± 0.1	0.1 ± 0.1	K1III
93417	HD 176737			K4II-III
93420	HD 176337			G8IICN...
93423	HR 7182	7.9 ± 0.7	38.5 ± 6.7	K3III
93425	HD 176386	2.6 ± 0.1	3.0 ± 0.3	B9IV
93437	HR 7212	5.0 ± 0.0	48.9 ± 2.9	B5IV
93449	V* R CrA			A5IIevar
93458	HD 176406			B5III
93478	HD 176745			A0II/III
93480	HD 176661			B8II/III
93484	HD 337487	2.8 ± 0.3	10.0 ± 6.8	B8
93488	HR 7208	6.3 ± 0.6	60.3 ± 14.0	K2III
93501	HD 176783			B8/B9II
93502	V* V599 Aql	7.9 ± 0.1	3.9 ± 2.8	B2V
93510	HD 177303	7.1 ± 0.6	43.3 ± 6.3	K0
93520	HD 176921	1.9 ± 0.0	49.8 ± 34.2	A2
93536	HD 176923			B8Ib/II
93537	HR 7203	6.3 ± 0.6	58.6 ± 12.0	K0II/III
93581	HD 177015	6.3 ± 0.3	36.1 ± 1.5	B4Vn
93602	HD 176500			K0II/III
93621	HD 177593			B5
93629	HD 176522			G6II/III
93631	HD 177697	6.2 ± 1.0	63.1 ± 27.3	K5
93634	BD+29 3460	2.0 ± 0.0	20.1 ± 8.4	A0
93642	HD 177433			K0II-III
93680	HD 177648	9.0 ± 0.3	13.4 ± 3.0	B2Ve
93689	HD 177076	2.2 ± 0.1	6.2 ± 1.7	B9.5V
93732	V* V1441 Aql	7.0 ± 0.2	31.6 ± 1.0	B3V
93740	HD 177423			B5II
93750	HD 177700			B8II
93763	HR 7230			B8IIIsp...
93769	HD 177427			B9IIIe...
93796	HD 177812	6.8 ± 0.2	2.9 ± 1.9	B1Ib
93808	V* V550 Lyr	6.6 ± 0.1	25.8 ± 5.4	B3V
93815	* rho Tel	2.6 ± 0.1	1.5 ± 0.2	F7V
93836	HD 177880	4.0 ± 0.0	15.9 ± 3.1	B5V
93849	HD 177816			B7II
93867	* 18 Aql			B8III
93892	HR 7245			B9III
93895	HD 177907			B9III
93906	HD 177913			B8II/III
93907	V* V551 Lyr	5.0 ± 0.0	34.0 ± 8.0	B5
93913	HD 178660	6.2 ± 0.5	63.7 ± 14.6	K2
93934	HD 177989	6.3 ± 0.2	3.8 ± 3.2	B2II
93941	BD+42 3250	12.0 ± 0.8	0.1 ± 0.0	B2
93952	HD 178070			B8/B9III
93974	HD 178540			B5
93996	HR 7249	10.0 ± 1.0	21.5 ± 1.8	B2V
94014	HD 178268			K0II
94094	V* FM Aql	6.2 ± 0.5	50.8 ± 3.0	F2IV
94103	HD 178717	8.1 ± 0.7	34.1 ± 10.7	Kp
94141	* 41 Sgr			F2II/III
94149	HR 7269			B5Vn
94157	HR 7257	6.8 ± 0.2	50.1 ± 7.1	B5V
94160	* bet CrA			K0II/IIICN.
94198	CCDM J19106-6003AB			B9II/III
94243	HR 7268			B7II/III
94247	HD 179104	6.9 ± 0.2	50.1 ± 6.5	K0
94260	HD 179218	3.0 ± 0.0	2.3 ± 0.6	B9
94274	HD 178929			B7II/III
94301	HD 230855	2.0 ± 0.0	20.1 ± 9.3	A0
94344	HR 7273			F8/G0Ib/II
94351	HD 179959	6.2 ± 0.5	63.7 ± 14.6	K0
94356	HD 179007			B7/B8Ib
94378	HD 179029	4.0 ± 0.0	28.2 ± 16.0	B5V
94385	* 20 Aql	8.6 ± 0.3	29.0 ± 4.2	B3V
94391	CCDM J19127-3351BC			B4
94434	HR 7277	6.3 ± 0.6	60.1 ± 13.7	K2III
94436	HD 179784			G5Ib
94443	V* V366 Pav			M3II/III
94445	HD 179785			K3II-III
94477	V* V1288 Aql			B8II-III
94481	* eta Lyr	10.0 ± 1.3	22.5 ± 3.3	B2.5IV
94492	HD 179298			G8II/III
94500	HD 179688	6.3 ± 0.7	60.1 ± 13.6	K2IIICN...
94524	HD 179987	7.1 ± 0.4	47.6 ± 9.7	K2
94528	HD 180656			K1II
94550	HD 179770	1.9 ± 0.1	11.4 ± 1.3	A1V
94589	HD 178000	1.9 ± 0.1	34.7 ± 23.0	A1m...
94611	HD 179391			F2/F3II/III
94621	HD 179808			B9III
94624	HR 7300			G8II-III
94657	HD 180110			B8II
94679	HR 7305			B5V
94685	V* V473 Lyr			F6Ib-II
94703	* 1 Vul	6.9 ± 0.1	50.1 ± 8.9	B4IV
94713	* tet Lyr	6.9 ± 0.1	50.1 ± 8.9	K0II
94716	HD 181653	8.0 ± 0.3	7.3 ± 2.0	B1II-III
94730	V* RY Sgr			Cp
94740	HD 180844			B5
94747	HD 180587			B9II
94750	HD 180180	1.5 ± 0.1	41.9 ± 29.6	A8IV
94761	V* V1428 Aql	0.2 ± 0.0	10.2 ± 3.2	M3.5V
94773	HD 180660			K2II+...
94774	V* V342 Aql			A4II
94793	V* V1449 Aql	7.1 ± 0.2	21.8 ± 3.1	B1.5II-III
94805	HD 180740	2.0 ± 0.0	11.0 ± 0.9	A0
94806	HD 180721	1.8 ± 0.1	12.0 ± 1.9	A2

Table C.1: – Continued. –

HIP	other ID	mass [M☉]	age [Myr]	SpT
94807	HD 180538			B8II
94822	V* RS Vul			B5V SB
94827	V* ES Vul	12.6 ± 0.9	8.5 ± 2.3	B0.5IV
94839	HD 180629	5.0 ± 0.1	7.3 ± 4.4	B3III
94843	HD 182270	7.4 ± 1.3	43.8 ± 7.9	K5
94859	HD 180699	5.9 ± 0.2	63.1 ± 13.9	B5V
94876	HD 181164	6.1 ± 0.3	56.9 ± 7.7	B5
94885	* 23 Aql			K2II-IIIvar
94899	HD 180183	5.6 ± 0.4	2.6 ± 1.8	B3Vn
94910	V* U Sge			B8III + K
94913	* 24 Aql			K0II-III:..
94934	HR 7335	9.1 ± 0.2	20.9 ± 1.6	B2IV
94937	HD 181330	9.3 ± 0.8	27.1 ± 6.3	K5
94947	HD 181360	6.2 ± 0.2	15.8 ± 0.7	B3V
94962	HD 181492	7.8 ± 0.1	34.2 ± 2.4	B3V
94986	HR 7316			B4III
95001	HD 181658			K
95073	* d Aql			B9III
95082	V* V1452 Aql			F5Ia
95099	HD 181475			K5II
95101	BD+34 3505	2.0 ± 0.0	11.0 ± 0.9	A0
95138	HD 181574	6.3 ± 1.0	63.1 ± 28.1	K5
95147	HD 181963	7.8 ± 0.2	2.5 ± 1.5	B2V
95159	V* V4199 Sgr	5.0 ± 0.0	48.9 ± 13.2	B5III
95163	V* Z Vul	5.0 ± 0.1	4.7 ± 3.7	B5V
95176	* ups Sgr	6.3 ± 0.4	63.7 ± 14.7	F2p
95197	CCDM J19220+2230AB	5.3 ± 0.2	1.4 ± 0.7	B2.5V
95207	BD+01 3975	4.0 ± 0.0	11.4 ± 5.7	B5
95213	HD 182078	6.8 ± 0.1	0.4 ± 0.3	B2V
95219	HR 7347	5.0 ± 0.0	1.0 ± 0.6	B3IVp
95251	HD 181271			K0II/III
95260	V* V377 Vul			B6III
95261	* eta Tel	2.2 ± 0.1	5.3 ± 0.5	A0Vn
95270	HD 181327	1.5 ± 0.0	14.4 ± 2.6	F5/F6V
95306	HR 7381			B9III
95323	HD 182090			B6III/IV
95325	HD 182296	6.3 ± 0.8	63.7 ± 14.6	G3Ib
95365	BD+27 3377	4.2 ± 0.2	31.3 ± 19.8	B5
95372	* 2 Cyg	7.0 ± 0.1	39.8 ± 7.8	B3IV
95400	HR 7374	4.0 ± 0.0	56.6 ± 26.0	B5V
95403	V* V370 Pav			M4II
95408	HR 7355	7.9 ± 0.0	5.2 ± 2.0	B2Vnn
95442	HD 182386			B9III
95443	HD 182519			B5
95476	HD 182781	2.4 ± 0.0	53.6 ± 35.1	B9
95524	HD 183203	6.9 ± 0.8	50.1 ± 7.5	K5
95537	V* V557 Lyr	7.9 ± 0.9	34.8 ± 11.2	K5
95551	HD 182953	1.8 ± 0.1	12.0 ± 1.9	A2
95579	HD 182703			G8II/III
95585	* 32 Aql	11.7 ± 0.6	17.0 ± 0.9	F2Ib
95600	BD+33 3451	2.0 ± 0.0	20.1 ± 9.3	A0
95608	HD 183013	8.7 ± 0.5	18.4 ± 3.2	B2IV
95619	HR 7380	2.8 ± 0.0	3.2 ± 1.1	B8/B9V
95624	HD 183058	8.1 ± 0.8	25.8 ± 4.7	B5
95648	HD 182631			G8II/III
95664	HR 7396			B4III
95673	HR 7403	10.0 ± 0.4	22.5 ± 2.2	B3Ve
95700	HD 183261	6.0 ± 0.1	47.1 ± 2.8	B3II
95702	V* BN Vul	1.4 ± 0.0	35.8 ± 5.6	A9.2
95732	HR 7397			B6III
95750	HD 182881			G8II/III
95755	V* V4372 Sgr	7.9 ± 0.1	15.7 ± 1.2	B2IV
95758	HD 183132			G5Ib
95818	* 7 Vul			B5Vn
95820	V* U Aql			F5-G1I-II
95826	HD 183511	6.9 ± 0.6	48.9 ± 8.6	K5
95873	HD 183753			K3II
95884	HD 183430	2.4 ± 0.0	39.6 ± 18.3	B9V
95898	HR 7412	6.3 ± 0.7	63.1 ± 13.9	K5Ib
95911	HD 184239	7.7 ± 0.9	37.4 ± 10.5	K5
95940	HD 182970	2.6 ± 0.0	3.9 ± 1.6	B8/B9V
95947	ALBIREO			K3II+...
95952	HD 183570			B5III
95953	HR 7419			B9.5III
95961	HD 183734			B5
95987	HD 183793	6.3 ± 0.5	63.7 ± 13.7	K0
96003	V* V1817 Cyg			K2II-IIIcomp
96045	HD 183990	7.5 ± 0.9	41.4 ± 10.1	K2
96052	* 8 Cyg	7.3 ± 0.3	39.8 ± 9.0	B3IV
96075	HD 184108			B9III
96115	HD 338529			B5
96130	HD 183899			B1/B2II
96132	HD 182687			K0II
96150	HD 184176	6.3 ± 0.8	63.1 ± 19.7	K3III
96196	HD 184279	14.7 ± 0.9	7.5 ± 1.3	B0.5IV
96221	HD 183861	1.9 ± 0.0	35.5 ± 22.8	A1V
96254	HD 184502	8.3 ± 0.7	23.8 ± 4.5	B3III
96275	* 9 Vul			B8IIIn
96313	HD 184761	1.9 ± 0.0	28.4 ± 21.7	A3
96357	HD 185117	7.3 ± 1.0	42.8 ± 13.7	K5
96362	V* V1671 Cyg	7.9 ± 0.1	3.5 ± 2.4	B2V
96428	HR 7449			K0II-III
96453	HD 184597			B4III
96468	* iot Aql			B5III
96481	HR 7456			G0Ib
96483	* kap Aql	15.6 ± 1.1	10.0 ± 0.2	B0.5III
96491	HR 7467			B5II-III
96495	HD 184890			B8III/IV
96503	HR 7466			B5V
96546	HD 185435	7.9 ± 0.7	37.4 ± 8.0	K5
96565	HD 185336			A
96599	V* V339 Sge			K3IIp
96608	HD 185418	12.6 ± 1.2	5.7 ± 3.6	B0.5V
96618	HD 185603	2.0 ± 0.0	59.6 ± 26.0	A0
96659	HD 185780	12.9 ± 0.6	2.9 ± 1.7	B0III
96665	V* sig Aql	7.2 ± 0.3	31.8 ± 4.0	B3V + B3V
96671	HD 185605	7.8 ± 0.6	29.0 ± 6.4	B5
96688	V* V340 Sge	10.6 ± 1.4	22.5 ± 1.4	M0Iab-Ib SB
96693	* 14 Cyg			B9III
96700	HD 185663			K2II
96736	HD 185487	4.0 ± 0.0	41.6 ± 7.9	B6III/IV
96738	HD 185514	5.0 ± 0.0	25.1 ± 7.2	B4/B5III/IV
96744	HD 185757	2.6 ± 0.1	7.0 ± 2.9	B8
96757	* alf Sge			G0II
96778	HD 185534			B5/B6IV
96779	HD 185571	1.9 ± 0.0	14.2 ± 3.0	A1V
96789	HR 7482	15.2 ± 1.0	10.2 ± 0.7	B0.5Ia
96825	HR 7495			F5II
96837	* bet Sge			G8II
96851	HD 185842	5.7 ± 0.3	63.1 ± 15.3	B5
96856	HR 7490			K0Iab:
96859	HD 185959	2.0 ± 0.0	24.8 ± 12.9	A0
96860	HD 185050			K0II/III
96885	HD 186177			A5Ib
96910	HD 185652	2.0 ± 0.0	28.4 ± 16.1	A1IV/V
96931	* 46 Aql			B9III
96966	V* V2088 Cyg			F2II
96986	HD 186429	6.2 ± 0.4	63.7 ± 14.6	K2
97006	HD 186378			K2II-III
97029	HD 186506	6.3 ± 0.5	63.7 ± 17.6	K0
97045	HD 186618	14.8 ± 1.6	4.0 ± 3.1	B0V
97050	HD 186412	5.0 ± 0.0	39.5 ± 5.1	B5V
97059	HD 186296	4.0 ± 0.0	15.7 ± 7.4	B5
97084	HD 185711			K0II/III
97086	HD 186761	2.0 ± 0.0	50.1 ± 36.3	Am...

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
97087	HR 7512			B8III
97091	HR 7508	16.9 ± 3.1	10.0 ± 2.3	B7V + G1:III
97117	HD 186456			B5
97135	V* V342 Sge	7.4 ± 0.8	39.8 ± 4.1	M0
97138	HD 186332			F3II/III
97139	* psi Aql			B9III-IV
97141	HD 186548	6.2 ± 0.9	63.1 ± 27.7	K5
97145	HD 186534	1.9 ± 0.0	50.1 ± 36.3	A3
97150	V* SU Cyg	6.3 ± 0.4	50.1 ± 2.5	F2Iab:
97165	* del Cyg			B9.5III
97189	HD 344873	10.2 ± 0.3	0.2 ± 0.1	B0II
97198	HD 338909			K0II-III
97201	HD 186777	6.8 ± 0.4	42.5 ± 2.6	B5
97244	HR 7516	6.3 ± 0.1	45.2 ± 2.6	B3III
97246	HD 186841	9.6 ± 0.6	20.4 ± 2.0	B1Ia
97260	HR 7507			B8III
97275	BD+05 4285	5.0 ± 0.1	50.1 ± 7.0	B5
97276	HD 186930			K0II-III
97278	TARAZED			K3II
97365	V* del Sge			M2II + B6
97366	HD 187277	2.1 ± 0.0	52.9 ± 27.9	A0
97394	V* V3885 Sgr	15.0 ± 1.1	0.2 ± 0.1	DB:p
97395	HD 187342	6.3 ± 0.6	58.0 ± 9.5	K5
97402	HR 7540			K0II-III
97432	HD 187793	6.2 ± 0.3	63.1 ± 18.4	K5
97434	HD 187238			K3Ia0-a...
97446	HD 187299			G5Ia0-a...
97450	HD 187258			Am
97454	HR 7542			F8Ib-II
97472	HD 187399			B7Ia:e
97475	HD 184005	6.7 ± 1.0	49.2 ± 10.7	K3/K4III
97479	HD 187323			B5
97516	HD 187428			F8Ib-II
97518	HD 186757			K0II/III
97545	HD 187350			B1Vne
97560	HD 187505			G5II
97572	V* V379 Vul	6.8 ± 0.2	50.1 ± 6.4	B5V
97607	HR 7554	9.4 ± 0.3	23.8 ± 2.6	B2.5IVe
97611	HR 7527			B5V
97613	HD 187308			G8II
97618	HD 187439			B6III
97624	HD 332812	2.8 ± 0.2	10.0 ± 6.8	B8
97629	V* chi Cyg			S7,1e:
97634	V* V380 Cyg	12.5 ± 0.8	14.2 ± 2.0	B1III
97673	HIP 97673			B7III
97678	V* II Dra	9.7 ± 1.2	25.1 ± 3.1	K5
97679	* 12 Vul	6.8 ± 0.0	27.3 ± 4.0	B2.5V
97680	HD 187311			B3V
97681	HD 187851	7.7 ± 0.3	2.3 ± 1.3	B2V:nn
97698	HD 187414			B8II/III
97709	HD 187734	7.5 ± 0.9	35.5 ± 6.0	K0...
97713	HD 345104			A1II
97757	HR 7589	21.6 ± 2.8	5.6 ± 1.0	O9.5Ia
97759	HD 345071	4.8 ± 0.2	47.4 ± 7.0	B5
97765	HR 7573	9.0 ± 0.3	26.5 ± 2.2	A1Iab
97774	HR 7591	8.8 ± 0.1	23.6 ± 3.1	B2III
97778	HD 331413	4.6 ± 0.4	39.8 ± 7.1	B5
97804	V* eta Aql	9.2 ± 0.8	26.4 ± 5.4	F6Ibv SB
97819	HR 7549	1.9 ± 0.1	12.7 ± 2.5	A2V
97836	HD 187857			B8III
97845	V* V819 Cyg	12.0 ± 0.6	4.5 ± 3.0	B0.5IIIn
97852	HD 339102			B5
97863	HD 188188			B5
97870	* 23 Cyg			B5V
97874	HD 187762			G8II/III
97886	CCDM J19535+2405AB			B9.5III
97895	HD 188461	7.9 ± 0.1	15.5 ± 2.5	B2IV
97905	HD 345214	3.8 ± 0.2	1.4 ± 0.4	B5III
97913	HD 188501			Bp
97933	HD 188265	2.0 ± 0.0	20.1 ± 9.3	A0
97936	HD 188629	6.5 ± 0.7	56.6 ± 8.2	K5
97948	HD 188503			B8III
97957	HD 188541	7.1 ± 0.4	45.7 ± 8.0	K2
97979	HD 188507			K4II-III
97985	HR 7606			Fp
97994	HD 188612	4.0 ± 0.0	50.0 ± 6.2	B6V
98068	* 22 Cyg	7.9 ± 0.6	35.3 ± 4.4	B5IV
98073	HR 7633			K5II-III
98085	V* S Sge	7.1 ± 0.5	47.6 ± 8.6	G5Ibv SB
98128	HD 188433	1.9 ± 0.1	11.1 ± 1.0	A1IV/V
98143	HR 7620			B5IV
98162	* b Sgr	6.2 ± 0.1	63.1 ± 15.4	K3III
98163	HR 7586			K4II
98194	HR 7628	6.4 ± 0.1	56.9 ± 11.8	B5V
98234	* 11 Sge			B9III
98242	HD 189301			K4II
98286	HD 188960			A2/A3II
98295	CCDM J19583+2208AB	4.0 ± 0.0	15.7 ± 6.0	B5
98298	V* V1357 Cyg	15.7 ± 0.7	5.1 ± 0.7	B0Ib
98313	HD 189114	12.1 ± 0.7	20.0 ± 5.0	K5
98320	CCDM J19586+3806AB	5.9 ± 0.2	63.1 ± 14.7	B5IV
98321	HD 189433	2.0 ± 0.0	20.1 ± 9.3	A
98323	HD 189379			A9II
98353	HR 7618			G8II/III
98360	HD 189818	7.7 ± 0.4	39.8 ± 4.6	B5
98371	HD 189475			K2II
98377	HD 189337	7.2 ± 0.7	44.6 ± 6.9	K0
98379	V* V2100 Cyg	4.6 ± 0.4	49.6 ± 25.4	B5III
98388	HD 189028	1.4 ± 0.0	41.9 ± 6.9	A9V
98393	HD 345531	4.0 ± 0.1	14.0 ± 11.5	B5
98396	HD 333282			B7III
98409	HD 189597			B6II
98412	HR 7623	6.6 ± 0.1	32.8 ± 4.7	B2.5IV
98418	HD 227018	20.0 ± 0.0	0.1 ± 0.0	O7
98425	* 25 Cyg	8.1 ± 0.3	33.2 ± 4.8	B3IV
98428	HD 189550	8.2 ± 0.3	10.0 ± 2.9	B2V
98443	HD 189576	7.5 ± 0.7	40.3 ± 9.8	K0
98458	HD 189671			G8II
98495	* eps Pav	2.2 ± 0.1	5.3 ± 0.5	A0V
98497	HD 189779	7.0 ± 0.2	5.9 ± 3.8	B2III
98541	HD 189848	3.1 ± 0.1	2.7 ± 0.6	B7III
98558	HD 190025			B5
98571	* e Cyg			K1II-III
98593	HD 189983	3.0 ± 0.1	31.6 ± 20.9	B8V
98609	HR 7656	6.2 ± 0.1	44.1 ± 5.6	B4V
98610	HD 190149			M0II-III
98641	HD 189921	5.0 ± 0.1	65.1 ± 15.9	B5V
98661	HD 190066	9.0 ± 0.1	22.9 ± 2.2	B1Iab
98680	HD 189853	3.1 ± 0.1	36.8 ± 13.2	B8/B9III
98697	HD 190275			Am
98706	HD 190256	3.4 ± 0.1	40.5 ± 12.4	B7V
98721	HD 190133	2.0 ± 0.0	20.1 ± 9.3	A0
98729	V* V2105 Cyg	7.4 ± 0.8	42.3 ± 10.0	F8Iab:
98738	HR 7662			K3Iab:
98753	CCDM J20035+3602AB	24.4 ± 16.2	2.2 ± 0.9	Oe+...
98762	HD 190861	7.9 ± 0.8	37.9 ± 7.8	K2
98770	HD 227402	2.7 ± 0.2	10.0 ± 2.8	B8
98773	HD 190466	15.5 ± 1.7	11.6 ± 1.1	A2V+...
98778	HD 190467	5.6 ± 0.6	63.1 ± 15.4	B5II:n
98783	HD 190403			G5Ib-II
98786	HD 190468	2.0 ± 0.0	54.5 ± 34.0	Am
98817	HD 190536			G5II
98835	HD 190405			F2Ib
98869	HD 190604	3.0 ± 0.0	2.7 ± 0.4	B7V
98872	HR 7695			A2II-III

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
98910	V* V1401 Aql	6.2 ± 0.2	51.7 ± 7.8	F1III
98914	HD 227535			G0:II:
98924	HD 190593	2.0 ± 0.0	20.1 ± 9.3	A0+...
98950	HD 190944	12.1 ± 0.8	11.5 ± 1.2	B1.5Vne+...
98960	HR 7668	5.0 ± 0.0	47.4 ± 2.5	B4III
98963	HD 190863	3.0 ± 0.0	31.6 ± 22.9	B8V
98976	HD 190864	20.0 ± 0.0	0.1 ± 0.0	O7III...
98995	HD 190842			G8II
99005	BD+35 3955	11.9 ± 0.9	15.7 ± 0.9	B1Ib
99008	HD 190991	14.8 ± 0.9	4.5 ± 1.4	B0IVp
99049	HD 191047			G5II
99067	HD 191010			G3Ib
99068	HD 191064	2.5 ± 0.0	33.0 ± 21.4	B9III
99070	HD 190618	7.1 ± 0.9	47.7 ± 9.8	K3V
99079	HD 239326	5.1 ± 0.1	5.6 ± 4.1	B3
99080	* 17 Vul	6.1 ± 0.0	11.4 ± 1.1	B3V
99120	* ksi Tel			M1II
99122	HD 191201	13.0 ± 1.5	3.9 ± 3.1	B0III
99145	HR 7699			B5Ib
99164	HD 191291	4.0 ± 0.0	59.1 ± 13.1	B6III
99221	V* AV Cap			B9.5III
99234	HR 7700	7.8 ± 0.1	34.8 ± 2.9	B3IV
99250	V* V1473 Aql			B7III
99255	CCDM J20088+7743AB			B9III
99265	HD 191337			B5
99279	V* V2108 Cyg			B9II
99282	HD 191362	2.0 ± 0.0	20.1 ± 8.4	A0
99283	HD 191566	10.0 ± 0.3	0.2 ± 0.1	B0.5IV
99303	* 28 Cyg	9.4 ± 0.4	23.1 ± 2.6	B2.5V
99347	HD 191781	11.7 ± 0.7	5.6 ± 2.2	B0Ibp
99349	HD 191322	5.0 ± 0.1	7.6 ± 3.1	B3/B4IV
99361	HD 191671	5.6 ± 0.4	63.1 ± 14.6	B5
99363	HD 191270			A6II
99400	HD 191746	8.5 ± 0.4	18.3 ± 3.5	B2IV
99415	V* V2111 Cyg	6.9 ± 0.2	29.4 ± 2.1	B3V
99435	HD 192575	12.6 ± 0.8	5.7 ± 0.6	B0.5V
99437	HD 191917	11.2 ± 0.7	12.1 ± 1.0	B1III
99457	HR 7709	12.4 ± 0.1	11.8 ± 1.4	B1V
99473	* tet Aql			B9.5III
99486	HD 192041			K2II
99504	CCDM J20116+3853AB	6.9 ± 0.3	47.6 ± 7.8	G5II
99513	HD 192102	3.0 ± 0.0	28.4 ± 8.6	B8IV
99518	* 19 Vul			K3II-III
99520	HD 192022			B8III
99527	V* FG Sge	7.0 ± 0.2	43.2 ± 7.8	B4Ieq-K2Ib
99528	HD 192043			B8III
99546	HD 192163	15.0 ± 1.1	0.2 ± 0.1	WN...
99580	HD 192281	44.5 ± 8.6	1.5 ± 0.6	O5e
99584	HD 355163	2.0 ± 0.0	20.1 ± 9.3	A0p...
99600	HD 192029	2.4 ± 0.1	44.3 ± 31.9	B9
99615	V* V377 Pav	2.4 ± 0.1	47.4 ± 34.7	Ap CrEu(Sr)
99618	HD 192205	4.0 ± 0.0	10.7 ± 5.5	B5
99649	HD 192422	15.5 ± 1.6	10.0 ± 1.6	B0.5Ib
99650	HD 192170	2.0 ± 0.0	39.8 ± 26.8	A2
99667	HD 192445	15.5 ± 1.2	8.6 ± 1.4	B0.5III
99669	HD 192341	3.0 ± 0.0	39.8 ± 20.1	B8
99670	HD 192289	9.3 ± 1.0	27.1 ± 6.8	K5
99675	V* V695 Cyg	6.5 ± 0.4	57.8 ± 11.6	K2II+...
99736	HD 333965	4.0 ± 0.0	12.6 ± 3.2	B5
99741	HD 192539	9.6 ± 0.5	20.5 ± 2.3	B2III
99746	HD 192517	10.2 ± 0.3	0.2 ± 0.1	B0.5V
99760	HD 192660	15.5 ± 1.6	8.4 ± 0.8	B0Ia
99824	HR 7739	8.0 ± 0.0	34.8 ± 5.4	B3V
99848	V* V1488 Cyg	6.7 ± 0.3	50.5 ± 2.6	K3Ib-II comp
99853	V* QS Vul			G2Ib SB
99905	HD 192968	9.0 ± 0.3	0.2 ± 0.1	B1Vn
99923	V* V383 Vul			F3II
99929	HR 7757			B6III
99943	HD 192990	6.3 ± 1.2	44.7 ± 9.1	B9IV
99944	HD 193032	12.6 ± 0.7	2.7 ± 3.4	B0III
99953	HD 193009	12.3 ± 0.3	10.0 ± 0.8	B1V:nnpe
99968	HR 7759			K5II
99982	HD 193077	15.0 ± 1.1	0.2 ± 0.1	WNs...
99991	HD 334068	7.0 ± 0.1	0.9 ± 0.6	B...
100005	HD 192653	2.0 ± 0.0	56.7 ± 42.4	A0IV/V
100010	HD 192955	2.4 ± 0.0	35.5 ± 26.5	B9
100016	HR 7762			K4II:
100027	* 5 Cap			G3Ib
100069	HR 7767	19.8 ± 1.0	4.1 ± 0.3	O9V
100080	HD 193205			F6Iab
100085	HD 228834	6.2 ± 0.2	14.9 ± 0.5	B3
100088	HD 193220	9.5 ± 0.4	18.2 ± 2.6	B1.5V
100110	HD 191973			K0II/III
100114	HD 228852			K3II
100115	HD 193223	2.0 ± 0.0	20.1 ± 9.3	A0
100122	* 35 Cyg	10.0 ± 0.5	25.1 ± 3.8	F5Ib
100142	V* V1773 Cyg	10.0 ± 1.4	15.8 ± 1.0	B2V
100146	HD 193443	22.9 ± 8.2	3.5 ± 0.5	O9III
100172	HD 193515			K1II
100180	HD 193647	6.9 ± 0.9	50.1 ± 7.2	K5
100193	V* V470 Cyg	8.8 ± 0.4	13.9 ± 1.6	B2+...
100195	* sig Cap	6.3 ± 0.6	60.5 ± 16.0	K2III
100197	HD 193610	8.1 ± 0.8	28.1 ± 3.3	A0:Ib:
100214	V* V444 Cyg	8.0 ± 4.1	4.5 ± 2.0	WN5 + O6
100289	V* V1685 Cyg	7.9 ± 1.1	0.4 ± 0.0	B2e
100295	HR 7791	7.9 ± 0.7	38.4 ± 5.6	K5
100296	HD 193683	5.6 ± 0.4	63.1 ± 13.6	B5
100308	V* V2117 Cyg	9.3 ± 0.4	13.5 ± 3.1	B
100314	HD 194297			B1.5Ia
100325	HR 7775			B9.5III/IV
100345	* bet Cap	6.6 ± 0.3	51.7 ± 3.4	A5:n
100346	HD 193706	7.2 ± 0.5	47.4 ± 7.3	F9Vws
100376	HD 193525	1.4 ± 0.0	35.8 ± 5.6	A9/F0V
100390	HD 193818	6.9 ± 0.5	47.9 ± 8.3	K5
100391	HD 193946	6.7 ± 0.4	23.2 ± 2.6	B2Ib
100392	HD 235197	4.0 ± 0.1	20.8 ± 3.4	B5
100404	V* BC Cyg			M3.5Ia
100409	HD 194057	17.4 ± 2.6	8.3 ± 0.5	B1Ib
100434	HR 7795			G5II+...
100435	* 25 Vul			B8IIIn
100441	HD 193948	2.6 ± 0.1	44.2 ± 15.2	Ap...
100448	HD 193689	2.0 ± 0.0	20.1 ± 9.3	A0V
100453	SADR	12.0 ± 0.3	17.6 ± 2.5	F8Ib
100476	HD 194033			K2II-III
100482	HD 193801	2.0 ± 0.0	20.5 ± 8.8	A0
100484	HD 194153	12.5 ± 1.3	14.1 ± 2.5	B1Iab
100524	HR 7788			G5II-III
100534	HD 194355	6.9 ± 0.6	47.8 ± 3.2	K5
100556	HD 193933	7.9 ± 0.6	29.0 ± 4.4	B3II/III
100574	HR 7807	9.4 ± 0.2	17.4 ± 3.1	B2Vne
100579	HD 194357			B9III
100651	HR 7815			B9.5III
100655	BD+34 4005	3.0 ± 0.2	10.0 ± 6.8	B8
100657	HD 194614	2.6 ± 0.0	7.0 ± 2.9	B8
100684	HD 194737			K0II-III
100708	HD 194525			G2Ib-II
100738	HR 7801			G8II/III
100744	HD 194883	10.0 ± 0.7	15.7 ± 1.3	B2Ve
100751	PEACOCK	9.0 ± 0.0	0.2 ± 0.1	B2IV
100765	HD 194310	2.9 ± 0.1	10.0 ± 5.5	B8IV
100771	HD 194779	6.6 ± 0.3	50.1 ± 6.1	B3II
100804	HD 194839	23.7 ± 1.2	5.9 ± 0.9	B0.5Ia
100845	HD 195131	1.8 ± 0.0	20.0 ± 8.3	A2
100858	HD 194739	7.8 ± 0.3	22.3 ± 4.3	B2.5V
100866	HR 7823	7.7 ± 0.4	39.8 ± 3.3	F1II

Table C.1: – Continued. –

HIP	other ID	mass [M⊙]	age [Myr]	SpT	HIP	other ID	mass [M⊙]	age [Myr]	SpT
100881	* 10 Cap	5.9 ± 0.1	39.9 ± 9.5	B4V	102062	HR 7922			B6III
100903	HD 193607			K2II/III	102066	IDS 20370+3157			G8IIb
100912	HD 195089	9.2 ± 0.3	21.2 ± 2.5	B2IV	102096	V* AV Mic			M3II
100997	HD 194942	2.0 ± 0.0	20.1 ± 8.4	A0	102098	V* alf Cyg	15.5 ± 1.0	11.6 ± 0.6	A2Ia
101017	HR 7817			B8II/III	102155	HR 7926			B8II-III
101066	BD+46 2948			B1V:nne	102167	BD+42 3835	17.8 ± 2.7	3.3 ± 0.7	O9p...
101067	* 42 Cyg	8.6 ± 0.5	30.5 ± 3.8	A1Ib	102171	HD 197512	10.0 ± 1.3	8.0 ± 2.4	B1V
101076	* 41 Cyg			F5II	102177	* 51 Cyg	10.0 ± 0.3	20.4 ± 1.0	B2V
101112	HD 195463	5.0 ± 0.0	54.8 ± 5.6	B5	102195	HR 7927	10.0 ± 0.4	18.0 ± 3.3	B2IV-Ve
101127	BD+47 3127	2.9 ± 0.0	25.1 ± 16.8	B8	102219	HD 197460	9.7 ± 0.7	18.6 ± 1.7	B0.5Ib
101138	V* V2014 Cyg	8.0 ± 0.3	33.2 ± 6.2	B2.5IV	102271	HD 197489			A7II
101172	HD 195432			G0II	102327	HD 197605			F5II
101186	HD 195592	28.8 ± 9.7	3.8 ± 0.3	O9.5Ia	102359	BD+43 3701	2.5 ± 0.1	60.7 ± 37.8	B9V
101196	HD 195171			A6II/III	102376	HD 196786	2.7 ± 0.1	3.4 ± 0.9	B8/B9IV
101214	* 44 Cyg	9.8 ± 1.2	25.1 ± 4.6	F5Iab	102377	HD 197850	7.1 ± 0.3	44.6 ± 8.9	K0
101219	HD 195480	8.4 ± 1.4	32.0 ± 11.0	K5	102381	HD 197402			K1II/III
101241	HD 193441			F2II/III	102387	HD 197403			K0/K1II/III
101256	HD 239436	6.9 ± 0.3	39.8 ± 4.6	B5	102409	V* AU Mic	0.8 ± 0.2	17.0 ± 12.1	M1Ve
101265	HD 195746	3.0 ± 0.1	25.1 ± 20.8	A	102440	V* U Del			M5II-III
101295	BD+47 3131	5.0 ± 0.0	55.8 ± 6.6	B5	102504	HD 197940	9.0 ± 0.7	27.0 ± 4.2	K2
101298	HD 195613	6.5 ± 0.5	60.8 ± 12.0	G5	102531	HR 7947			A2Ia+...
101316	V* MT Del			M4II-III	102570	HD 198195			B9III
101328	HD 195455			B1/B2III	102589	* lam Cyg	6.2 ± 0.1	63.1 ± 14.3	B6IV
101339	HD 195617	6.3 ± 0.4	63.7 ± 14.0	K2	102609	BD+45 3279	4.0 ± 0.0	20.0 ± 17.6	B6V
101350	HD 195965	12.0 ± 0.6	0.1 ± 0.0	B0V	102626	V* BO Mic	1.0 ± 0.0	22.2 ± 1.6	K0V
101375	HD 195985	5.0 ± 0.0	42.5 ± 7.1	B5	102641	HD 197956			K1II/III
101381	HD 195835			K0II	102648	V* V367 Cyg			A7Ia
101383	HR 7861	7.0 ± 0.1	43.2 ± 6.4	B4III	102658	HD 198041			F5II/III
101412	V* V2124 Cyg	7.4 ± 0.7	40.7 ± 6.5	M0	102686	BD+36 4254	5.7 ± 0.4	52.1 ± 4.4	B5
101419	VI CYG 9	27.9 ± 5.9	2.5 ± 0.8	O5e	102687	HD 198414	3.2 ± 0.1	10.0 ± 7.2	B7IIIvar
101421	* eps Del			B6III	102700	HD 198512	12.5 ± 0.8	10.0 ± 0.9	B1Vnnpe
101427	HR 7785			G6/G8II	102724	V* V1661 Cyg	15.5 ± 1.0	12.6 ± 1.9	B3Ia
101442	HD 196006	7.0 ± 0.1	0.6 ± 0.3	B2V	102771	HR 7993	15.1 ± 0.5	8.5 ± 0.8	B0.5V
101474	V* V2125 Cyg	12.2 ± 1.3	16.0 ± 1.1	K2Ib comp	102772	HR 7961			B8II
101491	LTT 16003	2.0 ± 0.0	20.1 ± 9.3	A0	102804	HD 198624	8.5 ± 0.9	33.4 ± 8.5	F7V: comp
101505	HR 7862	5.8 ± 0.2	14.6 ± 5.0	B3IV	102827	HR 7983	7.0 ± 0.1	40.5 ± 5.8	B4V
101526	HD 196025	6.7 ± 0.3	1.4 ± 1.2	B2IV-V	102912	HD 198794			K3Ib
101530	HD 196421	9.4 ± 0.3	20.9 ± 1.6	B2IV	102916	HR 7971			K3III
101544	HD 196197			K1II-III	102918	BD+45 3303			A0Ib
101565	BD+46 2985	2.7 ± 0.2	7.0 ± 2.9	B8	102926	HD 198895	10.7 ± 1.0	5.6 ± 0.7	B1V
101575	HD 196243			B5	102943	HD 239510	5.8 ± 0.3	50.1 ± 6.4	B5
101608	HR 7865			A5II/III	102949	V* T Vul			F5Ib
101634	HD 197637	8.3 ± 0.3	29.0 ± 4.5	B3	102950	* iot Ind			K1II/III
101648	BD+36 4145	17.7 ± 2.7	2.3 ± 1.3	O9V	102953	V* V1792 Cyg	12.1 ± 0.9	11.4 ± 1.2	B2V
101682	HD 334655			B	102978	* ome Cap	6.8 ± 0.9	47.9 ± 7.5	K4III
101692	* 70 Aql			K5II	102979	HD 198504			A2II/III
101746	HR 7878			B8IIIp	102993	HR 7996	6.9 ± 0.1	39.8 ± 4.0	B3III
101758	HD 196212	2.0 ± 0.0	28.4 ± 16.1	A0V	102999	V* Y Cyg	15.6 ± 1.4	5.6 ± 1.6	B0IVv SB
101765	* 48 Cyg			B8IIIn	103005	* 5 Aqr			B9III
101790	BD+46 2991	5.0 ± 0.1	57.7 ± 7.8	B5	103035	HD 199120			G7II-III
101796	HD 196507	2.0 ± 0.0	20.1 ± 9.3	A0	103049	HD 198590			G8II
101832	BD+41 3833	7.0 ± 0.3	43.3 ± 6.1	B8	103061	HD 199021	14.8 ± 1.5	4.5 ± 2.2	B0V
101841	HD 196819	6.8 ± 0.8	48.2 ± 8.8	K3II	103085	HD 198934	1.9 ± 0.0	31.6 ± 19.2	A2
101868	* 28 Vul			B5IV	103087	HD 198864	15.0 ± 1.1	0.2 ± 0.1	O8.5
101870	HR 7895			K0II-III+..	103089	* 57 Cyg			B5V
101878	BD+12 4410	3.2 ± 0.1	45.0 ± 36.9	B8	103094	HR 8003			K0II
101882	* tet Del			K3Ib	103141	HD 199308	10.0 ± 0.2	21.2 ± 1.7	B2IV-V
101909	HR 7899	7.1 ± 0.3	31.6 ± 2.4	B3V	103143	HD 199216	13.3 ± 1.0	12.6 ± 1.1	B1II
101921	HR 7890			B7IIIn	103157	HD 198803	2.0 ± 0.0	34.7 ± 22.0	A1V
101923	CCDM J20392-1457AB			B7III	103167	HD 199206			B8II
					103191	V* BW Vul	6.8 ± 0.1	4.2 ± 3.1	B2IIIvar
101934	HR 7912			B5IV	103196	HD 199290			F2Ib
101938	HD 197344	2.6 ± 0.1	7.0 ± 2.9	B8	103206	HR 7992			B5IV
101949	V* V2130 Cyg			B6IIIp Mn	103210	HD 199309	3.0 ± 0.0	39.8 ± 25.4	B8V
101953	HD 196972			K0II	103214	HD 335300	2.9 ± 0.2	10.0 ± 6.8	B8
101967	HD 196884	6.8 ± 0.7	63.1 ± 20.8	K2	103242	HD 199251	6.5 ± 1.5	63.1 ± 21.5	M4
102000	HD 352826	2.0 ± 0.1	20.1 ± 9.3	A0	103263	HD 199394			G5II
102001	HD 235316	4.5 ± 0.5	27.3 ± 4.5	B5	103277	HD 199356	12.5 ± 0.6	15.7 ± 0.9	B2IVp:
102002	HD 235317			B5	103343	HR 8022			B5V

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
103346	HR 8029	6.7 ± 0.1	11.4 ± 1.1	B2.5IV
103355	BD+42 3914	14.7 ± 0.6	6.5 ± 3.5	B0III:
103358	HD 199378	6.3 ± 0.3	55.2 ± 5.7	G0IV:
103360	HR 8026			G8II-III
103380	HD 199739	7.0 ± 0.3	44.7 ± 5.1	B8
103409	BD+45 3341	7.5 ± 0.4	0.9 ± 0.6	B1II
103428	HD 199714			B8Ib
103471	V* DQ Cep			F2II
103472	HD 199560	7.0 ± 0.4	47.6 ± 9.7	K2
103509	HD 199890			B5V
103530	CCDM J20585+5028AB	5.9 ± 0.3	63.1 ± 16.1	B5Vn
103532	HR 8036			B7III
103632	* 59 Cyg	15.5 ± 0.8	11.1 ± 0.9	B1ne
103637	HD 200102	7.8 ± 0.7	38.5 ± 6.7	G1Ib
103700	HD 200269	5.0 ± 0.0	35.0 ± 2.1	B5V
103732	* 60 Cyg	12.4 ± 0.1	10.7 ± 1.4	B1V
103740	HD 199953			K2/K3II/III
103761	HD 341423	3.2 ± 0.2	12.6 ± 6.6	B8
103763	HD 200775	9.0 ± 0.2	0.2 ± 0.1	B2Ve
103803	V* V388 Pav			F5II
103810	CCDM J21022+5640AB			B8III
103822	HD 200465	8.2 ± 0.7	29.9 ± 3.7	A1V comp
103828	V* V1981 Cyg			M3Ib-II:
103838	HD 200509	4.0 ± 0.0	10.0 ± 4.3	A
103850	HD 200576			K5Ib
103868	HD 200393	9.7 ± 1.3	25.1 ± 4.0	M0
103871	HR 8064	6.9 ± 0.1	27.3 ± 4.0	B3Vn
103952	BD+41 3985	4.0 ± 0.0	12.3 ± 3.8	B5
103954	HD 199997			G3Iab:
103966	HD 200857	11.7 ± 0.5	16.0 ± 1.6	B3IIIvar
103968	V* V1898 Cyg	9.6 ± 0.3	10.1 ± 1.4	B1IV:p
103971	HD 200804	6.1 ± 0.2	29.1 ± 1.2	B3IV
104018	HD 199435			G8Ib/II
104030	HD 200203			A4/A5II/III
104060	* ksi Cyg			K5Ibv SB
104115	HD 201065			K5Ib
104126	BD+30 4313	2.8 ± 0.1	10.0 ± 6.8	B8
104168	HD 200719			F5II/III
104172	HR 8082			K0II-III
104185	V* DT Cyg			F7.5Ib-IIv
104187	HD 200589			F3II/III
104194	* 63 Cyg	5.9 ± 0.4	63.1 ± 16.3	K4II
104205	HD 201094			K2II
104208	HD 201232	2.0 ± 0.0	20.1 ± 9.3	A0
104211	HD 235443			B5
104261	HD 200995			K0II
104268	HD 201359	2.6 ± 0.0	7.0 ± 2.9	B8V
104316	HD 201345	15.0 ± 1.1	0.2 ± 0.1	O9p
104320	HD 201254	8.2 ± 0.6	23.8 ± 2.6	B3V
104337	HD 201018	1.8 ± 0.0	12.7 ± 2.5	Ap...
104356	HD 239581	10.0 ± 1.0	16.8 ± 2.2	B2V
104361	HD 201522	12.0 ± 0.8	0.1 ± 0.0	B0V
104374	HD 201108	3.1 ± 0.0	63.1 ± 17.1	B8IV/V
104444	HD 201335	6.9 ± 1.3	45.5 ± 5.3	K4III
104449	HR 8109			B7III
104454	HD 201666	9.7 ± 0.4	16.9 ± 3.1	B2Vn...
104483	HR 8103	5.0 ± 0.0	40.8 ± 8.5	B4IVp
104516	HR 8106			B9III
104523	HD 201409			G8II
104548	HD 201795	10.8 ± 1.1	5.6 ± 5.9	B1V
104570	CCDM J21110+0933AB	1.8 ± 0.0	14.0 ± 3.7	A3
104573	V* V1425 Cyg			B9 + A0
104579	HR 8105	15.5 ± 1.6	9.5 ± 1.0	B1Vp
104609	HD 202900	7.3 ± 0.2	31.6 ± 2.6	B3
104642	CCDM J21118+5959AB	30.5 ± 9.0	3.4 ± 0.3	B0V
104643	HD 201912	5.0 ± 0.0	15.9 ± 8.8	B5
104650	HD 201279			G5II/III
104676	HD 239605	7.0 ± 0.1	29.3 ± 3.8	B3
104695	HD 202124	14.8 ± 0.4	5.0 ± 1.2	O9.5Ib
104709	HD 202163	7.9 ± 0.5	8.7 ± 2.9	B2V
104719	V* V419 Cep	16.5 ± 2.1	10.0 ± 1.4	M3Ib
104732	* zet Cyg			G8II SB
104742	HD 202253	8.3 ± 0.5	22.4 ± 2.4	B2III
104781	HD 202312			G5II-III
104814	HD 202349	10.0 ± 0.2	4.4 ± 4.6	B0.5V
104822	HR 8126	6.3 ± 0.5	63.7 ± 14.6	G2Ib
104871	HD 202583	6.3 ± 0.8	63.1 ± 26.8	K5
104877	V* V386 Cyg			F5.5Ib
104883	HD 239618	10.0 ± 0.9	15.4 ± 1.5	B2Ve
104962	HR 8136	6.2 ± 0.1	50.2 ± 1.7	B4IV
104963	* phi Cap			K0II/III
105016	HD 202618			F2Ib
105037	BD+45 3479	3.1 ± 0.1	10.0 ± 6.8	B8
105091	HR 8153	12.5 ± 1.2	15.8 ± 0.9	B2III
105102	* sig Cyg	12.0 ± 0.3	16.1 ± 0.3	B9Iab
105113	HD 239626	12.0 ± 0.8	0.1 ± 0.0	B0V
105119	HD 202441			G8II
105138	* ups Cyg	9.5 ± 0.4	17.4 ± 3.1	B2Vne
105143	* 30 Cap			B5II/III
105147	HD 202883			B5
105164	* 15 Aqr			B5V
105182	HD 203135			K3II-III
105186	V* V1809 Cyg	56.7 ± 17.8	2.4 ± 0.4	O8
105205	HD 202975			G8II-III
105208	HD 203136	3.5 ± 0.5	0.2 ± 0.1	K0
105219	HD 203137	7.8 ± 0.6	38.4 ± 6.2	K5
105255	HD 203050	6.3 ± 0.7	63.7 ± 14.6	K2
105259	V* V381 Cep			B3Vv comp
105268	* 6 Cep	10.0 ± 1.3	22.6 ± 3.4	B3IVe
105269	V* V1334 Cyg	6.5 ± 0.4	49.6 ± 0.5	F2Ib
105307	HD 201292			A3II
105342	HD 203534	6.7 ± 1.4	54.0 ± 21.8	K5
105353	HD 202895			F5II
105388	HD 202917	1.0 ± 0.0	41.0 ± 6.8	G5V
105404	V* BS Ind	1.0 ± 0.0	20.9 ± 2.9	K0V
105423	HD 203592	2.5 ± 0.1	58.0 ± 24.5	B9
105428	CCDM J21213-8419AB			F5II/III
105489	HD 203484	1.8 ± 0.0	13.9 ± 3.6	A3
105493	HD 203472	6.2 ± 0.7	63.7 ± 14.6	K2
105512	HD 203457	1.9 ± 0.0	39.8 ± 26.8	A2
105545	HD 239644	6.9 ± 0.2	24.7 ± 3.3	B3
105565	HD 203731	10.0 ± 0.7	4.4 ± 2.4	B1Vne
105581	V* DI Oct	7.7 ± 0.8	37.4 ± 8.3	K5
105595	HD 203783	2.4 ± 0.0	39.2 ± 14.9	B9
105607	HR 8189			F6II-III
105633	HD 203617	8.0 ± 0.6	11.1 ± 2.6	B2/B3V
105640	HD 203938	21.5 ± 3.2	6.2 ± 0.5	B0.5IV
105649	BD+63 1725	3.0 ± 0.0	28.4 ± 21.8	B8
105669	HD 204022	7.5 ± 0.8	40.9 ± 10.0	G0Ib
105673	HD 203921			B9III
105690	V* V424 Cep	6.8 ± 0.3	39.8 ± 3.2	B5
105693	BD+35 4512	2.0 ± 0.1	20.1 ± 9.3	A0V
105699	HD 204116	15.6 ± 1.7	8.4 ± 1.4	B1Ve
105701	BD+35 4515	3.0 ± 0.2	10.0 ± 6.8	B8V
105709	HD 204050			K1II-III
105716	HD 203586	1.6 ± 0.0	17.2 ± 6.7	A5IV
105741	BD+43 3913	9.9 ± 0.1	11.5 ± 2.0	B1.5V:nnpe
105881	* zet Cap			G4Ibp...
105891	HR 8218	3.8 ± 0.0	22.6 ± 4.9	B6V
105912	V* BR Mic	6.4 ± 0.2	10.0 ± 1.1	B2II
105925	HD 239671	8.3 ± 0.4	9.7 ± 1.9	B2V
105942	* 70 Cyg	8.4 ± 0.3	28.2 ± 3.8	B3V
105946	HD 204220			B9III/IV

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
105949	V* V426 Cep			M3II-III...
105986	HD 204536	6.4 ± 0.1	45.9 ± 3.9	B3III
106032	V* bet Cep	9.9 ± 0.0	23.7 ± 2.2	B2IIIv SB
106051	HD 203203			K0II/III
106052	HR 8226			B8III
106053	CCDM J21289+1106AB			F4II
106071	HD 204710			B8Ib
106079	HD 204722	7.7 ± 0.4	5.1 ± 3.2	B2V:nne:
106134	HD 239683	6.2 ± 0.3	27.7 ± 6.5	B3IV
106145	HD 204860	5.4 ± 0.1	65.7 ± 16.3	B5
106210	HD 239689			B1.5V
106227	HR 8243	12.2 ± 0.3	14.6 ± 1.0	B1II
106265	HD 239693	5.1 ± 0.1	5.1 ± 3.8	B3V
106267	HR 8242			G2Ib+...
106278	* bet Aqr			G0Ib
106284	HD 205060			B5
106285	V* V429 Cep	12.6 ± 1.2	10.0 ± 0.5	B0Ib
106287	HD 204728			F3II/III
106306	HD 205011			G8Ib
106307	HD 205285			AmA1-F0
106343	BD+64 1561	3.1 ± 0.1	28.4 ± 23.8	B8
106349	HD 205329	10.0 ± 0.2	20.0 ± 1.7	B1.5V
106420	HR 8248	6.3 ± 0.7	63.1 ± 27.3	K1Ibvar
106448	HD 204886			K0Ib/II
106474	HR 8176	6.0 ± 0.0	27.7 ± 3.6	B3IV
106518	HR 8259			B9III
106541	HD 205186			K2II/III
106564	HR 8244			B8IIIw
106620	HD 205618	10.0 ± 0.8	14.2 ± 3.9	B2Vne
106625	HD 205574	6.2 ± 0.6	63.7 ± 13.8	K2
106643	HD 205603			G8II
106712	HD 206135	8.0 ± 0.6	24.2 ± 3.7	B3V
106716	HD 239712	10.0 ± 1.0	14.4 ± 1.4	B2Vnne
106723	* eps Cap	8.8 ± 0.1	28.2 ± 4.6	B3V:p
106746	HD 205836			K0II-III
106774	HD 206081	9.6 ± 0.4	6.3 ± 4.7	B1Vn
106843	HD 206183	15.0 ± 1.1	1.5 ± 1.9	B0V
106848	HD 206121			G5II
106850	HD 205954	7.1 ± 0.6	50.1 ± 12.0	K2
106886	HR 8281	31.8 ± 9.0	2.1 ± 0.7	O6 (f)
106896	HD 206327	8.2 ± 0.9	13.7 ± 2.6	B2V
106905	HD 239725	6.3 ± 0.2	2.0 ± 1.6	B2V
106916	BD+64 1579	3.1 ± 0.1	31.6 ± 26.8	B8
106917	HD 205805			B7III
106937	HD 239729	12.0 ± 0.8	0.1 ± 0.0	B0V
106956	HD 239731	4.8 ± 0.2	45.8 ± 8.5	B5
106962	HD 206115	2.0 ± 0.0	20.1 ± 9.3	A0
106973	HD 206349			K1II-III
106974	HD 206312			K1II
106980	HD 206383			B5
107012	HD 235586	7.7 ± 0.4	3.0 ± 2.7	B2
107123	HD 239738	5.0 ± 0.0	3.2 ± 2.3	B3
107136	* 80 Cyg	10.0 ± 0.2	25.1 ± 1.1	B3IV
107144	* 26 Aqr	6.2 ± 0.6	63.1 ± 23.3	K2III
107164	HD 206773	17.7 ± 2.7	5.1 ± 0.8	B0V:pe
107173	HR 8292	5.0 ± 0.0	34.0 ± 14.0	B5IV
107186	HR 8304			G8II
107198	HD 206748			G8Ib-II
107209	HD 239742			B2V
107259	V* mu. Cep	24.4 ± 7.9	6.4 ± 2.5	M2Ia
107276	HD 207017	8.8 ± 0.3	11.4 ± 2.8	B2V
107293	BD+53 2692	3.0 ± 0.2	10.0 ± 6.8	B8
107315	V* eps Peg	9.2 ± 0.7	27.8 ± 5.1	K2Ibvar
107316	HD 235602			B3
107325	BD+82 663	6.9 ± 0.3	46.0 ± 3.8	F2
107330	HD 207049			B8III
107348	* 9 Peg			G5Ib
107361	HD 207001	5.8 ± 0.6	71.3 ± 24.1	K5
107374	HR 8327	24.6 ± 6.9	3.7 ± 0.1	O9II
107382	* c Cap			G8II-III
107398	HD 207119	9.1 ± 1.0	29.2 ± 6.9	K5Ib
107418	V* nu. Cep	23.7 ± 1.2	6.5 ± 0.4	A2Iavar
107472	* 12 Peg	6.3 ± 0.7	60.3 ± 15.7	K0Ib
107533	* 81 Cyg	8.4 ± 0.5	33.2 ± 6.4	B3III
107538	HD 235618	9.7 ± 0.4	7.8 ± 4.2	B1IV
107588	HD 207171			A5II/III
107594	V* AP Cap			B9IIIsp...
107649	HD 207129	1.1 ± 0.0	27.3 ± 2.0	G2V
107653	HD 207489			F5Ib
107704	HD 207647			G4Ib
107723	HR 8347			M1II-III
107728	HD 207593	2.0 ± 0.0	20.1 ± 9.3	A0
107733	HD 207728	6.3 ± 0.5	50.1 ± 6.4	B8
107734	HR 8341	8.6 ± 0.3	13.3 ± 3.3	B2V
107751	HD 207625	6.3 ± 0.6	60.1 ± 11.5	K5
107777	HD 207793	15.5 ± 0.6	10.3 ± 0.7	B0.5III
107789	HD 207872	9.5 ± 0.8	21.3 ± 2.2	B5
107864	BD+28 4211			Op
107887	HR 8348			B8III
107913	V* V383 Cep	9.7 ± 0.2	19.1 ± 1.5	B2Vnp
107923	HD 207991			K5Ib
107952	HD 208742	6.2 ± 0.2	63.5 ± 16.6	K5
107961	CCDM J21523+6306AB	10.0 ± 1.4	14.2 ± 1.3	B2V
107984	HD 208218	12.5 ± 0.4	14.4 ± 1.2	B1III
107996	BD+47 3588			B1.5V
107998	HD 207715			K0II/III
108011	BD+45 3710	3.1 ± 0.1	50.1 ± 35.9	B8
108022	* 16 Peg	6.5 ± 0.1	23.6 ± 7.4	B3V
108029	HD 208219	6.2 ± 0.7	63.7 ± 14.6	K0
108030	HD 208411			G8II
108054	HD 235648	6.3 ± 0.1	15.1 ± 2.3	B3
108073	HD 208392	12.6 ± 0.9	5.7 ± 3.0	B1IV:
108080	HD 208440	10.8 ± 1.0	6.2 ± 1.9	B1V
108081	HD 207591			F2/F3II/III
108085	* gam Gru			B8III
108099	HD 208201			G8II-III
108195	CCDM J21552-6153AB	1.6 ± 0.1	10.6 ± 1.2	F1III
108215	HD 208213	5.1 ± 0.1	6.2 ± 3.5	B3IV
108226	HR 8375	7.2 ± 0.2	35.5 ± 1.8	B2.5Ve
108233	HD 208563			K2II-III
108283	HD 208761	6.2 ± 0.0	15.4 ± 0.4	B3V
108296	HR 8372	6.8 ± 0.4	47.8 ± 8.3	K5V
108317	V* VV Cep	9.6 ± 1.3	25.1 ± 1.1	M2 comp
108326	HD 235668	9.6 ± 0.7	15.6 ± 1.5	B2
108333	HD 208904	7.0 ± 0.1	29.3 ± 2.2	B3V
108364	HR 8384	9.7 ± 0.2	18.1 ± 3.1	B2V
108372	HD 208905	14.7 ± 1.0	9.0 ± 0.5	B1Vp...
108374	HD 208785			K3II-III
108376	HD 239809			B2IV
108378	HD 208971	7.6 ± 0.6	38.3 ± 6.3	K5
108407	HD 208619	2.4 ± 0.1	51.5 ± 26.9	B9
108410	HD 208467			G8II/III
108425	HD 208893	2.0 ± 0.0	11.0 ± 0.9	A0
108427	V* CP Cep			F5Ib-F7
108485	HD 208800	1.9 ± 0.0	13.0 ± 1.8	A2
108519	HD 209178	2.6 ± 0.1	7.0 ± 2.9	B8
108531	HD 208973	8.2 ± 0.6	10.6 ± 3.6	B2V
108543	HR 8379			K1II/III
108552	HD 209006	1.9 ± 0.0	13.0 ± 1.8	A2
108578	V* IS Peg	12.0 ± 0.8	0.1 ± 0.0	B0
108597	HD 208886			B5III
108603	HD 209317	10.0 ± 0.5	25.1 ± 4.7	K5
108612	* 18 Peg	6.2 ± 0.1	42.4 ± 6.4	B3III
108627	HD 209204	6.9 ± 0.4	46.7 ± 5.0	K0
108650	HR 8399	17.5 ± 2.6	5.3 ± 1.4	B0IV
108720	HD 209454	9.5 ± 0.5	15.9 ± 2.0	B2V

Table C.1: – Continued. –

HIP	other ID	mass $[M_\odot]$	age [Myr]	SpT
108724	HD 239827	2.0 ± 0.0	20.1 ± 9.3	A0
108758	HR 8403			B5III
108766	HR 8397	6.3 ± 0.3	50.1 ± 6.4	B5IIIn
108772	V* LZ Cep	22.4 ± 8.9	3.4 ± 0.4	O9V
108786	HD 209073	1.8 ± 0.1	12.0 ± 1.9	A2m...
108886	HD 209464	6.4 ± 1.1	60.2 ± 22.6	K5
108911	V* V395 Lac	8.1 ± 0.5	24.9 ± 2.2	B2Iab:
108925	* 15 Cep	12.1 ± 0.3	8.3 ± 1.3	B1V
108934	HD 209655	2.0 ± 0.0	20.1 ± 9.3	A0
108938	V* V442 Cep			B8III
108969	HR 8412			G5Ia
108975	HR 8408	6.2 ± 0.1	50.1 ± 3.0	B3V (+B)
109017	* 19 Cep	24.2 ± 0.7	4.6 ± 0.5	O9.5Ib
109051	HD 209684			B2/B3III
109074	SADALMELIK	6.3 ± 0.5	63.7 ± 13.7	G2Ib
109082	V* V365 Lac	15.5 ± 1.8	8.2 ± 0.6	B2V SB
109096	HD 209992			K0Ib
109114	HD 210014	7.9 ± 0.9	37.4 ± 10.0	K5
109130	HD 210072	8.2 ± 0.2	9.1 ± 3.8	B2V
109242	HD 210209	2.0 ± 0.0	20.1 ± 9.3	A0
109247	HD 210222	7.3 ± 1.0	43.2 ± 14.2	K5
109253	HD 210386	7.8 ± 0.3	25.5 ± 3.1	B1.5II-III
109311	V* V446 Cep	10.8 ± 1.0	5.6 ± 2.9	B1V
109332	* 35 Aqr	10.0 ± 1.5	21.4 ± 2.4	B2III
109339	HIP 109339	2.0 ± 0.0	20.1 ± 8.4	A0
109393	HD 210641	6.3 ± 0.5	56.2 ± 6.4	A2
109472	* e Aqr			B5III
109492	* zet Cep	10.0 ± 0.2	25.1 ± 3.3	K1Ibv SB
109502	BD+62 2044	3.0 ± 0.0	50.1 ± 6.0	B8
109503	HD 210696	7.9 ± 1.0	37.9 ± 9.0	K5
109533	HD 210761			G1Ib-II
109556	* lam Cep	32.4 ± 17.6	2.8 ± 1.0	O6e
109562	HD 210809	15.1 ± 0.7	1.8 ± 1.5	O9Ib
109589	HD 210748	2.0 ± 0.0	59.6 ± 36.8	A0
109602	HR 8466	14.7 ± 1.5	11.6 ± 1.2	K0
109603	HIP 109603	10.2 ± 0.3	0.2 ± 0.1	B0II
109726	HD 210562			K2II
109737	HR 8470			F7II
109843	HD 211153			G8Ib-II
109851	BD+45 3850	3.0 ± 0.2	10.0 ± 6.8	B8
109856	BD+60 2369	6.3 ± 0.3	50.1 ± 6.4	B5
109864	HD 210712	2.0 ± 0.0	20.1 ± 9.3	A0V
109933	HD 211173			G8II/III
109960	HD 211278	2.0 ± 0.0	11.0 ± 0.9	A0V
109989	HD 211496			A
109990	HR 8492			K1II/III
109996	BD+54 2726	7.7 ± 0.5	3.9 ± 3.6	B1II
110025	BD+53 2837			B2III:
110073	HD 211606			K5II
110119	BD+62 2060	2.6 ± 0.1	7.0 ± 2.9	B8
110142	HD 211822	6.8 ± 0.3	50.1 ± 6.0	G2III
110154	HD 211853	15.1 ± 9.9	2.2 ± 2.2	WN6
110186	HD 235795	9.0 ± 0.3	0.2 ± 0.0	B1:V:nne
110200	V* V449 Cep	8.2 ± 0.8	25.8 ± 5.3	B3Ib
110266	HD 212043			B6II
110273	* rho Aqr			B8IIIMNp...
110275	HIP 110275	2.7 ± 0.1	10.0 ± 6.8	B8
110287	HD 212044	11.9 ± 0.7	9.4 ± 1.6	B1:V:nnpeva
110298	* 30 Peg	7.0 ± 0.1	50.1 ± 6.3	B5IV
110306	HD 211617	1.7 ± 0.0	14.0 ± 3.7	Fm...
110324	HD 211984			G8II-III
110356	HD 212183			B9III-IV
110362	HD 235807	10.0 ± 0.3	0.2 ± 0.1	B0.5IV:n
110371	* 32 Peg			B9III
110386	* 31 Peg	12.5 ± 0.5	15.7 ± 0.2	B2IV-V
110408	V* V405 Lac	4.0 ± 0.0	56.6 ± 26.0	B5V
110431	HD 212312			F2Ib
110441	HD 235813	12.0 ± 0.8	0.1 ± 0.0	B0III
110452	BD+63 1841			B5
110476	BD+42 4370	3.1 ± 0.1	35.7 ± 29.6	B8
110497	HR 8535			B8III-IV
110504	V* RW Cep	15.5 ± 3.5	11.1 ± 2.0	G8Iavar
110511	BD+46 3682	2.9 ± 0.3	10.0 ± 6.8	B8
110517	HD 212376	1.8 ± 0.0	12.0 ± 1.9	A2
110550	HR 8550			B9.5III
110570	BD+24 4587p	1.9 ± 0.1	47.4 ± 34.8	A2
110585	HD 212209			K1II/IIICNIb
110590	HD 212399			K5II
110599	HD 212308			K1II/III
110603	HD 212545	11.9 ± 0.3	16.3 ± 0.5	B5Iab
110609	* 4 Lac	9.7 ± 0.8	25.1 ± 2.3	B9Iab
110632	HD 212387	1.2 ± 0.0	48.5 ± 35.7	F3/F5IV/V
110662	HD 392525	7.8 ± 0.2	1.5 ± 0.6	B1.5IV-V:pe
110667	BD+45 3922	2.0 ± 0.0	20.1 ± 9.3	A0
110672	* 52 Aqr	10.7 ± 0.9	10.0 ± 4.8	B1Ve
110700	HD 212732	2.0 ± 0.0	20.1 ± 9.3	A0
110790	HR 8549	8.9 ± 0.2	14.9 ± 2.2	B2V
110807	HR 8554	5.0 ± 0.0	48.9 ± 8.7	B5III
110817	* 26 Cep	19.7 ± 1.7	5.5 ± 1.2	B0.5Ib
110835	BD+43 4205	2.8 ± 0.2	10.0 ± 6.8	B8
110849	HR 8553	10.0 ± 0.8	16.9 ± 2.2	B2V
110949	HD 213556	6.2 ± 0.5	63.1 ± 17.0	K5
110975	HD 213177			K0II
110991	V* del Cep			G2Ibvar
110992	HR 8564			K2II
110993	HD 213387	2.0 ± 0.0	39.3 ± 27.2	A0
110998	HD 213405	14.7 ± 0.1	8.5 ± 1.6	B0.5V
111003	HD 213672	7.4 ± 0.8	42.3 ± 9.7	K5
111022	V* V412 Lac	9.1 ± 0.6	29.3 ± 5.2	M0II
111042	HD 213481	7.0 ± 0.9	43.3 ± 10.8	B8
111064	HD 213571	7.0 ± 0.1	1.5 ± 0.5	B1V
111071	V* V413 Lac	12.0 ± 0.8	0.1 ± 0.0	B0IVn
111086	* 56 Aqr			B8II
111104	* 6 Lac	12.5 ± 0.8	15.7 ± 0.5	B2IV
111207	BD+42 4429	2.0 ± 0.0	38.9 ± 26.8	A0
111257	V* XZ Cep	15.8 ± 1.3	3.9 ± 0.5	O9.5V
111330	CCDM J22333-6049AB			G8/K0II+...
111397	HD 213728			B7III
111408	BD+36 4871	1.8 ± 0.1	12.0 ± 1.9	A2
111429	HD 213976	7.9 ± 0.1	0.5 ± 0.3	B1.5V
111458	HD 214022	3.0 ± 0.0	2.7 ± 0.4	B7V
111522	HD 214011			K1II/III
111550	HR 8606	8.0 ± 0.2	33.2 ± 5.0	B3V
111576	HD 214243	3.9 ± 0.1	10.0 ± 7.0	B6IV
111589	HD 214263	9.7 ± 0.2	18.4 ± 2.3	B2V
111683	HD 214432	6.8 ± 0.3	25.1 ± 1.1	B3V
111713	HD 214434			K2II
111785	HD 240010	10.0 ± 0.0	10.2 ± 1.3	B1:IV:nnpe
111790	HD 214460			A5II/III
111810	* 40 Peg			G8II
111837	HD 214609	1.8 ± 0.0	12.7 ± 2.5	A2
111841	* 10 Lac	19.6 ± 0.1	4.5 ± 0.4	O9V
111869	HR 8626			G3Ib-IICNe.
111893	HD 214757			K0II-III
111939	BD+37 4659	2.9 ± 0.3	10.0 ± 6.8	B8
111946	V* T Tuc			M5e
111950	HD 215024	8.2 ± 0.6	24.6 ± 2.0	B3
111972	V* Z Lac			F6Ibvar
111988	HD 214976	10.0 ± 0.6	25.1 ± 4.7	K2
111999	BD+62 2105	2.0 ± 0.0	20.1 ± 8.4	A0
112031	V* DD Lac	9.3 ± 0.3	23.4 ± 2.4	B2IIIv SB
112098	HR 8648	7.1 ± 0.2	45.7 ± 9.3	K2
112138	HD 215128	6.9 ± 0.1	46.7 ± 7.3	K2
112141	HD 215286			A2Ib
112144	HR 8651	9.1 ± 0.1	0.3 ± 0.1	B1V
112148	HD 215227			B5:ne

Table C.1: – Continued. –

HIP	other ID	mass [$M_\odot$]	age [Myr]	SpT
112158	MATAR			G2II-III..
112169	HD 215371	8.1 ± 0.2	4.6 ± 4.4	B1.5V
112170	HR 8652	7.8 ± 0.5	33.5 ± 1.7	A1V+...
112182	HD 215271	2.0 ± 0.0	20.1 ± 9.3	A0
112248	HD 215485	8.9 ± 0.7	28.6 ± 4.6	K2
112250	V* QV Peg	7.2 ± 0.7	47.6 ± 7.1	K2
112258	HD 215400	1.8 ± 0.1	31.6 ± 19.2	A2
112272	HD 215300			K0II/III
112293	BD+39 4920	3.0 ± 0.2	10.0 ± 6.8	B8
112398	HD 235949	4.2 ± 0.2	25.8 ± 1.5	B5
112415	HD 215555			G8II
112440	* lam Peg			G8II-III
112442	BD+69 1279			B5
112456	HD 215745	2.0 ± 0.0	20.1 ± 9.3	A0
112482	HD 215733	8.4 ± 0.4	8.1 ± 1.8	B1II
112551	HD 215779			A3II/III
112558	BD+57 2615	3.7 ± 0.3	10.0 ± 7.0	B6Vne
112562	V* AH Cep	17.5 ± 2.5	6.9 ± 0.5	B0.5V:nn
112599	BD+65 1808	2.8 ± 0.2	10.0 ± 6.8	B8
112641	HR 8682	5.0 ± 0.0	53.2 ± 4.0	B5Vn
112689	HD 216046			K2II-III
112698	V* V422 Lac	9.1 ± 0.1	0.3 ± 0.1	B1V
112754	HD 216140	1.9 ± 0.1	12.6 ± 1.5	Am...
112761	HR 8692			G4Ib
112778	V* V360 Lac	7.9 ± 0.2	33.2 ± 4.0	B3IV:var
112790	HD 216135			B5V
112809	HD 216218			G9II
112821	HD 216219			G0IIp
112854	HD 216277	2.0 ± 0.0	11.0 ± 0.9	A0
112894	HD 216331			G5II
112906	BD+38 4883	3.0 ± 0.2	12.9 ± 9.5	B8
112931	HD 216428	6.3 ± 1.0	63.1 ± 28.9	K5
112983	BD+62 2125	8.5 ± 0.6	1.9 ± 1.8	B1.5V
112987	HD 216512	6.9 ± 1.2	46.0 ± 5.8	M0
112998	HR 8707	8.0 ± 0.5	38.5 ± 5.0	K2V:
113009	V* V377 Lac			B7III-IV
113051	BD+62 2127	7.8 ± 0.2	11.3 ± 2.6	B2IV-V
113064	HD 216565	6.3 ± 1.0	63.1 ± 26.8	K5
113131	V* HR Peg			S5,1
113174	HR 8718			F5II
113192	HD 216725	6.2 ± 0.9	63.6 ± 25.8	K5
113218	HD 216898	17.8 ± 2.8	0.4 ± 0.3	O8.5V
113222	HR 8723			B7III
113226	HD 216851	6.0 ± 0.3	8.4 ± 1.5	B3V:n
113233	HD 240121	3.0 ± 0.0	45.0 ± 24.7	B8
113236	HD 216926			B9III:
113269	V* DI Cep	1.3 ± 0.1	11.7 ± 2.3	G8Ve-K3Ve(T)
113281	V* EN Lac	9.0 ± 0.0	19.8 ± 1.9	B2IV
113288	V* V424 Lac	6.9 ± 0.9	44.5 ± 8.0	K5Ibvar
113301	HD 217061	12.2 ± 0.8	8.5 ± 2.4	B1V
113306	HD 217086	22.3 ± 3.4	1.6 ± 1.6	O7n
113327	HR 8731	7.0 ± 0.2	39.8 ± 8.9	B4IIIpe
113371	HR 8733	8.8 ± 0.2	19.8 ± 2.4	B2IV-V
113391	HD 217052	1.9 ± 0.1	31.6 ± 19.2	A2
113432	HD 216838			K1II/III
113443	HD 217297	14.7 ± 1.0	11.0 ± 0.6	B1.5V
113469	HD 217227	8.7 ± 0.2	10.7 ± 3.0	B2:V
113478	V* AZ Psc	3.5 ± 0.5	0.3 ± 0.2	K0
113498	HR 8745			B9III
113556	V* DI Psc	5.0 ± 0.0	0.1 ± 0.0	K0
113561	V* V509 Cas	12.0 ± 0.5	16.1 ± 0.9	G0Ia
113562	HR 8743			K0IICNIII
113569	HIP 113569	15.0 ± 1.1	0.2 ± 0.1	WN...
113577	HD 240153			B5
113579	HD 217343	1.0 ± 0.0	31.6 ± 5.0	G3V
113639	BD+62 2155	6.7 ± 0.3	1.4 ± 0.5	B2IV
113640	HR 8758	6.4 ± 0.1	20.5 ± 4.1	B3Vp
113684	HR 8761			K2II
113726	* omi And	7.0 ± 0.1	50.1 ± 6.4	B6pv SB
113732	HD 217583			K2II
113772	HD 217817	6.7 ± 0.1	27.3 ± 4.0	B3V
113787	HD 217732	6.9 ± 0.1	44.7 ± 2.7	F0III
113797	V* V638 Cas			B9III He wk
113802	V* LN And	8.3 ± 0.3	9.1 ± 1.7	B2V
113825	HD 217919	12.6 ± 0.3	2.4 ± 1.1	B0IV:n
113835	BD+48 3916	2.9 ± 0.3	10.0 ± 6.8	B8
113849	HD 217979	9.8 ± 0.3	7.2 ± 3.5	B1V
113853	V* V387 Cep	9.1 ± 0.1	15.4 ± 2.8	B2V
113881	V* bet Peg			M2II-IIIvar
113907	HD 218066	12.5 ± 1.2	10.0 ± 0.8	B1:V:var
113952	HD 218043			F4II
113963	MARKAB			B9.5III
114009	HD 218229			B8III
114025	V* KU Peg			G8II
114045	BD+48 3933	2.0 ± 0.0	11.0 ± 0.9	A0
114060	HD 218323	17.6 ± 2.6	5.6 ± 1.1	B0III
114070	HD 218342	19.4 ± 1.1	5.5 ± 1.1	B0IV
114082	HD 218363	2.0 ± 0.0	20.1 ± 9.3	A0
114093	HD 218301			A7II
114097	HD 218344	6.8 ± 0.1	0.4 ± 0.3	B2V
114104	* 1 Cas	14.5 ± 0.4	8.9 ± 1.8	B0.5IV
114154	HD 218393	8.9 ± 0.2	24.3 ± 3.5	Bpe
114155	* 56 Peg	5.4 ± 3.6	0.1 ± 0.1	K0IIp
114163	HR 8803	9.1 ± 0.2	15.1 ± 2.1	B2.5IV
114174	HR 8800	8.6 ± 0.3	12.8 ± 3.1	B2V
114201	HD 218428			A2II-III
114212	HR 8808	7.5 ± 0.2	32.2 ± 5.0	B3V
114213	HD 218454			K4II
114327	HD 218723			B5
114329	HD 218674	7.0 ± 0.1	38.5 ± 3.4	B3IV SB:
114343	HD 218713			A
114351	HD 218661	1.7 ± 0.0	14.0 ± 3.7	A3
114379	V* KZ And	1.0 ± 0.0	25.0 ± 10.0	K0Ve
114385	HD 218739	1.0 ± 0.0	34.6 ± 9.1	G5
114389	* 58 Peg			B9III
114398	HD 218717	2.4 ± 0.0	54.2 ± 27.0	B9
114426	V* LS Aqr			G6/G8Ib
114465	HD 218892			A
114481	BD+48 3956	3.0 ± 0.1	20.0 ± 16.0	B8
114482	HD 218915	14.8 ± 1.5	4.0 ± 2.4	O9.5Iab
114507	V* SS And			M6IIvar
114540	HD 219063			B5
114593	BD+47 4075	2.0 ± 0.0	20.1 ± 9.3	A0
114594	HD 219135			G0Ib
114656	HD 219104	2.8 ± 0.2	10.0 ± 6.8	B8V
114685	HD 219286	22.4 ± 3.5	0.8 ± 0.8	O7p
114692	HD 219123			G8/K1II + G
114693	HD 219026			K1II/III
114816	HD 219523			B5
114904	V* V649 Cas	25.4 ± 3.0	4.8 ± 0.4	B0Vn
114958	BD+63 1962	11.4 ± 1.8	12.1 ± 1.3	B1III
114998	HD 219639	5.3 ± 0.4	63.1 ± 13.4	B5II/III
115033	* 93 Aqr			B5Vn
115089	BD+44 4374	3.0 ± 0.1	25.1 ± 20.8	B8
115141	V* V809 Cas	8.3 ± 0.9	33.4 ± 5.0	K5Ibvar
115144	HR 8869	7.3 ± 0.8	41.2 ± 11.0	K2/K3III
115147	V* V368 Cep	1.0 ± 0.0	30.3 ± 12.1	G9V
115148	HR 8873			B8III
115155	HD 219951	2.9 ± 0.2	10.0 ± 6.8	A
115186	HD 220016	7.5 ± 0.7	28.2 ± 3.8	B3V
115195	GJ 894.3	20.0 ± 0.0	0.1 ± 0.0	DA:
115198	HD 220057	8.6 ± 0.3	19.8 ± 2.7	B2IV
115224	HD 220058	11.9 ± 0.6	9.5 ± 1.9	B1npe
115244	HD 220116	11.9 ± 0.4	8.9 ± 2.6	B0.5Vpe
115245	HR 8886	7.9 ± 0.6	37.4 ± 7.4	K2III
115263	HD 220078			A5II

Table C.1: – Continued. –

HIP	other ID	mass [M$_\odot$]	age [Myr]	SpT
115352	BD+42 4649	2.8 ± 0.2	10.0 ± 6.8	B8
115355	* 64 Peg			B6III
115394	HD 220316	1.8 ± 0.1	12.7 ± 2.5	A
115395	HR 8894	7.9 ± 0.3	37.9 ± 7.1	K3II
115406	HD 220269	1.4 ± 0.0	35.8 ± 5.6	A9V
115423	BD+68 1373			B5
115516	HD 220574	5.0 ± 0.0	39.5 ± 1.2	A
115527	V* NX Aqr	1.0 ± 0.0	35.4 ± 8.2	G5
115529	HD 220562	8.6 ± 0.2	10.7 ± 2.9	B2V
115566	BD+60 2533			B9III
115567	HR 8902			B8III
115579	HD 220598	7.0 ± 0.0	0.6 ± 0.3	B2V
115591	* 67 Peg			B9III
115729	HD 220787	5.0 ± 0.0	10.0 ± 8.4	B3III
115755	V* V388 And			B9III
115760	HD 220780			M0II/III
115809	HD 220831			K0II
115904	HD 221104	1.9 ± 0.1	12.0 ± 1.9	A2
115906	HR 8921	6.3 ± 0.5	63.7 ± 14.5	K0
115912	HD 240308			B6III
115950	HD 240312	7.8 ± 0.3	2.9 ± 2.5	B2V
115990	V* AR Cas			B3IV
116060	HR 8928	6.3 ± 0.5	63.7 ± 14.6	K0
116163	HD 221427	6.2 ± 0.4	63.1 ± 17.0	K5/M0
116212	HD 240326			K0
116249	BD+69 1336			B5
116279	HD 221671			A0II
116292	HR 8941			G8II
116324	HD 221711	7.9 ± 0.1	3.5 ± 0.8	B2V
116328	HD 240333	4.8 ± 0.2	39.5 ± 3.5	B5
116380	HR 8952	9.1 ± 0.7	27.3 ± 5.2	K0Ib
116483	HD 240338	2.9 ± 0.1	15.8 ± 12.2	B8V
116484	HD 221896			K0II/III
116538	HD 240339	2.7 ± 0.2	10.0 ± 6.8	B8
116549	HD 222077	6.3 ± 1.0	57.8 ± 12.7	K5
116556	V* RS Cas			F9Ib
116653	HR 8957			K0II/III
116683	HD 222263	4.5 ± 0.5	30.5 ± 8.2	B5
116687	HD 222275			A3II
116700	BD+67 1550	8.1 ± 0.6	9.3 ± 3.0	B2
116748	V* DS Tuc	1.1 ± 0.0	20.0 ± 5.0	G5/8IV (+F)
116797	HD 222418	2.6 ± 0.1	7.0 ± 2.9	B8
116799	HD 222410	6.3 ± 0.4	63.1 ± 14.7	K5
116856	HD 222568	9.9 ± 0.1	9.5 ± 2.7	B1IV
116901	* 104 Aqr			G2Ib/II
116902	BD+68 1387	5.0 ± 0.0	54.8 ± 7.7	B5
116987	HD 222729	6.9 ± 0.3	43.3 ± 1.3	A3
116993	HD 222762	7.6 ± 0.7	37.3 ± 6.6	B8
117004	HD 240371	8.0 ± 0.4	8.2 ± 3.0	B2
117032	BD+53 3222	3.2 ± 0.1	22.5 ± 18.4	B8
117061	HD 222802	1.9 ± 0.1	11.4 ± 1.3	A1V
117088	HR 8996			K3II
117173	HD 222962	1.9 ± 0.0	50.1 ± 36.3	A3
117221	* psi And			G5Ib
117254	V* SX Phe	1.8 ± 0.0	39.8 ± 26.8	A2Vvar
117265	HR 9005	9.6 ± 0.4	19.9 ± 1.2	B2IV
117290	HD 223152			B5
117299	HR 9010	6.6 ± 0.5	50.1 ± 1.9	K3II
117309	HD 223174	2.0 ± 0.0	20.1 ± 9.3	A0
117310	HD 223200	15.0 ± 1.2	1.6 ± 0.3	A
117315	* sig Phe	6.4 ± 0.1	20.5 ± 4.1	B3V
117340	HR 9011	6.3 ± 0.1	33.0 ± 3.4	B3IV
117408	HD 240407	3.0 ± 0.2	15.8 ± 12.2	B8
117419	HD 223329			B5
117423	HD 223332			K5II
117514	HD 223501	8.8 ± 0.2	12.5 ± 2.6	B2Vn(e)
117651	HD 223684	3.1 ± 0.1	63.1 ± 27.3	B8
117683	* 22 Psc			K4II
117700	BD+66 1651	6.3 ± 0.2	15.1 ± 3.2	B5
117742	HD 223804	2.0 ± 0.0	20.1 ± 9.3	A0
117810	HD 223924	8.6 ± 0.4	1.0 ± 0.8	B1.5V
117842	HD 223969	9.4 ± 1.1	25.8 ± 5.5	K2
117887	V* XZ Psc			M5IIb
117956	HR 9053			G8Ib
118008	HD 224228	0.8 ± 0.0	40.9 ± 1.8	K3V
118077	V* V1022 Cas			G8Ib
118084	BD+68 1411	5.0 ± 0.0	1.0 ± 0.6	B3
118116	HR 9063			B9III-IV
118121	* eta Tuc	2.2 ± 0.1	5.4 ± 0.5	A1V
118176	HD 224474	6.2 ± 0.4	63.7 ± 13.9	K2
118192	BD+65 1973			B2
118194	BD+68 1413	3.9 ± 0.1	1.4 ± 0.4	B5
118214	V* LQ And	6.7 ± 0.3	50.1 ± 3.0	B4Vne

[a] In the spectra of HIP 66020 and HIP 63970 Lithium was detected, hence they are possibly young stars. However, it was not feasible to obtain masses and ages from theoretical models since both stars lie below the ZAMS in the HR diagram. Note also that both are in binary systems.

C.2 Young Runaway Stars

Table C.2: Runaway probabilities for 1998 runaway star candidates as found in sections 2.3.2.1 and 2.3.2.2. Columns 2 to 9 list the individual probabilities P for each velocity component. Stars with $P \geq 0.50$ in at least one velocity are considered runaway star candidates. The peculiar space velocities v_{pec} and peculiar tangential velocities $v_{t,pec}$ are given in the last two Columns.

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
145	0.29	0.00	0.00	0.97	0.44	0.00	0.00	0.00	22^{+6}_{-4}	2^{+2}_{-2}
174	1.00	0.44	1.00	0.00	1.00	0.06	0.05	0.00	59^{+4}_{-6}	7^{+2}_{-2}
274	0.58	0.13	0.03	0.00	0.41	0.01	0.02	0.01	26^{+4}_{-6}	12^{+2}_{-2}
278	0.61	0.08	0.32	0.05	0.59	0.03	0.02	0.03	28^{+6}_{-10}	10^{+4}_{-4}
347	0.38	0.37	0.03	0.35	0.09	0.51	0.45	0.30	20^{+10}_{-14}	18^{+14}_{-14}
355	1.00	1.00	0.75	1.00	1.00	1.00	1.00	0.18	61^{+4}_{-4}	31^{+4}_{-6}
365	1.00	0.97	0.02	0.31	0.00	1.00	1.00	0.29	34^{+6}_{-4}	33^{+4}_{-4}
398	0.96	0.91	0.06	0.56	0.88	0.88	0.84	0.46	46^{+26}_{-10}	35^{+28}_{-16}
410	1.00	1.00	0.01	0.97	0.07	1.00	1.00	0.14	55^{+6}_{-4}	54^{+4}_{-6}
439	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	111^{+2}_{-2}	109^{+2}_{-2}
505	1.00	1.00	0.77	0.03	0.90	0.92	0.89	0.04	52^{+6}_{-6}	24^{+4}_{-2}
695	0.94	0.26	0.25	0.00	0.00	1.00	1.00	0.00	28^{+2}_{-4}	27^{+4}_{-2}
744	–	–	–	–	–	0.83	0.83	0.00	–	25^{+2}_{-12}
779	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	67^{+2}_{-2}	13^{+2}_{-2}
805	–	–	–	–	–	1.00	0.28	1.00	–	42^{+4}_{-8}
905	0.74	0.00	0.91	0.00	0.38	0.00	0.00	0.00	27^{+2}_{-4}	17^{+2}_{-2}
926	1.00	1.00	0.04	0.21	0.61	1.00	1.00	0.26	39^{+4}_{-4}	27^{+8}_{-4}
951	1.00	0.98	0.64	0.06	0.80	0.54	0.48	0.03	40^{+6}_{-8}	18^{+2}_{-2}
1008	–	–	–	–	–	1.00	1.00	0.40	–	43^{+20}_{-6}
1115	0.91	0.24	0.00	1.00	0.52	0.88	0.86	0.01	30^{+4}_{-6}	25^{+10}_{-4}
1118	0.10	0.01	0.00	0.71	0.00	0.20	0.02	0.63	16^{+6}_{-6}	13^{+4}_{-6}
1209	0.58	0.60	0.04	0.18	0.03	0.78	0.76	0.19	27^{+16}_{-10}	25^{+16}_{-10}
1319	1.00	0.96	0.02	0.01	0.00	1.00	1.00	0.00	31^{+2}_{-2}	30^{+2}_{-2}
1331	0.38	0.00	0.00	0.24	0.04	1.00	0.00	1.00	24^{+4}_{-2}	21^{+2}_{-2}
1367	1.00	1.00	0.76	0.80	0.04	1.00	1.00	0.83	82^{+26}_{-26}	80^{+40}_{-8}
1415	0.41	0.25	0.02	0.03	0.08	0.68	0.47	0.01	24^{+4}_{-4}	19^{+2}_{-2}
1421	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	40^{+2}_{-4}	40^{+2}_{-4}
1429	0.90	0.62	0.31	1.00	0.05	0.94	0.88	0.86	41^{+26}_{-10}	38^{+20}_{-18}
1439	0.01	0.00	0.00	0.03	0.00	0.99	0.99	0.00	21^{+2}_{-2}	19^{+2}_{-2}
1479	–	–	–	–	–	1.00	1.00	0.12	–	108^{+70}_{-28}
1486	0.25	0.00	0.00	0.75	0.00	0.70	0.00	0.77	23^{+2}_{-2}	19^{+4}_{-2}
1505	–	–	–	–	–	1.00	1.00	0.07	–	24^{+2}_{-2}
1602	–	–	–	–	–	1.00	0.25	1.00	–	63^{+26}_{-16}
1621	0.99	0.76	0.99	0.59	0.99	0.02	0.01	0.01	45^{+4}_{-8}	10^{+4}_{-2}
1728	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	71^{+8}_{-14}	69^{+10}_{-10}
1733	–	–	–	–	–	1.00	0.87	0.00	–	20^{+2}_{-2}
1762	1.00	1.00	0.00	0.15	0.94	1.00	1.00	0.42	44^{+6}_{-2}	37^{+4}_{-4}
1769	0.24	0.07	0.00	0.51	0.31	0.10	0.08	0.04	22^{+4}_{-2}	6^{+6}_{-2}
1803	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	27^{+2}_{-2}	27^{+2}_{-2}
1805	1.00	0.99	0.85	0.01	0.98	0.21	0.15	0.00	43^{+4}_{-6}	17^{+2}_{-2}
2036	0.45	0.01	0.34	0.93	0.35	0.19	0.01	0.68	23^{+8}_{-6}	15^{+2}_{-2}
2071	–	–	–	–	–	1.00	0.86	1.00	–	34^{+8}_{-6}
2227	1.00	1.00	0.00	0.31	0.00	1.00	0.00	1.00	45^{+4}_{-2}	43^{+4}_{-2}
2347	0.74	0.52	0.11	0.03	0.57	0.12	0.09	0.02	29^{+6}_{-6}	15^{+2}_{-2}
2537	1.00	0.99	0.29	0.17	0.12	1.00	1.00	0.13	37^{+8}_{-10}	35^{+12}_{-6}
2580	–	–	–	–	–	0.62	0.00	0.16	–	18^{+2}_{-2}
2583	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	23^{+2}_{-2}	21^{+2}_{-2}
2599	0.98	0.96	0.00	0.30	0.96	0.86	0.83	0.29	40^{+14}_{-6}	26^{+12}_{-8}
2644	0.96	0.89	0.46	0.08	0.87	0.37	0.26	0.07	38^{+4}_{-8}	17^{+2}_{-2}
2710	–	–	–	–	–	1.00	1.00	0.00	–	30^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
2838	–	–	–	–	–	1.00	1.00	1.00	–	130^{+60}_{-50}
2937	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	35^{+2}_{-4}	32^{+2}_{-4}
3013	1.00	0.18	0.56	1.00	1.00	0.28	0.30	0.05	84^{+8}_{-4}	9^{+8}_{-4}
3083	0.34	0.33	0.00	0.00	0.00	0.60	0.60	0.00	20^{+12}_{-2}	20^{+10}_{-6}
3190	–	–	–	–	–	0.96	0.95	0.07	–	45^{+36}_{-16}
3334	0.99	0.97	0.11	0.10	0.00	1.00	1.00	0.07	38^{+8}_{-6}	37^{+10}_{-6}
3360	1.00	1.00	0.00	0.03	0.00	1.00	1.00	1.00	37^{+2}_{-2}	31^{+2}_{-4}
3381	1.00	0.99	0.81	1.00	1.00	0.99	0.99	0.07	98^{+64}_{-12}	75^{+70}_{-30}
3478	1.00	1.00	0.38	1.00	1.00	1.00	1.00	1.00	79^{+2}_{-2}	51^{+4}_{-2}
3517	–	–	–	–	–	1.00	0.02	1.00	–	71^{+10}_{-14}
3556	0.00	0.00	0.00	0.55	0.01	0.00	0.00	0.18	14^{+4}_{-4}	10^{+2}_{-2}
3585	0.04	0.04	0.02	0.80	0.04	0.05	0.04	0.11	19^{+4}_{-4}	11^{+4}_{-4}
3649	0.97	0.60	0.59	0.02	0.15	1.00	1.00	0.01	34^{+12}_{-4}	34^{+8}_{-6}
3693	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	51^{+2}_{-2}	45^{+2}_{-2}
3779	1.00	1.00	0.33	0.40	0.16	1.00	1.00	0.52	51^{+24}_{-10}	50^{+24}_{-8}
3881	0.27	0.00	0.52	0.00	0.23	0.00	0.00	0.00	22^{+4}_{-6}	11^{+2}_{-2}
3886	0.92	0.72	0.36	0.22	0.85	0.14	0.06	0.13	35^{+4}_{-10}	15^{+2}_{-2}
3887	0.84	0.67	0.51	0.08	0.77	0.12	0.10	0.08	35^{+4}_{-10}	13^{+4}_{-2}
4106	–	–	–	–	–	1.00	1.00	1.00	–	226^{+174}_{-77}
4214	–	–	–	–	–	0.65	0.35	1.00	–	22^{+16}_{-2}
4279	0.95	0.90	0.57	0.06	0.88	0.16	0.16	0.06	39^{+8}_{-6}	15^{+2}_{-2}
4281	–	–	–	–	–	0.96	0.95	0.00	–	21^{+2}_{-2}
4347	1.00	1.00	0.68	0.02	0.00	1.00	1.00	0.37	75^{+52}_{-14}	87^{+54}_{-24}
4477	0.70	0.71	0.07	0.12	0.14	0.66	0.62	0.09	27^{+4}_{-2}	19^{+2}_{-2}
4532	0.94	0.77	0.86	0.11	0.91	0.07	0.02	0.10	43^{+6}_{-12}	11^{+4}_{-4}
4541	1.00	1.00	1.00	0.94	1.00	1.00	0.02	1.00	68^{+10}_{-8}	32^{+14}_{-8}
4548	–	–	–	–	–	1.00	0.94	0.99	–	25^{+4}_{-2}
4609	–	–	–	–	–	0.86	0.80	0.67	–	32^{+20}_{-14}
4624	1.00	1.00	1.00	0.75	1.00	1.00	1.00	1.00	254^{+100}_{-42}	243^{+113}_{-58}
4769	1.00	0.59	0.05	1.00	1.00	1.00	1.00	0.17	51^{+6}_{-6}	29^{+12}_{-4}
4778	1.00	1.00	0.00	0.43	0.00	1.00	1.00	1.00	55^{+14}_{-10}	51^{+10}_{-12}
4869	1.00	0.02	1.00	1.00	1.00	1.00	1.00	1.00	124^{+20}_{-14}	107^{+24}_{-12}
4902	0.74	0.63	0.57	0.40	0.10	0.89	0.86	0.37	38^{+34}_{-8}	37^{+36}_{-14}
4961	1.00	0.86	1.00	0.94	0.00	1.00	1.00	0.98	59^{+24}_{-8}	58^{+22}_{-14}
4983	1.00	1.00	0.69	0.86	1.00	0.99	0.97	0.00	50^{+4}_{-4}	20^{+2}_{-2}
5013	0.96	0.85	0.04	0.80	0.00	1.00	1.00	0.71	34^{+10}_{-4}	34^{+10}_{-4}
5023	0.20	0.01	0.12	0.54	0.00	0.27	0.08	0.54	15^{+8}_{-4}	12^{+6}_{-2}
5055	0.99	0.92	0.01	0.94	0.05	1.00	0.99	1.00	41^{+18}_{-6}	39^{+18}_{-8}
5062	0.29	0.22	0.01	0.02	0.00	0.56	0.54	0.00	20^{+8}_{-6}	18^{+8}_{-6}
5081	0.96	0.00	0.51	0.90	0.00	1.00	0.00	1.00	25^{+2}_{-2}	25^{+2}_{-2}
5100	–	–	–	–	–	1.00	1.00	0.69	–	29^{+10}_{-4}
5171	–	–	–	–	–	1.00	1.00	0.97	–	77^{+42}_{-26}
5191	0.00	0.00	0.02	0.09	0.00	0.40	0.00	1.00	18^{+2}_{-2}	18^{+2}_{-2}
5251	0.89	0.91	0.07	0.01	0.12	0.94	0.93	0.01	38^{+20}_{-8}	33^{+16}_{-12}
5363	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	14^{+2}_{-2}	13^{+2}_{-2}
5372	0.31	0.19	0.00	0.00	0.00	0.99	0.99	0.00	25^{+2}_{-2}	19^{+2}_{-2}
5388	0.98	0.93	0.00	0.92	0.67	0.84	0.45	0.00	31^{+6}_{-2}	19^{+2}_{-2}
5391	1.00	1.00	0.99	0.11	0.99	0.17	0.09	0.14	92^{+10}_{-4}	15^{+2}_{-2}
5477	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	108^{+4}_{-2}	73^{+4}_{-4}
5482	0.81	0.19	0.56	0.97	0.05	0.83	0.45	0.97	34^{+18}_{-10}	30^{+20}_{-12}
5533	1.00	1.00	0.34	0.57	0.06	1.00	1.00	0.25	38^{+12}_{-4}	38^{+10}_{-6}
5550	1.00	0.05	0.23	0.00	0.00	1.00	1.00	0.00	30^{+2}_{-2}	29^{+2}_{-2}
5569	1.00	1.00	0.94	0.62	0.99	0.38	0.20	0.04	55^{+4}_{-6}	17^{+2}_{-2}
5609	0.41	0.15	0.18	0.22	0.06	0.99	0.88	0.23	24^{+6}_{-4}	23^{+4}_{-2}
5635	–	–	–	–	–	1.00	0.75	1.00	–	37^{+10}_{-10}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
5657	–	–	–	–	–	0.71	0.65	0.07	–	20^{+2}_{-2}
5680	–	–	–	–	–	1.00	1.00	0.00	–	22^{+2}_{-2}
5778	1.00	1.00	0.00	0.02	0.12	1.00	1.00	0.97	39^{+2}_{-4}	35^{+2}_{-2}
5884	0.98	0.75	0.07	0.39	0.86	0.78	0.58	0.96	36^{+16}_{-4}	28^{+22}_{-8}
5912	–	–	–	–	–	0.75	0.74	0.27	–	31^{+32}_{-16}
6027	0.09	0.07	0.01	0.46	0.06	0.11	0.07	0.55	13^{+4}_{-2}	12^{+2}_{-2}
6073	–	–	–	–	–	0.86	0.73	0.88	–	33^{+30}_{-18}
6137	–	–	–	–	–	1.00	0.74	0.99	–	26^{+6}_{-4}
6162	1.00	0.10	1.00	1.00	0.71	1.00	0.09	1.00	41^{+10}_{-10}	32^{+10}_{-4}
6485	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	13^{+2}_{-2}	12^{+2}_{-2}
6492	0.12	0.16	0.00	0.00	0.00	1.00	1.00	0.00	24^{+2}_{-2}	21^{+2}_{-2}
6500	–	–	–	–	–	0.61	0.59	0.11	–	19^{+2}_{-2}
6552	–	–	–	–	–	1.00	1.00	0.31	–	29^{+2}_{-2}
6571	–	–	–	–	–	0.74	0.67	0.10	–	19^{+2}_{-2}
6595	1.00	1.00	0.00	1.00	0.06	1.00	1.00	0.62	42^{+6}_{-2}	42^{+4}_{-6}
6617	0.94	0.91	0.12	0.12	0.16	0.99	0.98	0.10	31^{+6}_{-2}	24^{+4}_{-2}
6676	–	–	–	–	–	1.00	1.00	0.04	–	66^{+32}_{-16}
6773	1.00	1.00	0.42	0.88	0.00	1.00	0.00	1.00	42^{+16}_{-6}	39^{+20}_{-4}
6775	0.62	0.46	0.03	0.11	0.48	0.11	0.02	0.11	27^{+4}_{-8}	13^{+2}_{-2}
6811	0.82	0.30	0.46	0.08	0.12	1.00	1.00	0.09	30^{+12}_{-4}	31^{+8}_{-4}
6867	1.00	1.00	1.00	0.03	0.10	1.00	1.00	1.00	76^{+2}_{-4}	74^{+2}_{-2}
7147	0.05	0.00	0.00	0.00	0.00	1.00	1.00	0.00	23^{+2}_{-2}	23^{+2}_{-2}
7194	0.90	0.43	0.79	0.88	0.00	0.97	0.69	0.99	39^{+22}_{-10}	35^{+18}_{-12}
7234	0.64	0.02	0.71	0.32	0.53	0.24	0.24	0.00	29^{+14}_{-8}	13^{+8}_{-4}
7253	0.31	0.16	0.01	0.01	0.01	0.55	0.30	0.00	24^{+4}_{-2}	18^{+2}_{-2}
7255	1.00	1.00	0.00	0.82	0.02	1.00	1.00	1.00	49^{+8}_{-6}	47^{+6}_{-8}
7265	–	–	–	–	–	1.00	1.00	1.00	–	32^{+2}_{-4}
7310	–	–	–	–	–	0.46	0.12	0.69	–	16^{+10}_{-2}
7374	1.00	1.00	0.00	0.05	0.16	1.00	1.00	0.96	42^{+4}_{-4}	37^{+4}_{-4}
7512	0.92	0.91	0.31	0.04	0.20	0.97	0.98	0.04	46^{+22}_{-20}	44^{+22}_{-20}
7650	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	20^{+2}_{-2}	20^{+2}_{-2}
7663	1.00	1.00	0.03	0.00	0.13	1.00	1.00	0.00	38^{+6}_{-2}	34^{+2}_{-2}
7668	0.82	0.08	0.27	0.06	0.01	1.00	1.00	0.07	27^{+4}_{-4}	27^{+4}_{-2}
7818	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.98	19^{+2}_{-2}	15^{+2}_{-2}
7873	0.61	0.36	0.00	0.08	0.00	0.63	0.15	0.97	26^{+6}_{-4}	20^{+10}_{-4}
7908	1.00	1.00	0.05	1.00	0.90	1.00	1.00	0.97	52^{+4}_{-12}	39^{+10}_{-12}
7955	1.00	1.00	0.00	0.21	0.00	1.00	1.00	1.00	40^{+2}_{-2}	40^{+2}_{-2}
7958	–	–	–	–	–	0.62	0.12	0.42	–	19^{+4}_{-2}
7963	0.82	0.78	0.22	0.33	0.08	0.93	0.93	0.31	37^{+22}_{-8}	34^{+22}_{-10}
7999	1.00	1.00	1.00	0.35	1.00	1.00	0.00	1.00	73^{+4}_{-4}	60^{+4}_{-4}
8006	–	–	–	–	–	0.68	0.09	0.93	–	22^{+16}_{-2}
8020	0.07	0.00	0.00	0.54	0.01	0.13	0.00	0.54	15^{+6}_{-4}	12^{+4}_{-2}
8046	0.86	0.00	0.94	0.52	0.37	0.47	0.13	0.64	29^{+4}_{-2}	18^{+6}_{-4}
8244	1.00	0.80	1.00	0.91	0.01	1.00	1.00	1.00	56^{+30}_{-8}	54^{+24}_{-14}
8321	0.99	0.79	0.97	0.00	1.00	0.00	0.00	0.00	41^{+4}_{-6}	3^{+2}_{-2}
8693	0.99	0.97	0.29	0.04	0.94	0.27	0.22	0.05	41^{+4}_{-6}	17^{+2}_{-2}
8725	0.97	0.79	0.04	0.84	0.71	0.70	0.17	0.62	34^{+4}_{-8}	19^{+2}_{-2}
8767	–	–	–	–	–	1.00	1.00	1.00	–	152^{+68}_{-44}
8855	–	–	–	–	–	1.00	1.00	0.22	–	25^{+2}_{-4}
8926	1.00	0.98	1.00	0.00	0.00	1.00	1.00	0.00	53^{+6}_{-12}	52^{+14}_{-6}
8979	1.00	1.00	0.88	0.00	0.02	1.00	1.00	0.00	79^{+24}_{-10}	75^{+22}_{-12}
9008	–	–	–	–	–	0.48	0.25	0.76	–	17^{+16}_{-2}
9026	–	–	–	–	–	1.00	1.00	0.04	–	27^{+4}_{-4}
9077	0.34	0.20	0.03	0.64	0.22	0.37	0.16	0.57	18^{+18}_{-4}	13^{+14}_{-2}
9140	–	–	–	–	–	1.00	1.00	0.00	–	29^{+4}_{-4}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
9149	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	36^{+2}_{-2}	38^{+2}_{-2}
9192	0.23	0.01	0.31	0.03	0.03	0.90	0.88	0.03	22^{+6}_{-2}	20^{+2}_{-2}
9221	–	–	–	–	–	1.00	1.00	0.15	–	24^{+2}_{-2}
9355	–	–	–	–	–	1.00	0.20	1.00	–	43^{+30}_{-12}
9362	–	–	–	–	–	1.00	1.00	1.00	–	29^{+2}_{-2}
9456	–	–	–	–	–	1.00	1.00	0.30	–	25^{+2}_{-4}
9470	–	–	–	–	–	0.99	0.02	1.00	–	27^{+6}_{-4}
9505	0.69	0.03	0.00	1.00	0.00	1.00	0.98	1.00	26^{+2}_{-4}	26^{+2}_{-4}
9534	0.04	0.00	0.00	0.03	0.00	0.98	0.00	1.00	20^{+2}_{-2}	19^{+2}_{-2}
9538	0.61	0.03	0.81	0.05	0.41	0.36	0.29	0.05	27^{+8}_{-6}	17^{+2}_{-2}
9549	1.00	1.00	1.00	0.38	0.92	1.00	1.00	1.00	131^{+58}_{-28}	124^{+62}_{-30}
9622	1.00	0.03	0.97	1.00	0.09	1.00	0.31	1.00	45^{+2}_{-4}	42^{+2}_{-4}
9640	0.35	0.00	0.60	0.20	0.00	0.74	0.32	0.83	24^{+4}_{-4}	21^{+6}_{-2}
9886	0.80	0.73	0.07	0.11	0.55	0.32	0.25	0.13	29^{+4}_{-4}	16^{+2}_{-2}
9892	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	11^{+2}_{-2}	11^{+2}_{-2}
9987	–	–	–	–	–	1.00	1.00	0.12	–	49^{+30}_{-10}
10137	–	–	–	–	–	1.00	1.00	1.00	–	34^{+2}_{-2}
10141	0.02	0.00	0.00	1.00	0.00	0.92	0.02	1.00	21^{+2}_{-2}	21^{+4}_{-2}
10324	1.00	0.77	0.00	0.01	0.01	1.00	1.00	1.00	30^{+2}_{-2}	28^{+2}_{-2}
10354	0.72	0.71	0.20	0.28	0.10	0.85	0.82	0.28	35^{+20}_{-10}	29^{+14}_{-16}
10396	–	–	–	–	–	1.00	1.00	1.00	–	40^{+6}_{-4}
10463	0.99	0.84	0.76	0.05	0.95	0.04	0.01	0.08	40^{+6}_{-8}	8^{+4}_{-2}
10527	0.99	0.92	0.83	0.05	0.96	0.04	0.02	0.04	45^{+8}_{-4}	11^{+4}_{-4}
10549	–	–	–	–	–	1.00	0.93	0.94	–	24^{+2}_{-2}
10614	–	–	–	–	–	0.78	0.30	0.23	–	19^{+2}_{-2}
10641	0.97	0.94	0.11	0.02	0.94	0.02	0.00	0.02	37^{+8}_{-4}	13^{+2}_{-2}
10653	1.00	0.96	1.00	0.01	1.00	0.16	0.12	0.00	61^{+2}_{-2}	12^{+6}_{-2}
10806	–	–	–	–	–	0.98	0.00	1.00	–	22^{+2}_{-4}
10829	0.90	0.82	0.03	0.07	0.87	0.07	0.04	0.07	34^{+4}_{-6}	12^{+2}_{-6}
10849	1.00	0.85	0.91	1.00	1.00	0.43	0.00	1.00	42^{+2}_{-2}	18^{+2}_{-2}
10855	0.84	0.00	0.86	0.25	0.17	1.00	1.00	0.21	29^{+4}_{-4}	24^{+2}_{-2}
10873	0.83	0.56	0.01	0.32	0.36	0.33	0.03	0.36	28^{+4}_{-4}	16^{+2}_{-2}
10904	0.82	0.48	0.01	0.52	0.54	0.20	0.04	0.44	28^{+2}_{-6}	15^{+2}_{-2}
10969	0.50	0.54	0.04	0.18	0.08	0.50	0.51	0.14	25^{+12}_{-4}	17^{+10}_{-10}
10974	–	–	–	–	–	0.72	0.71	0.33	–	28^{+30}_{-14}
11002	–	–	–	–	–	0.89	0.83	0.38	–	27^{+12}_{-6}
11037	0.51	0.02	0.29	0.00	0.61	0.01	0.00	0.00	25^{+6}_{-4}	6^{+2}_{-4}
11099	1.00	0.63	0.55	0.47	0.73	0.58	0.09	0.83	40^{+8}_{-8}	19^{+14}_{-2}
11115	0.91	0.86	0.03	0.06	0.86	0.12	0.08	0.07	35^{+6}_{-6}	14^{+2}_{-4}
11126	1.00	0.99	0.00	0.33	0.00	1.00	1.00	1.00	32^{+4}_{-4}	28^{+2}_{-4}
11279	0.64	0.56	0.03	0.05	0.61	0.03	0.02	0.06	29^{+8}_{-10}	11^{+4}_{-6}
11339	–	–	–	–	–	1.00	0.00	1.00	–	36^{+4}_{-4}
11347	0.61	0.59	0.32	0.03	0.62	0.01	0.00	0.01	31^{+28}_{-6}	11^{+2}_{-2}
11394	0.99	0.99	0.89	0.01	0.99	0.00	0.01	0.00	49^{+4}_{-6}	12^{+4}_{-2}
11396	1.00	0.81	1.00	1.00	1.00	1.00	1.00	1.00	182^{+16}_{-10}	106^{+20}_{-30}
11407	0.07	0.00	0.00	0.60	0.11	0.00	0.00	0.00	18^{+4}_{-4}	10^{+2}_{-2}
11413	–	–	–	–	–	1.00	1.00	1.00	–	49^{+6}_{-6}
11420	0.95	0.92	0.20	0.09	0.92	0.23	0.15	0.08	41^{+6}_{-8}	15^{+2}_{-4}
11429	1.00	0.03	1.00	0.18	0.05	1.00	1.00	0.33	44^{+4}_{-4}	41^{+4}_{-4}
11460	0.98	0.80	0.70	0.33	0.00	1.00	1.00	0.38	40^{+12}_{-10}	39^{+14}_{-8}
11473	0.79	0.50	0.38	0.26	0.66	0.20	0.07	0.32	34^{+12}_{-10}	10^{+6}_{-2}
11487	0.83	0.81	0.01	0.00	0.18	1.00	1.00	0.00	29^{+6}_{-2}	22^{+2}_{-2}
11595	1.00	0.93	1.00	0.93	1.00	1.00	1.00	1.00	105^{+34}_{-18}	95^{+50}_{-20}
11607	0.52	0.00	0.73	0.00	0.26	0.82	0.62	0.00	25^{+8}_{-4}	19^{+2}_{-2}
11625	0.99	0.99	0.41	0.01	0.99	0.00	0.00	0.00	45^{+6}_{-4}	15^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
11663	–	–	–	–	–	1.00	1.00	0.00	–	27^{+2}_{-2}
11792	1.00	0.98	0.99	0.12	0.99	0.15	0.06	0.15	93^{+6}_{-10}	14^{+2}_{-4}
11799	–	–	–	–	–	0.62	0.41	0.35	–	20^{+6}_{-6}
11891	0.98	0.95	0.64	0.02	0.97	0.02	0.01	0.01	47^{+8}_{-14}	12^{+2}_{-4}
11894	0.99	0.97	0.07	0.24	0.96	0.13	0.04	0.04	38^{+6}_{-4}	16^{+2}_{-2}
11896	–	–	–	–	–	1.00	1.00	0.03	–	24^{+6}_{-2}
11901	1.00	1.00	0.01	1.00	0.00	1.00	0.98	1.00	66^{+20}_{-8}	63^{+18}_{-12}
11933	0.99	0.10	0.18	0.00	0.00	1.00	1.00	0.00	29^{+2}_{-2}	27^{+4}_{-2}
12001	–	–	–	–	–	0.64	0.40	0.18	–	19^{+2}_{-2}
12009	1.00	0.99	0.27	0.03	1.00	0.01	0.00	0.06	42^{+6}_{-6}	15^{+2}_{-2}
12083	0.54	0.19	0.00	0.00	0.00	0.99	0.98	0.00	25^{+2}_{-4}	24^{+4}_{-2}
12293	–	–	–	–	–	0.98	0.95	0.08	–	25^{+4}_{-2}
12297	–	–	–	–	–	1.00	1.00	0.01	–	31^{+4}_{-2}
12404	–	–	–	–	–	1.00	1.00	0.00	–	23^{+2}_{-2}
12513	0.48	0.03	0.52	0.07	0.13	0.95	0.93	0.06	25^{+8}_{-4}	23^{+2}_{-2}
12557	0.01	0.00	0.00	0.49	0.00	0.08	0.00	0.99	17^{+4}_{-2}	15^{+2}_{-2}
12585	–	–	–	–	–	0.99	0.99	0.00	–	20^{+2}_{-2}
12636	–	–	–	–	–	0.75	0.69	0.08	–	20^{+2}_{-2}
12637	–	–	–	–	–	0.57	0.42	0.00	–	18^{+2}_{-2}
12653	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	21^{+2}_{-2}	20^{+2}_{-2}
12675	–	–	–	–	–	1.00	0.00	1.00	–	25^{+4}_{-2}
12686	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	31^{+2}_{-2}	29^{+4}_{-2}
12724	1.00	1.00	0.90	0.35	0.97	0.85	0.85	0.21	83^{+4}_{-8}	21^{+2}_{-2}
12750	0.67	0.63	0.04	0.08	0.55	0.18	0.08	0.10	29^{+4}_{-8}	16^{+4}_{-2}
12793	0.99	0.00	0.65	1.00	0.10	1.00	0.85	1.00	31^{+4}_{-2}	28^{+2}_{-2}
12911	0.40	0.25	0.00	0.65	0.36	0.02	0.01	0.04	23^{+14}_{-4}	11^{+4}_{-4}
13098	0.81	0.82	0.03	0.29	0.10	0.71	0.66	0.24	31^{+10}_{-6}	23^{+10}_{-10}
13127	–	–	–	–	–	0.68	0.12	0.94	–	21^{+8}_{-6}
13160	0.92	0.83	0.79	0.73	0.22	0.97	0.96	0.73	60^{+62}_{-12}	56^{+34}_{-44}
13187	0.96	0.93	0.06	0.12	0.82	0.47	0.41	0.12	38^{+8}_{-4}	18^{+2}_{-2}
13276	1.00	1.00	0.99	0.13	1.00	0.17	0.10	0.20	66^{+10}_{-8}	7^{+6}_{-2}
13284	–	–	–	–	–	0.99	0.96	0.72	–	53^{+34}_{-28}
13322	–	–	–	–	–	1.00	1.00	0.04	–	27^{+4}_{-4}
13335	–	–	–	–	–	0.62	0.00	0.80	–	18^{+2}_{-2}
13446	0.74	0.04	0.73	0.08	0.35	1.00	0.99	0.06	29^{+8}_{-8}	23^{+2}_{-2}
13462	0.27	0.03	0.02	0.83	0.01	0.45	0.09	0.80	18^{+10}_{-4}	16^{+10}_{-2}
13567	1.00	0.00	1.00	0.97	0.00	1.00	1.00	1.00	35^{+4}_{-4}	36^{+2}_{-4}
13598	1.00	1.00	0.05	0.93	1.00	1.00	0.01	1.00	56^{+4}_{-4}	31^{+4}_{-2}
13645	0.99	0.96	0.00	0.00	0.88	0.01	0.00	0.07	26^{+2}_{-2}	11^{+2}_{-2}
13696	0.22	0.00	0.42	0.08	0.00	0.64	0.45	0.00	22^{+4}_{-4}	19^{+4}_{-2}
13700	0.67	0.00	0.18	0.06	0.01	1.00	1.00	0.08	26^{+2}_{-4}	25^{+2}_{-2}
13736	1.00	1.00	0.63	0.01	0.99	0.43	0.26	0.02	56^{+6}_{-6}	18^{+2}_{-2}
13746	–	–	–	–	–	1.00	1.00	0.01	–	29^{+8}_{-4}
13765	0.01	0.00	0.00	0.74	0.02	0.00	0.00	0.00	15^{+2}_{-4}	7^{+2}_{-2}
13924	0.91	0.90	0.03	0.02	0.83	0.12	0.06	0.02	35^{+6}_{-8}	15^{+2}_{-2}
13962	0.92	0.83	0.01	0.11	0.83	0.08	0.01	0.14	33^{+4}_{-6}	12^{+2}_{-4}
14060	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.97	45^{+2}_{-4}	45^{+2}_{-4}
14203	–	–	–	–	–	0.85	0.68	0.95	–	35^{+42}_{-2}
14225	1.00	0.88	0.68	0.26	0.93	0.26	0.13	0.41	47^{+4}_{-2}	11^{+6}_{-2}
14350	–	–	–	–	–	0.35	0.08	0.56	–	13^{+6}_{-2}
14382	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	59^{+2}_{-2}	38^{+2}_{-2}
14417	1.00	1.00	0.02	0.98	0.91	1.00	1.00	0.00	58^{+4}_{-4}	50^{+2}_{-4}
14482	1.00	1.00	0.00	0.00	1.00	0.01	0.00	0.00	37^{+2}_{-2}	15^{+2}_{-2}
14514	1.00	0.00	1.00	0.98	0.00	1.00	1.00	0.11	48^{+6}_{-8}	47^{+8}_{-4}
14521	0.90	0.46	0.03	0.00	0.00	1.00	1.00	0.00	28^{+2}_{-4}	27^{+4}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
14558	0.99	0.97	0.14	0.01	0.90	1.00	1.00	0.08	46^{+14}_{-10}	23^{+2}_{-2}
14626	0.78	0.45	0.24	0.12	0.10	0.99	1.00	0.10	28^{+6}_{-4}	25^{+2}_{-2}
14658	0.96	0.08	0.83	0.05	0.03	1.00	1.00	0.05	32^{+6}_{-6}	31^{+4}_{-4}
14677	0.52	0.01	0.50	0.41	0.00	0.90	0.80	0.04	25^{+6}_{-6}	24^{+8}_{-6}
14700	–	–	–	–	–	0.92	0.00	1.00	–	21^{+4}_{-2}
14777	–	–	–	–	–	1.00	0.00	1.00	–	28^{+2}_{-4}
14898	–	–	–	–	–	0.60	0.30	0.67	–	23^{+14}_{-2}
14925	–	–	–	–	–	1.00	1.00	1.00	–	457^{+300}_{-116}
14969	–	–	–	–	–	1.00	0.92	1.00	–	35^{+14}_{-10}
15039	–	–	–	–	–	1.00	1.00	1.00	–	32^{+2}_{-2}
15105	0.67	0.04	0.06	0.93	0.28	0.73	0.02	0.86	29^{+12}_{-8}	22^{+10}_{-2}
15114	0.64	0.39	0.18	0.11	0.18	0.74	0.72	0.07	27^{+8}_{-2}	21^{+4}_{-2}
15180	0.62	0.66	0.00	0.00	0.30	0.40	0.24	0.00	26^{+4}_{-6}	18^{+2}_{-2}
15188	1.00	1.00	0.54	1.00	1.00	0.92	0.91	0.08	55^{+16}_{-14}	36^{+28}_{-14}
15219	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.93	15^{+2}_{-2}	14^{+2}_{-2}
15230	–	–	–	–	–	1.00	1.00	0.28	–	48^{+20}_{-14}
15270	0.10	0.02	0.06	0.01	0.00	0.91	0.89	0.01	21^{+4}_{-2}	20^{+2}_{-2}
15285	1.00	0.81	0.93	0.12	1.00	0.83	0.77	0.63	43^{+10}_{-4}	29^{+18}_{-10}
15373	–	–	–	–	–	0.00	0.00	0.73	–	14^{+2}_{-2}
15424	0.77	0.56	0.16	0.17	0.14	0.98	0.98	0.15	29^{+6}_{-4}	23^{+2}_{-2}
15535	–	–	–	–	–	0.97	0.95	0.06	–	26^{+8}_{-6}
15702	–	–	–	–	–	1.00	0.95	1.00	–	50^{+8}_{-10}
15795	0.43	0.03	0.00	0.99	0.00	0.65	0.02	0.99	25^{+6}_{-6}	20^{+4}_{-8}
15836	–	–	–	–	–	1.00	1.00	1.00	–	51^{+6}_{-4}
15890	0.02	0.00	0.00	0.01	0.00	0.95	0.95	0.01	22^{+2}_{-2}	20^{+2}_{-2}
15981	0.25	0.12	0.10	0.00	0.02	0.97	0.90	0.01	23^{+4}_{-2}	21^{+2}_{-2}
15992	–	–	–	–	–	1.00	0.20	1.00	–	39^{+16}_{-12}
16019	–	–	–	–	–	1.00	1.00	0.12	–	64^{+22}_{-12}
16165	1.00	1.00	0.07	0.87	0.98	1.00	1.00	1.00	48^{+2}_{-4}	39^{+6}_{-4}
16199	–	–	–	–	–	0.64	0.65	0.01	–	23^{+16}_{-12}
16203	0.30	0.01	0.05	0.68	0.00	0.56	0.03	0.90	21^{+6}_{-6}	18^{+6}_{-4}
16228	0.08	0.00	0.24	0.02	0.02	0.78	0.76	0.02	20^{+2}_{-4}	19^{+2}_{-2}
16281	0.22	0.01	0.35	0.08	0.09	0.64	0.60	0.10	20^{+6}_{-2}	19^{+2}_{-2}
16283	–	–	–	–	–	0.66	0.29	0.25	–	19^{+2}_{-2}
16306	–	–	–	–	–	1.00	1.00	0.00	–	36^{+8}_{-6}
16333	–	–	–	–	–	1.00	0.00	1.00	–	24^{+2}_{-4}
16466	0.10	0.01	0.05	0.83	0.02	0.20	0.06	0.46	18^{+4}_{-6}	13^{+2}_{-2}
16489	1.00	1.00	0.00	0.21	1.00	1.00	1.00	1.00	73^{+6}_{-4}	58^{+6}_{-4}
16518	1.00	0.00	1.00	0.14	0.96	1.00	1.00	0.00	55^{+8}_{-6}	48^{+6}_{-6}
16553	–	–	–	–	–	1.00	1.00	0.84	–	63^{+18}_{-14}
16563	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.60	17^{+2}_{-2}	15^{+2}_{-2}
16566	1.00	1.00	0.16	0.99	1.00	0.94	0.89	0.10	99^{+10}_{-6}	31^{+16}_{-10}
16608	–	–	–	–	–	0.69	0.21	0.99	–	21^{+6}_{-4}
16615	–	–	–	–	–	0.84	0.79	0.60	–	38^{+34}_{-20}
16735	–	–	–	–	–	0.55	0.42	0.01	–	18^{+2}_{-2}
16771	0.83	0.68	0.00	0.00	0.85	0.09	0.08	0.00	29^{+6}_{-4}	9^{+6}_{-2}
16842	0.49	0.21	0.10	0.62	0.36	0.32	0.28	0.09	25^{+14}_{-6}	15^{+2}_{-2}
16934	–	–	–	–	–	1.00	1.00	0.10	–	75^{+66}_{-28}
16976	–	–	–	–	–	0.98	0.97	0.05	–	22^{+2}_{-2}
17064	–	–	–	–	–	1.00	1.00	0.51	–	60^{+22}_{-16}
17280	–	–	–	–	–	0.75	0.00	0.99	–	21^{+8}_{-4}
17287	–	–	–	–	–	0.94	0.00	1.00	–	20^{+2}_{-2}
17342	0.80	0.00	0.16	0.91	0.00	1.00	1.00	0.94	27^{+2}_{-2}	27^{+2}_{-2}
17358	0.13	0.00	0.05	0.01	0.00	0.82	0.62	0.01	21^{+4}_{-2}	20^{+2}_{-2}
17387	1.00	0.62	0.01	0.01	0.99	0.04	0.03	0.03	29^{+4}_{-2}	8^{+4}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
17394	–	–	–	–	–	1.00	1.00	1.00	–	49^{+4}_{-2}
17447	–	–	–	–	–	1.00	1.00	1.00	–	79^{+50}_{-28}
17529	1.00	0.60	0.05	0.00	0.06	1.00	1.00	0.00	31^{+4}_{-2}	27^{+2}_{-2}
17624	–	–	–	–	–	0.57	0.38	0.68	–	20^{+12}_{-6}
17635	–	–	–	–	–	0.53	0.01	0.67	–	18^{+2}_{-2}
17661	0.30	0.18	0.09	0.57	0.09	0.40	0.22	0.54	13^{+14}_{-6}	12^{+12}_{-2}
17686	0.31	0.05	0.16	0.00	0.01	1.00	1.00	0.01	24^{+4}_{-2}	22^{+2}_{-2}
17775	–	–	–	–	–	0.76	0.68	0.00	–	19^{+2}_{-2}
17878	–	–	–	–	–	1.00	1.00	0.17	–	52^{+28}_{-10}
17952	0.83	0.00	0.26	0.99	0.57	0.24	0.21	0.00	29^{+6}_{-4}	15^{+4}_{-4}
18151	–	–	–	–	–	0.84	0.75	0.07	–	21^{+2}_{-2}
18166	0.92	0.85	0.09	0.06	0.28	0.96	0.95	0.07	31^{+6}_{-4}	22^{+2}_{-4}
18183	1.00	1.00	0.00	0.01	0.00	1.00	1.00	0.00	33^{+4}_{-4}	36^{+6}_{-4}
18230	0.32	0.02	0.10	0.65	0.03	0.45	0.09	0.72	18^{+12}_{-6}	17^{+10}_{-2}
18263	0.65	0.02	0.66	0.62	0.01	0.79	0.70	0.65	30^{+26}_{-10}	30^{+30}_{-10}
18270	0.58	0.09	0.76	0.03	0.00	0.75	0.75	0.03	28^{+16}_{-6}	26^{+22}_{-6}
18339	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	28^{+2}_{-2}	26^{+2}_{-2}
18350	1.00	1.00	0.00	0.41	1.00	0.22	0.03	0.13	57^{+6}_{-4}	16^{+2}_{-2}
18488	0.30	0.01	0.00	0.99	0.00	0.71	0.00	0.99	21^{+8}_{-4}	21^{+8}_{-4}
18508	0.77	0.42	0.00	0.04	0.00	0.30	0.07	0.19	26^{+2}_{-2}	16^{+2}_{-2}
18614	1.00	1.00	1.00	0.00	1.00	0.92	0.01	0.83	60^{+2}_{-6}	20^{+2}_{-2}
18727	–	–	–	–	–	0.56	0.44	0.13	–	18^{+4}_{-2}
18796	–	–	–	–	–	1.00	1.00	1.00	–	47^{+10}_{-10}
18871	0.09	0.05	0.04	0.01	0.00	0.90	0.88	0.01	21^{+4}_{-2}	20^{+2}_{-2}
18972	0.81	0.86	0.00	0.01	0.82	0.02	0.00	0.17	29^{+6}_{-4}	8^{+2}_{-2}
19018	0.68	0.33	0.02	0.00	0.01	1.00	1.00	0.00	26^{+2}_{-4}	23^{+2}_{-2}
19020	–	–	–	–	–	0.59	0.52	0.18	–	19^{+6}_{-2}
19037	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	22^{+2}_{-2}	7^{+2}_{-2}
19057	1.00	0.98	0.17	0.22	0.67	0.99	0.99	0.23	39^{+4}_{-8}	26^{+4}_{-2}
19085	1.00	1.00	0.09	0.86	1.00	0.31	0.11	0.37	55^{+4}_{-6}	16^{+6}_{-4}
19218	–	–	–	–	–	1.00	0.02	1.00	–	87^{+20}_{-22}
19341	0.75	0.33	0.06	0.01	0.17	0.86	0.84	0.02	28^{+2}_{-4}	20^{+2}_{-2}
19404	0.62	0.47	0.05	0.39	0.21	0.61	0.17	0.45	27^{+2}_{-6}	19^{+2}_{-2}
19412	0.20	0.07	0.02	0.05	0.00	1.00	1.00	0.04	23^{+4}_{-2}	21^{+2}_{-2}
19587	0.02	0.00	0.03	0.06	0.00	1.00	1.00	0.00	21^{+2}_{-2}	20^{+2}_{-2}
19679	1.00	1.00	0.25	0.96	1.00	1.00	0.04	1.00	62^{+8}_{-4}	38^{+18}_{-8}
19855	1.00	0.96	0.00	0.00	0.00	0.01	0.00	1.00	27^{+2}_{-2}	18^{+2}_{-2}
19856	–	–	–	–	–	0.36	0.00	1.00	–	18^{+2}_{-2}
19972	–	–	–	–	–	0.86	0.02	0.95	–	20^{+2}_{-2}
20017	–	–	–	–	–	1.00	0.98	1.00	–	40^{+20}_{-6}
20214	–	–	–	–	–	1.00	0.00	1.00	–	122^{+58}_{-18}
20381	0.11	0.04	0.01	0.28	0.01	0.58	0.07	0.35	21^{+4}_{-2}	18^{+2}_{-2}
20417	0.97	0.01	0.62	0.04	0.00	1.00	0.98	0.06	29^{+2}_{-4}	24^{+2}_{-2}
20426	–	–	–	–	–	0.43	0.13	0.66	–	16^{+8}_{-2}
20513	–	–	–	–	–	0.87	0.67	0.96	–	37^{+44}_{-4}
20675	–	–	–	–	–	0.36	0.17	0.51	–	12^{+16}_{-2}
20725	1.00	1.00	0.11	1.00	0.66	1.00	0.67	1.00	80^{+30}_{-18}	76^{+36}_{-12}
20776	0.07	0.02	0.01	0.00	0.00	0.83	0.81	0.00	21^{+4}_{-2}	20^{+2}_{-4}
20860	0.99	0.17	0.08	0.04	0.00	1.00	1.00	0.00	27^{+2}_{-2}	27^{+2}_{-2}
20958	0.95	0.00	0.21	1.00	0.02	0.65	0.62	0.01	30^{+4}_{-4}	20^{+8}_{-4}
20974	1.00	1.00	0.00	0.00	1.00	0.99	0.96	0.40	50^{+4}_{-4}	28^{+8}_{-2}
21013	0.68	0.11	0.00	0.99	0.00	0.94	0.00	1.00	26^{+2}_{-4}	21^{+4}_{-2}
21042	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	29^{+2}_{-2}	14^{+2}_{-2}
21063	–	–	–	–	–	1.00	1.00	0.01	–	26^{+2}_{-2}
21179	0.89	0.75	0.04	0.66	0.74	0.90	0.03	1.00	52^{+48}_{-6}	22^{+6}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
21291	0.55	0.51	0.00	0.00	0.46	0.00	0.00	0.00	26^{+8}_{-10}	14^{+2}_{-2}
21385	–	–	–	–	–	0.53	0.46	0.15	–	19^{+2}_{-2}
21404	0.51	0.34	0.04	0.60	0.02	0.96	0.56	1.00	25^{+8}_{-6}	26^{+10}_{-4}
21408	0.24	0.02	0.00	0.59	0.00	0.99	0.00	1.00	23^{+4}_{-2}	21^{+2}_{-2}
21476	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.69	14^{+2}_{-2}	13^{+2}_{-2}
21520	0.57	0.02	0.50	0.17	0.05	0.96	0.92	0.17	26^{+8}_{-6}	26^{+2}_{-2}
21560	–	–	–	–	–	1.00	0.08	1.00	–	35^{+6}_{-6}
21601	0.97	0.99	0.19	0.70	0.36	0.94	0.87	0.91	41^{+16}_{-10}	34^{+20}_{-8}
21626	0.93	0.93	0.02	0.05	0.88	0.18	0.03	0.64	33^{+8}_{-4}	12^{+4}_{-2}
21697	–	–	–	–	–	0.75	0.75	0.00	–	22^{+10}_{-6}
22000	1.00	0.98	0.00	0.18	0.99	0.02	0.00	0.02	28^{+2}_{-2}	12^{+2}_{-2}
22061	1.00	1.00	0.37	1.00	0.00	1.00	0.00	1.00	87^{+22}_{-12}	87^{+22}_{-14}
22065	0.95	0.00	0.98	0.06	0.25	0.89	0.07	1.00	31^{+4}_{-6}	23^{+6}_{-4}
22075	0.08	0.01	0.02	0.00	0.00	1.00	1.00	0.00	22^{+2}_{-2}	21^{+2}_{-2}
22104	–	–	–	–	–	0.84	0.74	0.00	–	19^{+2}_{-2}
22112	0.69	0.12	0.01	0.52	0.32	0.25	0.10	0.01	27^{+2}_{-6}	17^{+2}_{-2}
22261	1.00	0.12	1.00	1.00	0.00	1.00	1.00	1.00	47^{+14}_{-8}	46^{+14}_{-8}
22453	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	63^{+4}_{-2}	55^{+4}_{-2}
22461	0.70	0.12	0.10	0.99	0.01	0.94	0.12	0.98	31^{+16}_{-6}	30^{+14}_{-4}
22524	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	40^{+2}_{-4}	16^{+2}_{-2}
22570	–	–	–	–	–	0.80	0.03	1.00	–	20^{+4}_{-4}
22745	0.77	0.04	0.51	0.99	0.00	1.00	0.80	1.00	33^{+14}_{-6}	32^{+10}_{-4}
22761	0.98	0.98	0.06	0.20	0.75	0.93	0.77	0.99	41^{+20}_{-6}	33^{+26}_{-6}
22767	1.00	0.99	0.00	0.24	1.00	0.02	0.01	0.04	38^{+4}_{-8}	9^{+2}_{-2}
22917	0.05	0.00	0.10	0.01	0.00	0.89	0.87	0.01	21^{+4}_{-2}	20^{+2}_{-2}
22928	0.71	0.01	0.11	1.00	0.00	0.94	0.18	1.00	32^{+12}_{-12}	32^{+18}_{-8}
23060	0.43	0.39	0.00	0.12	0.01	0.84	0.21	1.00	24^{+6}_{-4}	21^{+4}_{-4}
23151	0.89	0.82	0.00	0.00	0.87	0.00	0.00	0.00	31^{+8}_{-2}	11^{+2}_{-2}
23268	0.95	0.89	0.00	0.00	0.88	0.01	0.00	0.00	32^{+6}_{-4}	16^{+2}_{-2}
23359	0.99	0.95	0.01	0.09	0.96	0.02	0.01	0.08	33^{+2}_{-2}	12^{+2}_{-2}
23360	0.81	0.71	0.03	0.08	0.64	0.14	0.10	0.09	30^{+4}_{-6}	16^{+4}_{-4}
23375	0.28	0.03	0.13	0.39	0.04	0.54	0.28	0.39	20^{+6}_{-6}	19^{+2}_{-2}
23522	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.66	13^{+2}_{-2}	13^{+2}_{-2}
23582	1.00	1.00	0.09	1.00	0.97	1.00	1.00	0.00	49^{+16}_{-4}	37^{+10}_{-10}
23766	1.00	0.01	1.00	0.12	1.00	1.00	1.00	0.00	58^{+8}_{-4}	42^{+6}_{-6}
23799	0.66	0.38	0.00	0.00	0.16	0.74	0.71	0.00	26^{+4}_{-4}	19^{+2}_{-2}
23933	–	–	–	–	–	0.52	0.37	0.17	–	18^{+2}_{-2}
24060	–	–	–	–	–	0.35	0.04	0.60	–	16^{+4}_{-4}
24072	0.17	0.02	0.07	0.51	0.02	0.57	0.11	0.50	20^{+4}_{-4}	19^{+2}_{-2}
24229	0.17	0.00	0.08	0.56	0.01	0.29	0.07	0.69	15^{+6}_{-6}	13^{+4}_{-4}
24238	0.49	0.14	0.18	0.56	0.15	0.39	0.17	0.57	24^{+10}_{-4}	13^{+12}_{-2}
24478	–	–	–	–	–	0.00	0.00	1.00	–	15^{+2}_{-2}
24549	1.00	0.98	0.17	0.99	1.00	0.48	0.36	0.75	42^{+12}_{-8}	17^{+12}_{-4}
24575	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	149^{+58}_{-26}	140^{+56}_{-32}
24649	1.00	1.00	0.73	1.00	1.00	0.03	0.00	0.22	45^{+4}_{-2}	9^{+2}_{-4}
24667	0.83	0.70	0.00	0.17	0.71	0.01	0.00	0.08	29^{+4}_{-6}	13^{+2}_{-2}
24674	0.00	0.00	0.00	0.98	0.00	0.00	0.00	1.00	17^{+2}_{-2}	17^{+2}_{-2}
24716	0.04	0.00	0.00	0.65	0.00	0.28	0.00	0.81	16^{+6}_{-2}	16^{+4}_{-2}
24725	–	–	–	–	–	1.00	1.00	0.01	–	51^{+20}_{-12}
24780	–	–	–	–	–	0.56	0.44	0.00	–	19^{+4}_{-2}
24795	0.55	0.40	0.00	0.00	0.34	0.00	0.00	0.00	25^{+2}_{-4}	13^{+2}_{-2}
24817	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	14^{+2}_{-2}	12^{+2}_{-2}
24898	0.13	0.00	0.26	0.03	0.01	0.77	0.60	0.03	20^{+4}_{-2}	20^{+2}_{-2}
24914	0.22	0.00	0.14	0.51	0.00	0.99	0.75	0.54	22^{+4}_{-2}	22^{+2}_{-2}
25066	0.54	0.21	0.15	0.01	0.03	0.77	0.77	0.02	25^{+6}_{-4}	21^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
25184	0.81	0.04	0.74	1.00	0.00	0.97	0.76	1.00	34^{+18}_{-8}	34^{+18}_{-12}
25226	1.00	1.00	0.00	0.62	1.00	1.00	0.00	1.00	49^{+2}_{-2}	25^{+2}_{-2}
25241	0.84	0.88	0.00	0.09	0.83	0.00	0.00	0.03	33^{+8}_{-6}	7^{+2}_{-2}
25284	0.87	0.03	0.35	0.81	0.01	1.00	0.94	0.89	29^{+4}_{-4}	27^{+2}_{-2}
25288	0.87	0.39	0.20	0.04	0.87	0.02	0.01	0.02	30^{+8}_{-4}	10^{+2}_{-2}
25363	0.20	0.01	0.32	0.15	0.01	0.63	0.61	0.14	20^{+6}_{-2}	20^{+2}_{-4}
25386	–	–	–	–	–	1.00	1.00	0.43	–	50^{+22}_{-6}
25428	0.01	0.00	0.00	0.00	0.00	1.00	0.33	0.00	21^{+2}_{-2}	20^{+2}_{-2}
25508	–	–	–	–	–	0.69	0.58	0.06	–	20^{+2}_{-2}
25606	1.00	1.00	0.00	0.00	0.95	1.00	0.00	0.00	37^{+6}_{-4}	20^{+2}_{-2}
25777	0.07	0.00	0.00	0.92	0.00	0.24	0.00	0.89	16^{+4}_{-2}	16^{+4}_{-4}
25793	–	–	–	–	–	0.54	0.51	0.20	–	19^{+10}_{-8}
25859	0.93	0.75	0.00	0.94	0.47	1.00	1.00	0.00	30^{+6}_{-2}	20^{+2}_{-2}
25877	1.00	1.00	0.78	1.00	1.00	1.00	1.00	1.00	148^{+16}_{-6}	68^{+24}_{-20}
25906	0.24	0.01	0.39	0.18	0.00	0.76	0.69	0.16	20^{+4}_{-2}	21^{+2}_{-2}
25923	0.24	0.22	0.00	0.25	0.03	0.38	0.06	0.85	21^{+8}_{-4}	17^{+6}_{-4}
25943	–	–	–	–	–	0.57	0.57	0.11	–	19^{+2}_{-2}
25969	0.41	0.00	0.16	0.86	0.00	0.63	0.28	0.82	23^{+8}_{-6}	20^{+8}_{-8}
26057	0.01	0.00	0.00	0.93	0.00	0.09	0.00	0.97	16^{+2}_{-2}	16^{+2}_{-2}
26064	0.96	0.86	0.00	0.00	0.79	0.02	0.00	0.11	31^{+2}_{-6}	16^{+2}_{-2}
26070	–	–	–	–	–	0.99	0.00	1.00	–	33^{+18}_{-6}
26116	0.99	0.98	0.00	0.92	0.99	0.00	0.00	0.00	36^{+4}_{-4}	9^{+2}_{-2}
26264	0.01	0.00	0.03	0.17	0.00	0.04	0.00	0.96	16^{+2}_{-4}	14^{+2}_{-2}
26364	–	–	–	–	–	1.00	0.03	1.00	–	107^{+72}_{-24}
26386	1.00	1.00	0.12	1.00	1.00	1.00	1.00	1.00	144^{+8}_{-4}	58^{+16}_{-10}
26397	0.52	0.45	0.01	0.02	0.47	0.02	0.01	0.01	26^{+6}_{-4}	12^{+2}_{-4}
26602	0.25	0.00	0.15	0.74	0.02	0.52	0.06	0.91	20^{+6}_{-6}	18^{+6}_{-4}
26743	–	–	–	–	–	1.00	0.05	1.00	–	40^{+30}_{-6}
26803	0.66	0.41	0.01	0.19	0.38	0.20	0.04	0.15	27^{+6}_{-6}	15^{+2}_{-2}
26821	0.40	0.00	0.63	0.01	0.01	0.77	0.53	0.22	24^{+4}_{-6}	20^{+2}_{-4}
26872	0.15	0.00	0.05	0.32	0.00	0.51	0.19	0.28	19^{+4}_{-4}	18^{+2}_{-2}
26889	0.97	0.94	0.00	0.00	0.92	0.01	0.00	0.01	34^{+4}_{-6}	14^{+2}_{-2}
27172	0.78	0.53	0.07	0.24	0.60	0.25	0.12	0.24	29^{+6}_{-6}	15^{+4}_{-2}
27204	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.61	101^{+4}_{-2}	52^{+4}_{-6}
27227	1.00	0.56	1.00	0.13	1.00	1.00	1.00	0.77	49^{+6}_{-4}	28^{+4}_{-2}
27380	–	–	–	–	–	0.62	0.59	0.06	–	19^{+2}_{-2}
27447	0.29	0.00	0.15	0.61	0.00	0.72	0.27	0.60	22^{+4}_{-4}	20^{+2}_{-2}
27478	0.62	0.01	0.13	0.05	0.08	0.23	0.22	0.06	26^{+2}_{-4}	16^{+2}_{-2}
27512	0.35	0.05	0.16	1.00	0.03	0.67	0.13	0.99	22^{+10}_{-2}	21^{+8}_{-4}
27548	1.00	1.00	0.17	0.17	1.00	0.41	0.33	0.16	59^{+6}_{-6}	17^{+2}_{-2}
27607	–	–	–	–	–	0.90	0.61	0.92	–	24^{+8}_{-4}
27634	–	–	–	–	–	1.00	1.00	0.17	–	43^{+12}_{-8}
27683	1.00	1.00	0.66	0.33	1.00	0.17	0.13	0.14	78^{+6}_{-6}	14^{+2}_{-2}
27750	0.02	0.00	0.00	0.98	0.00	0.32	0.00	1.00	19^{+4}_{-2}	17^{+4}_{-2}
27778	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	96^{+2}_{-4}	32^{+2}_{-4}
27841	1.00	1.00	0.00	0.05	1.00	0.04	0.00	0.07	31^{+2}_{-2}	9^{+2}_{-2}
27850	1.00	1.00	0.06	0.03	1.00	0.09	0.08	0.02	48^{+8}_{-4}	14^{+2}_{-2}
27941	0.90	0.82	0.03	0.11	0.78	0.10	0.06	0.10	32^{+6}_{-6}	12^{+2}_{-6}
27989	0.71	0.00	0.00	1.00	0.00	1.00	0.00	1.00	27^{+2}_{-2}	26^{+2}_{-4}
28049	–	–	–	–	–	0.60	0.44	0.37	–	20^{+2}_{-2}
28244	0.63	0.30	0.20	0.25	0.39	0.48	0.36	0.28	28^{+10}_{-12}	18^{+2}_{-2}
28287	0.13	0.00	0.09	0.95	0.00	0.92	0.00	1.00	22^{+2}_{-2}	21^{+4}_{-2}
28370	0.99	0.40	0.00	0.00	1.00	0.00	0.00	0.00	28^{+2}_{-2}	3^{+2}_{-2}
28469	1.00	1.00	0.00	0.06	1.00	0.00	0.00	0.00	44^{+2}_{-2}	9^{+2}_{-2}
28539	–	–	–	–	–	0.86	0.59	0.29	–	21^{+4}_{-4}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
28562	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.02	13^{+2}_{-2}	10^{+2}_{-2}
28607	1.00	1.00	0.33	0.25	1.00	0.62	0.46	0.69	56^{+18}_{-4}	23^{+28}_{-2}
28675	1.00	1.00	1.00	0.35	1.00	1.00	1.00	1.00	175^{+2}_{-6}	62^{+2}_{-4}
28756	1.00	1.00	0.56	0.00	1.00	1.00	1.00	1.00	187^{+12}_{-14}	173^{+8}_{-20}
28769	0.97	0.00	0.80	1.00	0.97	0.00	0.00	0.00	34^{+6}_{-2}	9^{+2}_{-2}
28920	1.00	1.00	0.00	0.01	1.00	0.01	0.01	0.00	46^{+8}_{-6}	14^{+2}_{-2}
28930	1.00	1.00	0.00	0.59	1.00	0.00	0.00	1.00	49^{+2}_{-2}	15^{+2}_{-2}
28939	0.57	0.47	0.00	0.00	0.56	0.00	0.00	0.01	26^{+8}_{-8}	11^{+2}_{-2}
28949	0.00	0.00	0.00	0.68	0.00	0.01	0.00	0.80	13^{+2}_{-2}	13^{+2}_{-2}
28981	0.59	0.00	0.65	0.33	0.00	0.99	0.96	0.44	26^{+6}_{-4}	25^{+4}_{-4}
28984	0.11	0.00	0.00	0.09	0.00	0.12	0.00	0.94	21^{+4}_{-2}	15^{+4}_{-2}
29196	0.40	0.00	0.18	0.64	0.01	0.83	0.40	0.64	24^{+8}_{-4}	22^{+6}_{-2}
29201	0.93	0.54	0.78	0.09	0.05	1.00	1.00	0.05	41^{+24}_{-10}	41^{+20}_{-8}
29213	–	–	–	–	–	1.00	1.00	0.37	–	50^{+12}_{-16}
29263	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.00	93^{+10}_{-4}	84^{+6}_{-8}
29276	0.04	0.00	0.00	0.92	0.06	0.00	0.00	0.00	17^{+6}_{-4}	10^{+2}_{-2}
29317	1.00	0.07	1.00	1.00	1.00	1.00	1.00	1.00	69^{+24}_{-10}	51^{+24}_{-6}
29563	1.00	1.00	0.80	0.19	1.00	0.19	0.04	0.25	47^{+10}_{-8}	11^{+2}_{-2}
29581	1.00	1.00	0.00	0.00	1.00	0.01	0.00	0.00	28^{+2}_{-2}	3^{+4}_{-2}
29639	–	–	–	–	–	1.00	0.20	1.00	–	105^{+28}_{-30}
29678	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	57^{+8}_{-6}	55^{+4}_{-10}
29681	0.16	0.00	0.42	0.04	0.01	0.90	0.89	0.04	21^{+2}_{-2}	20^{+2}_{-2}
29694	1.00	1.00	0.54	1.00	0.65	1.00	0.96	1.00	44^{+8}_{-8}	37^{+10}_{-8}
29705	0.00	0.00	0.00	0.57	0.00	0.01	0.00	0.68	14^{+2}_{-4}	13^{+2}_{-2}
29731	1.00	0.99	0.97	1.00	1.00	1.00	0.78	1.00	68^{+42}_{-4}	61^{+30}_{-22}
29798	1.00	0.99	0.00	0.00	1.00	0.00	0.00	0.00	28^{+2}_{-2}	2^{+2}_{-2}
29807	0.03	0.02	0.00	0.00	0.00	1.00	0.00	0.00	20^{+2}_{-2}	19^{+2}_{-2}
29839	0.86	0.92	0.00	0.00	0.98	0.00	0.00	0.00	26^{+2}_{-2}	6^{+2}_{-2}
29849	0.07	0.00	0.00	0.54	0.00	0.17	0.00	0.53	14^{+4}_{-6}	12^{+4}_{-4}
29900	–	–	–	–	–	0.20	0.00	0.82	–	15^{+4}_{-4}
30015	0.17	0.01	0.22	0.11	0.00	0.50	0.50	0.11	20^{+4}_{-4}	18^{+2}_{-2}
30143	1.00	1.00	0.01	0.07	0.84	1.00	1.00	1.00	53^{+8}_{-4}	44^{+4}_{-8}
30169	0.38	0.05	0.03	0.81	0.06	0.59	0.02	0.82	22^{+12}_{-8}	20^{+8}_{-4}
30277	0.98	0.92	0.02	0.00	0.30	1.00	0.73	1.00	31^{+4}_{-4}	23^{+2}_{-2}
30331	1.00	0.53	0.01	0.03	1.00	0.02	0.01	0.03	27^{+2}_{-2}	11^{+2}_{-4}
30432	–	–	–	–	–	1.00	1.00	0.15	–	31^{+4}_{-4}
30433	0.38	0.00	0.01	0.93	0.01	0.68	0.01	0.89	23^{+10}_{-8}	22^{+8}_{-6}
30444	1.00	1.00	0.86	0.00	1.00	1.00	1.00	0.00	41^{+2}_{-2}	21^{+2}_{-2}
30484	0.21	0.01	0.26	0.12	0.00	0.68	0.60	0.11	22^{+2}_{-4}	20^{+4}_{-2}
30520	0.16	0.02	0.23	0.04	0.02	0.59	0.51	0.08	20^{+4}_{-2}	19^{+2}_{-4}
30715	–	–	–	–	–	0.34	0.06	0.57	–	14^{+8}_{-4}
30738	1.00	1.00	0.82	0.31	1.00	0.83	0.77	0.11	52^{+2}_{-4}	21^{+2}_{-2}
30788	0.54	0.07	0.01	0.17	0.45	0.00	0.00	0.00	26^{+4}_{-6}	12^{+2}_{-2}
30883	0.46	0.56	0.00	0.00	0.57	0.00	0.00	0.00	25^{+6}_{-4}	5^{+2}_{-2}
30943	0.88	0.80	0.01	0.11	0.92	0.03	0.01	0.04	30^{+4}_{-6}	7^{+6}_{-2}
30955	0.98	0.91	0.05	0.17	1.00	0.01	0.01	0.00	35^{+6}_{-4}	4^{+4}_{-2}
30961	0.71	0.45	0.03	0.13	0.76	0.07	0.01	0.17	28^{+4}_{-6}	7^{+2}_{-2}
31024	0.52	0.01	0.50	0.01	0.59	0.03	0.00	0.13	26^{+6}_{-6}	9^{+2}_{-2}
31068	0.46	0.00	0.05	1.00	0.32	0.01	0.00	0.92	24^{+4}_{-4}	13^{+2}_{-2}
31236	0.66	0.13	0.28	0.04	0.49	0.13	0.11	0.03	27^{+6}_{-6}	14^{+2}_{-2}
31407	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.17	14^{+2}_{-2}	11^{+2}_{-2}
31485	1.00	1.00	0.01	0.98	1.00	0.01	0.01	0.00	109^{+18}_{-12}	15^{+2}_{-2}
31498	–	–	–	–	–	1.00	0.95	0.00	–	20^{+2}_{-2}
31593	0.53	0.33	0.36	0.33	0.46	0.10	0.05	0.01	26^{+16}_{-8}	13^{+4}_{-2}
31613	–	–	–	–	–	0.93	0.36	0.66	–	21^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
31642	0.01	0.00	0.00	0.76	0.01	0.00	0.00	0.11	16^{+6}_{-2}	11^{+2}_{-2}
31658	0.51	0.10	0.14	0.24	0.39	0.13	0.06	0.28	25^{+8}_{-6}	12^{+2}_{-2}
31678	–	–	–	–	–	0.98	0.93	0.97	–	33^{+12}_{-8}
31766	0.95	0.93	0.00	0.01	0.94	0.01	0.01	0.01	35^{+4}_{-4}	7^{+2}_{-2}
31787	0.39	0.02	0.28	0.37	0.04	0.66	0.61	0.35	23^{+8}_{-6}	21^{+6}_{-2}
31789	0.10	0.00	0.00	0.91	0.00	0.44	0.00	0.96	18^{+6}_{-2}	17^{+4}_{-4}
31807	–	–	–	–	–	0.87	0.84	0.76	–	37^{+44}_{-10}
31853	0.56	0.33	0.00	0.00	0.42	0.00	0.00	0.00	26^{+6}_{-6}	14^{+2}_{-2}
31875	–	–	–	–	–	0.66	0.05	0.99	–	20^{+6}_{-4}
31884	–	–	–	–	–	0.19	0.02	0.64	–	13^{+6}_{-2}
32054	–	–	–	–	–	0.72	0.37	0.66	–	20^{+6}_{-2}
32067	0.39	0.00	0.24	0.94	0.02	0.96	0.56	0.93	24^{+6}_{-4}	24^{+4}_{-2}
32094	1.00	1.00	0.10	0.21	1.00	0.47	0.39	0.26	39^{+10}_{-4}	18^{+14}_{-4}
32220	0.81	0.26	0.49	0.25	0.78	0.26	0.17	0.19	30^{+8}_{-6}	12^{+2}_{-2}
32269	–	–	–	–	–	0.03	0.00	1.00	–	16^{+2}_{-2}
32300	0.87	0.45	0.49	0.06	0.88	0.06	0.05	0.05	32^{+6}_{-10}	8^{+2}_{-4}
32375	0.07	0.01	0.00	0.01	0.00	0.82	0.63	0.03	22^{+2}_{-2}	20^{+2}_{-4}
32494	1.00	1.00	0.57	1.00	0.33	1.00	1.00	1.00	127^{+18}_{-6}	125^{+14}_{-12}
32561	–	–	–	–	–	0.80	0.43	0.84	–	24^{+10}_{-8}
32586	0.52	0.21	0.12	0.03	0.59	0.03	0.01	0.02	26^{+6}_{-8}	6^{+2}_{-4}
32602	0.27	0.03	0.27	0.33	0.12	0.29	0.09	0.60	18^{+10}_{-8}	13^{+6}_{-4}
32631	0.99	0.01	0.77	0.80	0.96	0.62	0.12	0.75	33^{+10}_{-2}	20^{+6}_{-6}
32637	–	–	–	–	–	0.17	0.00	0.65	–	13^{+4}_{-4}
32648	0.29	0.00	0.03	0.99	0.00	0.98	0.00	1.00	24^{+2}_{-2}	21^{+2}_{-2}
32669	–	–	–	–	–	0.61	0.09	0.92	–	19^{+12}_{-4}
32740	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	35^{+2}_{-2}	23^{+2}_{-2}
32743	1.00	0.30	1.00	1.00	1.00	1.00	1.00	1.00	125^{+56}_{-26}	119^{+64}_{-36}
32753	0.00	0.00	0.00	0.94	0.00	0.19	0.00	0.92	16^{+2}_{-4}	16^{+2}_{-4}
32786	0.86	0.02	0.91	0.08	0.84	0.40	0.34	0.15	34^{+12}_{-10}	15^{+6}_{-2}
32821	–	–	–	–	–	1.00	1.00	0.10	–	34^{+6}_{-4}
32864	0.41	0.00	0.64	0.00	0.00	1.00	1.00	0.00	25^{+2}_{-2}	24^{+2}_{-2}
32877	–	–	–	–	–	0.62	0.46	0.05	–	19^{+4}_{-4}
32903	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.01	38^{+2}_{-2}	12^{+2}_{-2}
32920	–	–	–	–	–	0.59	0.51	0.21	–	20^{+10}_{-6}
32947	0.55	0.29	0.25	0.21	0.63	0.14	0.04	0.18	27^{+12}_{-8}	8^{+2}_{-4}
32949	0.13	0.00	0.60	0.01	0.00	1.00	1.00	0.01	22^{+2}_{-4}	22^{+2}_{-2}
33005	0.62	0.06	0.46	0.03	0.56	0.07	0.03	0.02	27^{+6}_{-6}	11^{+2}_{-2}
33006	0.70	0.00	0.66	1.00	0.55	0.00	0.00	0.00	26^{+4}_{-2}	12^{+2}_{-2}
33013	0.45	0.02	0.54	0.40	0.20	0.52	0.37	0.50	24^{+18}_{-6}	19^{+8}_{-6}
33036	0.36	0.00	0.48	0.24	0.05	0.57	0.42	0.22	22^{+10}_{-4}	19^{+2}_{-4}
33104	1.00	0.95	0.00	0.00	0.08	1.00	1.00	0.99	32^{+2}_{-2}	28^{+2}_{-2}
33117	–	–	–	–	–	0.99	0.11	0.99	–	23^{+2}_{-2}
33219	1.00	1.00	0.00	0.11	1.00	0.00	0.00	0.00	40^{+2}_{-2}	4^{+2}_{-2}
33263	–	–	–	–	–	1.00	0.63	1.00	–	96^{+66}_{-32}
33274	–	–	–	–	–	0.39	0.12	0.60	–	15^{+12}_{-4}
33300	1.00	0.99	0.93	0.15	1.00	0.06	0.04	0.01	67^{+18}_{-12}	15^{+2}_{-2}
33313	–	–	–	–	–	0.51	0.19	0.74	–	17^{+16}_{-2}
33377	1.00	1.00	0.19	0.42	1.00	1.00	1.00	0.00	52^{+6}_{-4}	27^{+2}_{-2}
33398	–	–	–	–	–	0.99	0.99	0.00	–	37^{+10}_{-12}
33438	–	–	–	–	–	0.97	0.67	0.95	–	25^{+6}_{-2}
33490	1.00	0.99	0.99	0.09	1.00	0.11	0.10	0.10	49^{+10}_{-10}	9^{+2}_{-4}
33509	0.96	0.55	0.71	0.00	0.95	0.01	0.01	0.03	34^{+8}_{-4}	11^{+2}_{-2}
33577	1.00	0.98	0.14	0.00	0.00	1.00	1.00	1.00	32^{+2}_{-2}	27^{+2}_{-2}
33639	–	–	–	–	–	1.00	1.00	0.97	–	91^{+54}_{-18}
33657	0.75	0.68	0.02	0.05	0.78	0.19	0.18	0.05	30^{+10}_{-8}	9^{+8}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
33700	–	–	–	–	–	0.66	0.42	0.81	–	23^{+16}_{-8}
33754	0.57	0.26	0.06	0.04	0.63	0.02	0.02	0.03	26^{+6}_{-6}	4^{+2}_{-2}
33774	1.00	0.94	0.14	1.00	0.23	1.00	1.00	1.00	44^{+2}_{-6}	41^{+2}_{-2}
33789	0.99	0.14	0.96	1.00	0.00	1.00	1.00	1.00	45^{+14}_{-12}	44^{+18}_{-10}
33887	–	–	–	–	–	1.00	1.00	0.00	–	21^{+2}_{-2}
33927	1.00	0.00	1.00	0.13	0.55	0.97	0.96	0.00	31^{+2}_{-2}	20^{+2}_{-2}
33937	1.00	0.04	0.00	1.00	0.00	1.00	0.00	1.00	45^{+16}_{-8}	42^{+14}_{-12}
33953	0.55	0.04	0.48	0.09	0.63	0.09	0.04	0.12	26^{+6}_{-8}	5^{+2}_{-2}
33987	0.16	0.05	0.02	0.62	0.01	0.44	0.19	0.60	18^{+4}_{-6}	17^{+6}_{-4}
34026	0.78	0.44	0.06	0.21	0.91	0.09	0.03	0.15	28^{+8}_{-4}	5^{+4}_{-2}
34055	1.00	1.00	0.00	0.99	1.00	0.31	0.00	0.81	41^{+4}_{-4}	16^{+6}_{-4}
34080	–	–	–	–	–	0.67	0.56	0.55	–	24^{+14}_{-10}
34088	0.11	0.00	0.27	0.03	0.00	0.63	0.56	0.01	21^{+4}_{-2}	19^{+2}_{-2}
34168	0.68	0.44	0.00	0.00	0.23	0.85	0.33	0.00	27^{+4}_{-4}	19^{+2}_{-2}
34247	0.12	0.00	0.16	0.19	0.00	0.74	0.40	0.17	20^{+4}_{-2}	19^{+2}_{-2}
34342	–	–	–	–	–	1.00	0.00	1.00	–	28^{+4}_{-4}
34485	1.00	0.99	1.00	0.77	1.00	0.11	0.03	0.37	57^{+8}_{-8}	10^{+4}_{-2}
34536	1.00	1.00	0.01	0.01	0.88	0.21	0.14	0.02	34^{+2}_{-4}	14^{+4}_{-2}
34555	–	–	–	–	–	1.00	0.00	1.00	–	22^{+2}_{-2}
34561	0.37	0.03	0.23	0.02	0.51	0.01	0.00	0.02	24^{+8}_{-6}	2^{+2}_{-2}
34611	–	–	–	–	–	1.00	1.00	1.00	–	65^{+22}_{-30}
34729	–	–	–	–	–	0.46	0.06	0.72	–	17^{+14}_{-6}
34735	1.00	1.00	0.00	0.00	1.00	0.02	0.00	0.33	32^{+2}_{-2}	10^{+2}_{-4}
34752	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	55^{+2}_{-2}	42^{+2}_{-2}
34924	0.35	0.22	0.27	0.04	0.12	0.57	0.54	0.06	20^{+12}_{-6}	19^{+12}_{-4}
34986	0.85	0.22	0.76	0.07	0.85	0.05	0.05	0.07	33^{+10}_{-6}	4^{+2}_{-2}
35011	0.23	0.00	0.00	0.98	0.00	0.63	0.00	0.98	20^{+8}_{-4}	20^{+4}_{-8}
35013	–	–	–	–	–	0.59	0.60	0.09	–	21^{+16}_{-8}
35051	0.55	0.05	0.60	0.44	0.47	0.41	0.20	0.59	27^{+14}_{-10}	15^{+10}_{-6}
35081	–	–	–	–	–	1.00	1.00	0.00	–	28^{+6}_{-4}
35121	0.46	0.05	0.32	0.53	0.16	0.52	0.06	0.82	24^{+12}_{-4}	18^{+8}_{-2}
35142	–	–	–	–	–	0.66	0.30	0.91	–	24^{+16}_{-10}
35149	0.96	0.76	0.83	0.14	0.10	1.00	1.00	0.16	47^{+30}_{-10}	46^{+24}_{-12}
35194	1.00	1.00	0.00	0.76	1.00	1.00	1.00	0.00	47^{+6}_{-6}	22^{+2}_{-2}
35217	–	–	–	–	–	0.59	0.08	0.84	–	21^{+18}_{-8}
35219	0.02	0.00	0.00	1.00	0.00	0.02	0.00	0.79	20^{+2}_{-2}	17^{+2}_{-2}
35241	1.00	1.00	0.00	0.00	0.49	1.00	1.00	0.00	32^{+2}_{-2}	22^{+2}_{-2}
35278	0.04	0.00	0.00	0.57	0.01	0.04	0.00	0.38	16^{+2}_{-8}	10^{+2}_{-4}
35497	0.78	0.00	0.92	0.06	0.89	0.00	0.00	0.00	28^{+2}_{-6}	2^{+2}_{-2}
35536	–	–	–	–	–	1.00	0.95	1.00	–	26^{+2}_{-2}
35551	0.72	0.21	0.00	0.88	0.76	0.04	0.00	0.27	28^{+4}_{-4}	9^{+4}_{-4}
35584	0.54	0.43	0.03	0.11	0.08	0.72	0.64	0.08	26^{+10}_{-8}	21^{+8}_{-6}
35655	–	–	–	–	–	0.82	0.51	0.15	–	20^{+2}_{-2}
35712	0.99	0.90	0.28	0.02	0.98	0.00	0.00	0.84	36^{+8}_{-4}	12^{+2}_{-2}
35762	1.00	1.00	0.08	0.44	1.00	0.99	0.64	1.00	71^{+20}_{-8}	45^{+30}_{-14}
35767	–	–	–	–	–	0.29	0.10	0.56	–	12^{+8}_{-2}
35796	0.78	0.00	0.97	0.01	0.00	1.00	1.00	0.00	28^{+4}_{-6}	27^{+4}_{-4}
35951	1.00	1.00	0.00	0.74	0.05	1.00	0.99	0.76	34^{+4}_{-6}	28^{+6}_{-4}
35975	1.00	0.99	0.77	0.01	0.96	0.12	0.10	0.02	42^{+4}_{-8}	9^{+2}_{-2}
36024	0.03	0.00	0.00	0.84	0.00	0.19	0.00	0.82	15^{+4}_{-4}	14^{+6}_{-2}
36040	0.69	0.14	0.44	0.17	0.77	0.11	0.03	0.17	28^{+6}_{-8}	3^{+2}_{-2}
36041	0.81	0.20	0.00	0.00	0.99	0.00	0.00	0.00	26^{+2}_{-2}	2^{+2}_{-2}
36089	–	–	–	–	–	0.67	0.59	0.08	–	20^{+6}_{-4}
36158	–	–	–	–	–	1.00	0.81	1.00	–	83^{+62}_{-24}
36195	–	–	–	–	–	0.39	0.09	0.56	–	14^{+10}_{-6}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
36211	0.27	0.09	0.03	0.00	0.00	0.61	0.61	0.00	22^{+4}_{-6}	19^{+4}_{-4}
36223	0.24	0.01	0.13	0.63	0.08	0.33	0.06	0.62	17^{+8}_{-8}	14^{+8}_{-4}
36235	0.80	0.31	0.52	0.04	0.86	0.02	0.02	0.02	30^{+6}_{-8}	6^{+2}_{-2}
36243	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	80^{+10}_{-6}	66^{+10}_{-8}
36246	0.75	0.00	0.20	0.97	0.51	0.20	0.00	0.82	28^{+4}_{-6}	14^{+4}_{-4}
36323	–	–	–	–	–	0.41	0.23	0.55	–	14^{+14}_{-4}
36341	1.00	0.00	1.00	1.00	1.00	0.54	0.00	0.86	46^{+4}_{-6}	18^{+2}_{-4}
36369	1.00	1.00	0.03	0.98	1.00	0.22	0.15	0.15	73^{+4}_{-6}	15^{+2}_{-2}
36437	0.46	0.01	0.49	0.14	0.52	0.10	0.09	0.12	24^{+10}_{-8}	6^{+4}_{-2}
36514	0.16	0.00	0.04	1.00	0.04	0.44	0.00	1.00	20^{+4}_{-2}	17^{+4}_{-2}
36629	0.74	0.03	0.15	0.99	0.22	0.88	0.09	0.99	36^{+22}_{-20}	36^{+30}_{-8}
36682	–	–	–	–	–	0.68	0.41	0.82	–	22^{+8}_{-8}
36693	0.48	0.06	0.00	0.00	0.52	0.00	0.00	0.03	25^{+4}_{-2}	9^{+2}_{-2}
36778	0.85	0.00	0.91	0.00	0.88	0.00	0.00	0.00	30^{+4}_{-6}	6^{+2}_{-2}
36798	–	–	–	–	–	0.40	0.00	1.00	–	17^{+4}_{-2}
36799	–	–	–	–	–	0.97	0.80	0.98	–	30^{+14}_{-4}
36836	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	23^{+2}_{-2}	23^{+2}_{-2}
36885	–	–	–	–	–	0.85	0.52	0.69	–	23^{+8}_{-4}
36986	0.00	0.00	0.00	0.53	0.00	0.01	0.00	0.48	17^{+2}_{-2}	13^{+2}_{-2}
37017	–	–	–	–	–	0.85	0.81	0.00	–	22^{+4}_{-6}
37070	–	–	–	–	–	0.73	0.70	0.31	–	27^{+22}_{-8}
37104	–	–	–	–	–	0.95	0.61	1.00	–	30^{+18}_{-6}
37169	0.22	0.02	0.06	0.97	0.08	0.31	0.09	0.90	21^{+6}_{-4}	15^{+4}_{-4}
37245	0.46	0.32	0.11	0.85	0.07	0.58	0.45	0.73	25^{+18}_{-6}	23^{+20}_{-10}
37315	–	–	–	–	–	1.00	0.94	1.00	–	56^{+22}_{-12}
37345	0.72	0.79	0.00	0.00	0.02	1.00	1.00	0.00	27^{+4}_{-4}	23^{+2}_{-2}
37357	–	–	–	–	–	0.55	0.49	0.54	–	22^{+18}_{-8}
37378	–	–	–	–	–	1.00	1.00	0.00	–	26^{+2}_{-4}
37385	0.45	0.00	0.65	0.00	0.13	0.42	0.37	0.00	25^{+4}_{-4}	17^{+4}_{-2}
37428	1.00	0.82	0.09	0.10	0.96	0.26	0.02	0.57	29^{+2}_{-2}	13^{+6}_{-6}
37444	0.53	0.05	0.62	0.03	0.56	0.10	0.08	0.04	26^{+8}_{-10}	3^{+2}_{-2}
37524	1.00	0.80	0.80	0.47	0.87	0.40	0.31	0.36	44^{+6}_{-8}	16^{+14}_{-4}
37623	0.26	0.00	0.50	0.00	0.17	0.00	0.00	0.00	22^{+6}_{-2}	12^{+2}_{-2}
37650	0.56	0.07	0.05	0.17	0.49	0.05	0.02	0.03	26^{+4}_{-4}	12^{+2}_{-2}
37656	–	–	–	–	–	0.00	0.00	1.00	–	14^{+2}_{-2}
37677	0.67	0.05	0.61	0.79	0.39	0.81	0.53	0.83	31^{+20}_{-4}	24^{+10}_{-6}
37886	1.00	1.00	0.00	0.15	1.00	0.00	0.00	0.14	47^{+6}_{-4}	10^{+2}_{-2}
37925	0.43	0.01	0.62	0.15	0.52	0.11	0.04	0.26	24^{+8}_{-6}	7^{+4}_{-4}
37954	–	–	–	–	–	0.46	0.21	0.66	–	17^{+16}_{-6}
37995	0.64	0.00	0.78	0.00	0.16	0.66	0.68	0.00	27^{+4}_{-6}	20^{+2}_{-4}
38031	0.44	0.00	0.02	0.89	0.40	0.02	0.01	0.29	25^{+4}_{-2}	11^{+2}_{-2}
38062	–	–	–	–	–	0.94	0.92	0.02	–	23^{+4}_{-4}
38071	–	–	–	–	–	1.00	0.94	1.00	–	37^{+16}_{-8}
38081	–	–	–	–	–	1.00	1.00	0.10	–	29^{+2}_{-2}
38184	0.98	0.98	0.01	0.07	0.86	0.52	0.42	0.00	34^{+8}_{-2}	18^{+2}_{-4}
38240	0.83	0.47	0.09	0.00	0.14	0.83	0.83	0.00	29^{+6}_{-4}	22^{+4}_{-6}
38257	1.00	0.99	0.78	1.00	0.01	1.00	0.83	1.00	78^{+50}_{-30}	75^{+56}_{-30}
38518	0.43	0.00	0.65	0.00	0.54	0.00	0.00	0.00	24^{+6}_{-6}	3^{+2}_{-2}
38608	–	–	–	–	–	0.99	0.31	1.00	–	26^{+6}_{-4}
38732	0.52	0.03	0.11	0.98	0.04	0.78	0.06	0.99	25^{+12}_{-8}	24^{+10}_{-8}
38746	–	–	–	–	–	0.56	0.52	0.49	–	21^{+16}_{-12}
38770	–	–	–	–	–	0.00	0.00	0.92	–	14^{+2}_{-2}
38855	0.90	0.52	0.50	0.02	0.91	0.01	0.00	0.19	32^{+8}_{-6}	10^{+2}_{-2}
38923	–	–	–	–	–	0.35	0.03	0.86	–	15^{+4}_{-4}
38988	–	–	–	–	–	0.52	0.48	0.02	–	18^{+4}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
39121	–	–	–	–	–	1.00	1.00	0.14	–	28^{+6}_{-2}
39184	0.23	0.00	0.19	0.92	0.02	0.39	0.00	1.00	23^{+4}_{-4}	18^{+2}_{-2}
39270	–	–	–	–	–	1.00	1.00	0.01	–	34^{+12}_{-4}
39279	1.00	0.00	0.00	1.00	0.00	0.97	0.00	1.00	32^{+4}_{-2}	23^{+4}_{-2}
39376	–	–	–	–	–	0.88	0.27	1.00	–	28^{+16}_{-6}
39386	0.41	0.00	0.43	0.68	0.47	0.00	0.00	0.00	24^{+6}_{-4}	6^{+2}_{-2}
39420	0.00	0.00	0.00	1.00	0.00	0.46	0.00	1.00	18^{+2}_{-2}	18^{+2}_{-2}
39429	1.00	0.01	1.00	1.00	1.00	1.00	1.00	1.00	57^{+4}_{-2}	38^{+2}_{-2}
39438	0.46	0.00	0.41	0.90	0.52	0.00	0.00	0.01	25^{+6}_{-4}	7^{+2}_{-2}
39734	0.04	0.00	0.02	0.54	0.01	0.05	0.00	0.42	16^{+4}_{-6}	11^{+4}_{-2}
39776	–	–	–	–	–	0.71	0.56	0.71	–	26^{+24}_{-6}
39831	–	–	–	–	–	0.54	0.53	0.14	–	19^{+14}_{-8}
39863	0.04	0.00	0.00	0.85	0.00	0.54	0.00	1.00	21^{+2}_{-2}	18^{+2}_{-2}
39866	0.27	0.29	0.03	0.03	0.02	0.58	0.59	0.04	20^{+6}_{-6}	19^{+6}_{-8}
39943	0.04	0.00	0.00	0.54	0.00	0.26	0.00	0.63	16^{+4}_{-4}	15^{+4}_{-4}
39958	0.07	0.01	0.00	0.28	0.00	0.22	0.00	0.61	15^{+4}_{-4}	13^{+4}_{-4}
40003	–	–	–	–	–	1.00	1.00	0.00	–	31^{+6}_{-6}
40056	0.33	0.02	0.07	0.79	0.08	0.63	0.02	0.77	21^{+12}_{-4}	21^{+10}_{-6}
40096	0.13	0.00	0.06	0.70	0.03	0.34	0.03	0.78	18^{+8}_{-4}	16^{+6}_{-4}
40215	0.48	0.00	0.00	0.00	0.00	1.00	1.00	0.00	25^{+2}_{-2}	24^{+2}_{-2}
40264	–	–	–	–	–	0.66	0.46	0.65	–	21^{+12}_{-4}
40326	1.00	1.00	0.01	0.00	0.00	1.00	1.00	0.00	45^{+2}_{-2}	45^{+2}_{-2}
40341	1.00	0.01	1.00	0.03	1.00	0.12	0.12	0.02	74^{+6}_{-6}	9^{+4}_{-4}
40430	1.00	1.00	0.41	1.00	0.25	1.00	1.00	1.00	55^{+6}_{-4}	52^{+4}_{-6}
40486	0.42	0.52	0.00	0.00	0.00	0.92	0.91	0.00	25^{+4}_{-2}	21^{+4}_{-2}
40542	–	–	–	–	–	0.72	0.37	0.78	–	24^{+14}_{-12}
40572	–	–	–	–	–	1.00	1.00	0.42	–	51^{+14}_{-4}
40628	1.00	0.95	1.00	0.14	0.02	1.00	1.00	0.12	73^{+28}_{-26}	73^{+42}_{-14}
40740	–	–	–	–	–	0.99	0.80	0.03	–	21^{+2}_{-2}
40743	0.10	0.01	0.06	1.00	0.02	0.15	0.06	0.71	16^{+4}_{-2}	13^{+2}_{-2}
40817	0.79	0.00	0.93	0.00	0.79	0.00	0.00	0.00	29^{+6}_{-4}	10^{+2}_{-2}
40851	–	–	–	–	–	0.59	0.50	0.33	–	20^{+16}_{-8}
40929	–	–	–	–	–	1.00	0.00	1.00	–	23^{+2}_{-2}
41103	–	–	–	–	–	0.84	0.84	0.40	–	36^{+34}_{-10}
41145	–	–	–	–	–	0.54	0.55	0.00	–	19^{+6}_{-4}
41168	0.65	0.05	0.65	0.04	0.60	0.08	0.08	0.03	27^{+6}_{-8}	4^{+2}_{-2}
41221	–	–	–	–	–	1.00	0.98	1.00	–	38^{+16}_{-6}
41363	1.00	1.00	0.17	1.00	0.01	1.00	1.00	1.00	63^{+26}_{-14}	61^{+26}_{-14}
41463	0.16	0.00	0.00	0.82	0.00	0.40	0.02	0.76	19^{+6}_{-4}	17^{+8}_{-4}
41599	0.88	0.69	0.67	0.03	0.42	0.95	0.93	0.04	39^{+16}_{-14}	34^{+16}_{-14}
41603	1.00	1.00	0.02	0.52	0.05	1.00	1.00	0.30	43^{+12}_{-4}	40^{+10}_{-8}
41634	–	–	–	–	–	0.97	0.87	0.85	–	30^{+14}_{-6}
41656	–	–	–	–	–	0.62	0.62	0.23	–	22^{+12}_{-10}
41704	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	35^{+2}_{-2}	29^{+2}_{-2}
41737	0.08	0.01	0.00	0.51	0.00	0.18	0.03	0.49	15^{+4}_{-6}	11^{+6}_{-4}
41823	–	–	–	–	–	0.03	0.00	0.66	–	12^{+2}_{-4}
41878	1.00	0.06	0.97	0.37	0.97	0.14	0.10	0.30	51^{+6}_{-6}	7^{+6}_{-2}
42008	0.67	0.00	0.00	1.00	0.23	0.60	0.00	0.97	28^{+8}_{-6}	20^{+4}_{-8}
42041	–	–	–	–	–	0.46	0.30	0.50	–	17^{+8}_{-10}
42129	0.02	0.00	0.01	0.74	0.01	0.07	0.00	0.29	18^{+6}_{-2}	14^{+4}_{-2}
42211	0.13	0.09	0.00	0.00	0.01	0.01	0.00	1.00	22^{+2}_{-2}	16^{+2}_{-2}
42239	0.90	0.20	0.12	0.99	0.00	1.00	0.85	1.00	32^{+14}_{-4}	33^{+8}_{-4}
42251	0.94	0.00	0.96	0.66	0.94	0.00	0.00	0.00	49^{+20}_{-14}	8^{+2}_{-2}
42270	–	–	–	–	–	0.97	0.07	1.00	–	30^{+10}_{-10}
42316	0.88	0.21	0.73	0.18	0.62	0.26	0.25	0.17	32^{+4}_{-10}	8^{+12}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
42331	–	–	–	–	–	1.00	1.00	1.00	–	103^{+70}_{-24}
42354	–	–	–	–	–	0.69	0.14	0.67	–	21^{+10}_{-4}
42390	–	–	–	–	–	0.74	0.74	0.14	–	29^{+26}_{-12}
42489	1.00	1.00	0.16	0.00	1.00	1.00	1.00	0.94	57^{+4}_{-4}	35^{+6}_{-6}
42515	1.00	1.00	0.55	0.00	0.85	1.00	1.00	0.00	37^{+4}_{-2}	24^{+2}_{-2}
42530	–	–	–	–	–	1.00	1.00	1.00	–	63^{+30}_{-8}
42605	1.00	0.41	1.00	0.18	1.00	0.65	0.65	0.24	48^{+14}_{-10}	25^{+22}_{-12}
42712	0.46	0.05	0.57	0.22	0.32	0.10	0.08	0.18	25^{+4}_{-8}	9^{+2}_{-2}
43030	–	–	–	–	–	1.00	1.00	1.00	–	79^{+17}_{-31}
43023	0.02	0.00	0.00	0.99	0.00	0.13	0.00	0.99	18^{+2}_{-2}	16^{+2}_{-2}
43057	0.46	0.37	0.20	0.31	0.20	0.56	0.54	0.31	22^{+18}_{-12}	20^{+22}_{-4}
43114	0.78	0.00	0.86	0.13	0.83	0.03	0.01	0.04	33^{+12}_{-12}	7^{+4}_{-4}
43158	1.00	0.47	0.92	1.00	0.96	0.84	0.36	1.00	52^{+8}_{-8}	25^{+10}_{-6}
43177	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	36^{+2}_{-2}	36^{+2}_{-2}
43434	–	–	–	–	–	0.43	0.11	0.61	–	15^{+16}_{-8}
43459	–	–	–	–	–	0.64	0.29	0.35	–	19^{+4}_{-4}
43494	–	–	–	–	–	0.76	0.38	0.67	–	22^{+8}_{-4}
43513	–	–	–	–	–	0.24	0.00	0.85	–	15^{+4}_{-4}
43589	0.04	0.00	0.02	0.55	0.00	0.10	0.00	0.62	18^{+6}_{-2}	14^{+2}_{-4}
43782	–	–	–	–	–	0.62	0.59	0.42	–	22^{+18}_{-10}
43866	1.00	0.76	1.00	0.72	0.93	0.96	0.13	1.00	53^{+22}_{-8}	41^{+28}_{-18}
43868	0.96	0.73	0.66	0.99	0.08	1.00	0.98	1.00	42^{+24}_{-10}	44^{+22}_{-14}
43902	0.98	0.87	0.43	0.00	0.89	0.61	0.00	1.00	35^{+6}_{-4}	18^{+2}_{-2}
43927	–	–	–	–	–	0.96	0.91	0.14	–	28^{+8}_{-8}
43928	1.00	1.00	0.04	0.93	0.49	1.00	1.00	1.00	68^{+30}_{-10}	63^{+28}_{-14}
43955	0.97	0.00	0.98	0.01	0.97	0.00	0.00	0.03	34^{+4}_{-6}	10^{+2}_{-2}
44105	0.53	0.51	0.05	0.13	0.22	0.56	0.39	0.38	25^{+10}_{-8}	18^{+10}_{-2}
44181	0.42	0.37	0.02	0.37	0.02	0.64	0.55	0.37	23^{+14}_{-8}	21^{+14}_{-6}
44231	1.00	0.00	0.53	1.00	0.25	0.97	0.95	0.33	32^{+4}_{-2}	23^{+2}_{-2}
44251	0.50	0.30	0.11	0.50	0.08	0.57	0.44	0.51	26^{+10}_{-14}	20^{+16}_{-6}
44368	0.81	0.25	0.71	0.89	0.54	0.71	0.49	0.97	31^{+12}_{-10}	23^{+14}_{-4}
44580	–	–	–	–	–	1.00	1.00	0.43	–	55^{+36}_{-18}
44659	0.00	0.00	0.00	0.03	0.00	0.05	0.00	0.85	17^{+2}_{-2}	13^{+4}_{-2}
44669	–	–	–	–	–	0.04	0.00	0.96	–	13^{+2}_{-2}
44676	–	–	–	–	–	1.00	1.00	0.97	–	30^{+2}_{-2}
44685	0.67	0.36	0.04	0.08	0.03	1.00	0.71	0.92	27^{+4}_{-4}	24^{+2}_{-2}
44700	0.14	0.03	0.00	0.02	0.00	0.86	0.00	1.00	23^{+2}_{-2}	20^{+2}_{-2}
44784	1.00	1.00	0.03	0.72	1.00	0.77	0.00	0.96	55^{+4}_{-4}	24^{+8}_{-10}
44832	–	–	–	–	–	0.89	0.89	0.26	–	31^{+16}_{-12}
44879	–	–	–	–	–	0.92	0.92	0.39	–	38^{+26}_{-18}
45104	1.00	0.08	0.93	0.98	1.00	1.00	1.00	0.02	39^{+3}_{-5}	29^{+3}_{-7}
45105	0.59	0.23	0.39	0.50	0.13	0.58	0.59	0.22	28^{+18}_{-4}	21^{+26}_{-2}
45119	–	–	–	–	–	0.78	0.56	0.87	–	27^{+18}_{-10}
45145	–	–	–	–	–	0.37	0.02	0.69	–	15^{+8}_{-4}
45219	0.01	0.00	0.00	1.00	0.00	0.81	0.00	1.00	19^{+2}_{-2}	18^{+2}_{-2}
45290	0.91	0.07	0.00	0.00	0.01	0.83	0.15	0.60	28^{+2}_{-2}	20^{+2}_{-4}
45299	1.00	0.41	0.98	1.00	0.07	1.00	0.28	1.00	88^{+54}_{-28}	88^{+68}_{-18}
45328	0.71	0.79	0.00	0.00	0.00	1.00	1.00	0.00	26^{+2}_{-2}	25^{+2}_{-2}
45343	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	32^{+2}_{-2}	31^{+2}_{-2}
45372	–	–	–	–	–	0.98	0.96	0.45	–	39^{+20}_{-10}
45486	–	–	–	–	–	0.74	0.71	0.13	–	26^{+26}_{-8}
45505	0.71	0.00	0.61	0.92	0.57	0.24	0.00	0.99	28^{+6}_{-6}	16^{+2}_{-2}
45563	1.00	1.00	0.96	0.96	1.00	1.00	1.00	1.00	126^{+6}_{-4}	57^{+20}_{-6}
45631	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	46^{+6}_{-6}	3^{+2}_{-2}
45659	–	–	–	–	–	0.93	0.94	0.02	–	28^{+10}_{-8}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
45681	–	–	–	–	–	0.40	0.00	0.61	–	17^{+4}_{-4}
45690	–	–	–	–	–	0.99	1.00	0.00	–	22^{+2}_{-2}
45731	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	84^{+8}_{-4}	62^{+6}_{-6}
45734	0.02	0.03	0.00	0.00	0.00	0.84	0.67	0.00	20^{+4}_{-2}	20^{+2}_{-2}
45742	0.96	0.95	0.02	0.72	0.05	0.99	0.99	0.71	49^{+28}_{-14}	48^{+24}_{-18}
45776	–	–	–	–	–	0.64	0.63	0.00	–	20^{+6}_{-4}
45799	–	–	–	–	–	0.01	0.00	0.98	–	13^{+2}_{-2}
45817	0.50	0.26	0.09	0.40	0.01	0.64	0.54	0.29	24^{+8}_{-10}	21^{+10}_{-8}
45880	–	–	–	–	–	0.99	0.95	1.00	–	52^{+40}_{-22}
45924	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	89^{+4}_{-4}	80^{+4}_{-4}
45934	–	–	–	–	–	0.53	0.49	0.09	–	18^{+4}_{-2}
45963	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	43^{+2}_{-2}	42^{+2}_{-2}
45969	–	–	–	–	–	0.78	0.67	0.69	–	28^{+20}_{-8}
46130	–	–	–	–	–	0.59	0.05	0.25	–	19^{+4}_{-2}
46224	–	–	–	–	–	0.69	0.66	0.33	–	23^{+20}_{-6}
46284	–	–	–	–	–	1.00	1.00	0.10	–	37^{+16}_{-6}
46296	0.84	0.79	0.05	0.86	0.12	0.93	0.92	0.84	42^{+32}_{-16}	42^{+34}_{-14}
46305	–	–	–	–	–	1.00	0.27	1.00	–	252^{+157}_{-64}
46329	0.92	0.07	0.13	1.00	0.35	0.96	0.09	1.00	44^{+20}_{-18}	37^{+24}_{-12}
46348	–	–	–	–	–	1.00	1.00	0.16	–	38^{+12}_{-12}
46505	–	–	–	–	–	1.00	1.00	0.03	–	27^{+6}_{-4}
46614	–	–	–	–	–	0.60	0.57	0.08	–	20^{+16}_{-8}
46659	–	–	–	–	–	1.00	0.99	1.00	–	91^{+34}_{-14}
46661	–	–	–	–	–	0.66	0.27	0.09	–	19^{+2}_{-2}
46691	–	–	–	–	–	0.30	0.06	0.54	–	11^{+10}_{-4}
46760	0.99	0.97	0.02	0.91	0.03	1.00	1.00	0.74	36^{+12}_{-6}	34^{+10}_{-4}
46905	–	–	–	–	–	0.60	0.47	0.59	–	22^{+22}_{-10}
46912	–	–	–	–	–	0.98	0.96	0.00	–	25^{+4}_{-4}
46928	1.00	1.00	1.00	0.19	1.00	0.00	0.00	0.00	50^{+4}_{-6}	13^{+2}_{-2}
46977	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	33^{+2}_{-2}	23^{+2}_{-2}
47005	0.82	0.11	0.82	0.03	0.79	0.13	0.11	0.02	64^{+80}_{-10}	7^{+6}_{-4}
47018	0.99	0.11	0.87	0.99	0.98	0.17	0.11	0.00	36^{+4}_{-4}	13^{+4}_{-4}
47131	–	–	–	–	–	1.00	1.00	0.37	–	42^{+10}_{-4}
47155	–	–	–	–	–	1.00	1.00	0.00	–	31^{+6}_{-2}
47192	–	–	–	–	–	0.77	0.68	0.05	–	23^{+12}_{-8}
47193	0.00	0.00	0.00	0.00	0.00	0.95	0.95	0.00	21^{+2}_{-2}	21^{+2}_{-2}
47267	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	42^{+2}_{-2}	41^{+2}_{-2}
47296	–	–	–	–	–	0.97	0.48	1.00	–	28^{+12}_{-4}
47301	0.36	0.00	0.00	1.00	0.00	0.97	0.00	1.00	24^{+2}_{-4}	22^{+4}_{-2}
47370	–	–	–	–	–	0.72	0.71	0.05	–	23^{+10}_{-10}
47451	–	–	–	–	–	0.72	0.43	0.80	–	25^{+16}_{-10}
47701	0.06	0.00	0.00	0.73	0.01	0.00	0.00	0.00	20^{+2}_{-4}	16^{+2}_{-2}
47809	–	–	–	–	–	0.75	0.00	1.00	–	20^{+2}_{-4}
47868	0.83	0.74	0.04	0.15	0.04	0.82	0.84	0.19	33^{+14}_{-8}	28^{+16}_{-10}
47880	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	55^{+12}_{-10}	55^{+12}_{-8}
47881	1.00	1.00	0.23	0.90	0.12	1.00	1.00	0.99	85^{+30}_{-18}	84^{+36}_{-16}
47904	0.91	0.02	0.98	0.01	0.78	0.21	0.05	1.00	31^{+6}_{-4}	15^{+2}_{-2}
47950	–	–	–	–	–	0.96	0.14	1.00	–	42^{+38}_{-8}
48129	0.39	0.00	0.00	0.92	0.29	0.03	0.01	0.00	23^{+6}_{-4}	11^{+4}_{-2}
48228	–	–	–	–	–	0.55	0.52	0.04	–	18^{+2}_{-4}
48256	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	33^{+4}_{-4}	35^{+4}_{-2}
48374	0.01	0.01	0.00	0.00	0.00	0.55	0.43	0.00	19^{+4}_{-2}	18^{+4}_{-2}
48436	1.00	1.00	0.01	0.99	1.00	0.66	0.62	0.15	46^{+2}_{-2}	19^{+2}_{-2}
48440	–	–	–	–	–	0.81	0.51	0.95	–	29^{+22}_{-14}
48469	0.83	0.11	0.56	0.37	0.70	0.34	0.17	0.42	30^{+6}_{-6}	16^{+6}_{-8}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
48527	0.28	0.00	0.00	1.00	0.00	0.78	0.01	1.00	22^{+4}_{-6}	21^{+4}_{-4}
48547	–	–	–	–	–	0.35	0.01	0.75	–	15^{+6}_{-8}
48589	0.27	0.17	0.00	0.00	0.00	0.99	0.98	0.00	23^{+4}_{-2}	21^{+2}_{-2}
48715	1.00	0.40	0.94	0.07	0.97	0.49	0.05	0.87	37^{+4}_{-6}	18^{+4}_{-4}
48730	0.67	0.01	0.01	0.98	0.04	0.94	0.03	0.98	29^{+14}_{-4}	28^{+12}_{-6}
48745	1.00	0.11	0.99	1.00	0.99	0.43	0.11	0.98	64^{+2}_{-4}	17^{+4}_{-2}
48835	0.02	0.00	0.00	0.69	0.00	0.32	0.00	0.74	18^{+4}_{-2}	17^{+4}_{-2}
48851	1.00	0.93	0.55	0.36	0.00	1.00	1.00	0.91	47^{+28}_{-6}	45^{+22}_{-10}
48868	–	–	–	–	–	0.61	0.57	0.01	–	22^{+14}_{-8}
49160	0.89	0.94	0.00	0.00	0.00	1.00	1.00	0.00	28^{+2}_{-4}	28^{+2}_{-2}
49184	–	–	–	–	–	0.57	0.22	0.38	–	19^{+4}_{-2}
49231	–	–	–	–	–	0.52	0.04	0.74	–	18^{+18}_{-6}
49281	0.21	0.08	0.00	0.51	0.00	0.54	0.28	0.53	20^{+4}_{-8}	18^{+8}_{-4}
49384	–	–	–	–	–	1.00	1.00	0.25	–	44^{+16}_{-12}
49513	–	–	–	–	–	0.94	0.93	0.14	–	40^{+34}_{-12}
49583	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	14^{+2}_{-2}	14^{+2}_{-2}
49608	0.43	0.03	0.41	0.75	0.44	0.11	0.03	0.44	25^{+6}_{-4}	11^{+2}_{-2}
49688	0.08	0.00	0.07	0.24	0.00	1.00	0.63	0.31	22^{+2}_{-2}	21^{+2}_{-2}
49729	1.00	1.00	0.71	0.01	1.00	1.00	1.00	1.00	81^{+8}_{-10}	77^{+8}_{-8}
49855	–	–	–	–	–	1.00	1.00	0.29	–	101^{+22}_{-40}
49934	0.56	0.00	0.89	0.00	0.71	0.00	0.00	0.00	26^{+2}_{-4}	5^{+2}_{-2}
49947	0.98	0.88	0.55	0.94	0.94	0.90	0.00	1.00	46^{+10}_{-10}	19^{+2}_{-2}
49957	–	–	–	–	–	1.00	1.00	0.00	–	36^{+4}_{-4}
50044	0.48	0.23	0.00	0.87	0.00	0.76	0.44	0.89	25^{+10}_{-4}	24^{+8}_{-6}
50171	–	–	–	–	–	0.96	0.62	1.00	–	41^{+34}_{-8}
50417	–	–	–	–	–	1.00	1.00	0.00	–	44^{+2}_{-4}
50456	1.00	0.96	1.00	0.21	1.00	1.00	1.00	0.20	65^{+16}_{-6}	45^{+16}_{-12}
50519	0.53	0.54	0.01	0.02	0.05	0.74	0.73	0.02	26^{+16}_{-10}	27^{+20}_{-8}
50719	–	–	–	–	–	0.23	0.00	0.74	–	14^{+6}_{-4}
50764	0.35	0.00	0.31	0.45	0.00	0.60	0.00	0.83	22^{+8}_{-4}	19^{+6}_{-8}
50899	–	–	–	–	–	0.82	0.74	0.22	–	30^{+22}_{-12}
50901	–	–	–	–	–	1.00	0.99	0.93	–	28^{+2}_{-4}
50916	0.85	0.00	0.38	1.00	0.21	0.94	0.00	1.00	29^{+2}_{-6}	21^{+4}_{-2}
50938	1.00	0.36	0.95	1.00	0.97	0.73	0.75	0.21	43^{+10}_{-8}	25^{+12}_{-8}
50999	–	–	–	–	–	1.00	0.98	1.00	–	70^{+56}_{-26}
51146	–	–	–	–	–	1.00	1.00	0.50	–	139^{+80}_{-35}
51265	0.53	0.00	0.53	0.01	0.57	0.02	0.00	0.03	25^{+4}_{-6}	8^{+6}_{-2}
51313	0.91	0.70	0.00	1.00	0.00	1.00	0.94	1.00	35^{+4}_{-12}	34^{+12}_{-4}
51386	0.03	0.00	0.12	0.01	0.01	0.00	0.00	1.00	18^{+4}_{-2}	14^{+2}_{-2}
51544	–	–	–	–	–	0.70	0.67	0.14	–	20^{+6}_{-2}
51624	1.00	0.05	1.00	0.46	0.75	0.88	0.27	0.91	37^{+6}_{-4}	27^{+22}_{-6}
51775	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	37^{+2}_{-2}	37^{+2}_{-2}
51816	1.00	1.00	0.00	0.92	0.00	1.00	1.00	0.95	73^{+14}_{-10}	72^{+20}_{-6}
51940	–	–	–	–	–	0.96	0.85	0.97	–	41^{+32}_{-14}
51973	1.00	1.00	0.33	0.10	1.00	1.00	0.00	1.00	68^{+6}_{-8}	61^{+10}_{-4}
52093	–	–	–	–	–	0.56	0.53	0.14	–	20^{+18}_{-12}
52098	0.00	0.00	0.02	0.00	0.00	1.00	0.01	1.00	24^{+2}_{-2}	23^{+2}_{-2}
52102	0.46	0.25	0.25	0.62	0.02	0.63	0.47	0.63	23^{+16}_{-6}	21^{+12}_{-12}
52150	0.07	0.01	0.00	0.73	0.00	0.48	0.02	0.97	19^{+4}_{-4}	18^{+4}_{-4}
52161	0.90	0.00	0.92	0.64	0.81	0.19	0.00	0.77	32^{+2}_{-8}	14^{+4}_{-4}
52172	0.89	0.01	0.77	0.99	0.77	0.97	0.00	1.00	44^{+20}_{-14}	20^{+2}_{-2}
52181	0.98	0.87	0.42	0.98	0.00	1.00	0.33	1.00	45^{+18}_{-16}	45^{+26}_{-10}
52204	–	–	–	–	–	1.00	1.00	1.00	–	44^{+10}_{-8}
52373	1.00	0.98	0.98	1.00	0.00	1.00	0.13	1.00	80^{+38}_{-12}	80^{+40}_{-16}
52526	0.99	0.00	1.00	0.00	1.00	0.00	0.00	0.00	39^{+6}_{-6}	9^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
52536	–	–	–	–	–	1.00	1.00	0.00	–	63^{+24}_{-14}
52556	0.99	0.81	0.05	1.00	0.00	1.00	0.04	1.00	55^{+38}_{-12}	57^{+42}_{-12}
52562	0.23	0.02	0.51	0.04	0.29	0.03	0.04	0.04	22^{+4}_{-4}	8^{+2}_{-2}
52670	0.34	0.25	0.06	0.43	0.00	0.57	0.46	0.43	20^{+14}_{-8}	20^{+16}_{-6}
52738	0.67	0.04	0.00	0.90	0.61	0.06	0.00	0.24	31^{+12}_{-16}	12^{+2}_{-2}
52742	0.49	0.00	0.63	0.00	0.63	0.00	0.00	0.00	25^{+6}_{-4}	3^{+2}_{-2}
52792	1.00	0.05	1.00	0.09	0.49	1.00	0.19	1.00	39^{+4}_{-2}	32^{+2}_{-4}
52818	–	–	–	–	–	0.86	0.87	0.00	–	27^{+16}_{-4}
52831	0.16	0.00	0.00	1.00	0.00	0.03	0.01	0.08	23^{+2}_{-2}	6^{+4}_{-2}
52834	–	–	–	–	–	0.70	0.73	0.19	–	27^{+24}_{-12}
52849	1.00	0.02	0.99	0.13	0.00	1.00	1.00	0.75	36^{+10}_{-8}	42^{+10}_{-4}
52872	–	–	–	–	–	1.00	1.00	0.07	–	26^{+6}_{-4}
52898	0.10	0.06	0.04	0.38	0.08	0.17	0.10	0.55	14^{+4}_{-4}	12^{+2}_{-2}
53004	–	–	–	–	–	0.63	0.59	0.03	–	19^{+2}_{-2}
53007	0.42	0.31	0.04	0.06	0.11	0.58	0.51	0.06	24^{+12}_{-4}	19^{+6}_{-6}
50310	0.41	0.13	0.45	0.33	0.00	0.78	0.82	0.46	22^{+6}_{-8}	25^{+7}_{-9}
53211	–	–	–	–	–	0.35	0.10	0.62	–	13^{+12}_{-6}
53260	–	–	–	–	–	1.00	1.00	0.32	–	65^{+52}_{-12}
53294	–	–	–	–	–	0.65	0.60	0.00	–	20^{+6}_{-6}
53557	–	–	–	–	–	0.99	0.27	0.70	–	21^{+2}_{-2}
53759	–	–	–	–	–	0.70	0.67	0.01	–	20^{+6}_{-4}
53831	1.00	1.00	0.10	0.70	1.00	1.00	0.04	1.00	61^{+34}_{-8}	50^{+42}_{-6}
53880	1.00	0.33	0.99	0.39	1.00	0.16	0.09	0.28	74^{+6}_{-6}	11^{+2}_{-2}
54024	0.00	0.00	0.00	0.00	0.00	0.95	0.00	1.00	23^{+2}_{-2}	19^{+2}_{-2}
54082	0.96	0.47	0.68	1.00	0.02	0.99	0.96	1.00	41^{+16}_{-8}	37^{+16}_{-8}
54115	–	–	–	–	–	1.00	1.00	0.00	–	30^{+2}_{-4}
54179	0.82	0.02	0.93	0.06	0.98	0.10	0.08	0.05	29^{+4}_{-6}	13^{+2}_{-2}
54226	1.00	1.00	0.99	0.39	1.00	0.16	0.14	0.16	86^{+6}_{-6}	5^{+6}_{-2}
54282	–	–	–	–	–	0.52	0.49	0.07	–	19^{+14}_{-6}
54413	0.84	0.00	0.66	0.00	0.89	0.00	0.00	0.00	30^{+6}_{-6}	4^{+2}_{-2}
54475	0.53	0.03	0.05	1.00	0.07	0.88	0.04	1.00	26^{+10}_{-6}	23^{+8}_{-4}
54524	0.98	0.02	1.00	0.00	0.99	0.10	0.08	0.01	36^{+6}_{-6}	6^{+2}_{-2}
54572	0.90	0.63	0.52	0.08	0.73	0.39	0.37	0.07	35^{+14}_{-4}	17^{+2}_{-2}
54723	0.99	0.96	0.04	0.71	0.00	1.00	0.61	1.00	37^{+12}_{-6}	38^{+14}_{-6}
54733	–	–	–	–	–	0.59	0.50	0.39	–	20^{+22}_{-10}
55140	1.00	1.00	0.04	0.00	1.00	1.00	1.00	0.00	89^{+16}_{-14}	85^{+18}_{-14}
55193	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	16^{+2}_{-2}	4^{+2}_{-2}
55283	–	–	–	–	–	1.00	0.93	0.27	–	25^{+6}_{-4}
55420	0.60	0.20	0.27	0.09	0.37	0.12	0.09	0.09	26^{+6}_{-8}	13^{+2}_{-2}
55483	0.88	0.73	0.00	0.26	0.04	1.00	1.00	0.00	28^{+4}_{-2}	24^{+2}_{-2}
55682	1.00	1.00	0.06	0.08	0.00	1.00	0.00	1.00	32^{+6}_{-4}	31^{+6}_{-4}
55710	–	–	–	–	–	0.23	0.01	0.56	–	13^{+6}_{-4}
55945	1.00	1.00	0.02	0.01	0.01	1.00	1.00	1.00	34^{+2}_{-2}	33^{+2}_{-2}
56130	0.87	0.75	0.08	0.04	0.00	0.99	0.98	0.12	31^{+6}_{-6}	30^{+8}_{-6}
56219	0.80	0.01	0.00	0.62	0.00	1.00	1.00	0.00	27^{+4}_{-2}	26^{+2}_{-4}
56244	0.81	0.00	0.27	0.20	0.06	1.00	1.00	0.00	27^{+4}_{-2}	23^{+2}_{-2}
56364	1.00	1.00	0.00	0.29	0.00	1.00	1.00	0.01	39^{+4}_{-4}	38^{+4}_{-4}
56365	–	–	–	–	–	1.00	0.96	0.48	–	27^{+8}_{-4}
56388	1.00	1.00	0.00	0.10	0.00	1.00	1.00	0.99	68^{+10}_{-6}	70^{+10}_{-10}
56703	–	–	–	–	–	0.64	0.64	0.35	–	24^{+24}_{-10}
56709	0.28	0.00	0.00	1.00	0.00	0.98	0.05	1.00	24^{+2}_{-4}	22^{+2}_{-4}
56770	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	18^{+2}_{-2}	17^{+2}_{-2}
56777	–	–	–	–	–	1.00	1.00	0.51	–	24^{+2}_{-2}
56899	0.42	0.00	0.30	0.77	0.52	0.00	0.00	0.00	24^{+4}_{-4}	4^{+2}_{-2}
56992	0.97	0.03	0.92	0.11	0.96	0.09	0.03	0.17	36^{+6}_{-8}	8^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
57076	–	–	–	–	–	0.85	0.83	0.13	–	38^{+28}_{-22}
57142	–	–	–	–	–	0.67	0.00	0.93	–	21^{+8}_{-2}
57160	1.00	0.00	1.00	0.02	0.00	1.00	1.00	1.00	35^{+4}_{-2}	34^{+2}_{-2}
57240	0.98	0.94	0.25	0.12	0.00	1.00	1.00	0.89	44^{+18}_{-10}	44^{+8}_{-16}
57241	–	–	–	–	–	1.00	0.51	0.95	–	27^{+6}_{-6}
57244	1.00	0.03	1.00	0.87	0.34	1.00	1.00	1.00	249^{+104}_{-134}	261^{+176}_{-84}
57261	0.41	0.16	0.00	0.00	0.00	1.00	1.00	0.00	25^{+2}_{-2}	23^{+2}_{-2}
57371	0.74	0.83	0.00	0.00	0.02	1.00	1.00	0.00	27^{+4}_{-4}	23^{+4}_{-2}
57529	0.96	0.00	1.00	0.00	0.00	1.00	0.00	1.00	26^{+2}_{-2}	25^{+2}_{-2}
57565	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	34^{+2}_{-2}	33^{+2}_{-2}
57669	0.61	0.00	0.71	0.00	0.72	0.00	0.00	0.00	26^{+6}_{-4}	6^{+2}_{-2}
57721	0.52	0.01	0.00	0.05	0.00	1.00	0.46	1.00	25^{+2}_{-2}	26^{+2}_{-2}
57732	0.67	0.00	0.68	1.00	0.00	1.00	0.00	1.00	25^{+2}_{-2}	25^{+2}_{-2}
57787	1.00	0.80	1.00	1.00	1.00	1.00	1.00	0.99	413^{+148}_{-34}	304^{+180}_{-94}
57870	1.00	0.98	1.00	1.00	0.00	1.00	1.00	0.75	45^{+2}_{-2}	40^{+2}_{-2}
58028	–	–	–	–	–	1.00	1.00	1.00	–	64^{+20}_{-8}
58179	–	–	–	–	–	1.00	0.01	1.00	–	27^{+4}_{-2}
58182	–	–	–	–	–	1.00	0.00	1.00	–	22^{+2}_{-4}
58217	–	–	–	–	–	1.00	0.97	1.00	–	43^{+6}_{-8}
58313	0.99	0.03	0.00	1.00	0.00	1.00	1.00	0.68	28^{+4}_{-2}	26^{+2}_{-2}
58356	–	–	–	–	–	0.83	0.76	0.50	–	29^{+16}_{-8}
58367	–	–	–	–	–	0.50	0.50	0.00	–	19^{+12}_{-6}
58587	0.96	0.91	0.20	0.89	0.02	0.99	0.93	1.00	49^{+32}_{-16}	45^{+36}_{-10}
58648	1.00	1.00	0.05	0.01	0.00	1.00	1.00	1.00	63^{+8}_{-8}	62^{+10}_{-6}
58661	0.07	0.00	0.00	0.47	0.03	0.02	0.00	0.62	19^{+4}_{-4}	12^{+2}_{-4}
58668	–	–	–	–	–	1.00	1.00	0.57	–	95^{+68}_{-24}
58748	0.98	0.18	0.95	0.05	0.97	0.04	0.02	0.06	39^{+8}_{-8}	5^{+4}_{-2}
58861	–	–	–	–	–	0.24	0.00	0.50	–	16^{+2}_{-2}
58922	–	–	–	–	–	0.71	0.70	0.00	–	23^{+10}_{-8}
59002	0.68	0.00	0.00	0.90	0.00	1.00	1.00	0.00	26^{+2}_{-2}	24^{+2}_{-2}
59151	1.00	1.00	0.36	1.00	1.00	1.00	1.00	0.00	65^{+4}_{-2}	42^{+2}_{-2}
59231	0.65	0.58	0.07	0.48	0.00	0.81	0.66	0.78	28^{+10}_{-6}	27^{+14}_{-8}
59232	0.03	0.00	0.00	0.92	0.00	0.33	0.00	0.99	18^{+6}_{-2}	17^{+4}_{-2}
59280	0.00	0.00	0.00	0.00	0.00	1.00	0.15	0.90	21^{+2}_{-2}	21^{+2}_{-2}
59501	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	24^{+2}_{-2}	11^{+2}_{-2}
59588	1.00	0.99	0.27	0.00	0.00	1.00	1.00	0.00	42^{+10}_{-8}	41^{+8}_{-10}
59607	1.00	1.00	0.05	1.00	1.00	1.00	1.00	1.00	59^{+4}_{-10}	40^{+10}_{-2}
59719	–	–	–	–	–	0.55	0.50	0.00	–	19^{+8}_{-6}
59760	1.00	1.00	0.18	0.19	0.00	1.00	0.79	1.00	46^{+16}_{-6}	44^{+12}_{-12}
59803	0.09	0.14	0.00	0.01	0.00	1.00	1.00	0.00	23^{+2}_{-2}	22^{+2}_{-2}
60082	–	–	–	–	–	0.99	0.92	0.17	–	26^{+4}_{-4}
60134	–	–	–	–	–	1.00	1.00	0.00	–	39^{+2}_{-2}
60376	–	–	–	–	–	1.00	1.00	0.07	–	25^{+4}_{-2}
60553	1.00	0.89	1.00	0.08	0.66	1.00	1.00	1.00	62^{+6}_{-10}	56^{+12}_{-6}
60720	0.29	0.05	0.08	0.93	0.20	0.10	0.02	0.14	21^{+6}_{-6}	6^{+2}_{-2}
60730	–	–	–	–	–	1.00	1.00	0.67	–	47^{+10}_{-6}
60831	0.12	0.07	0.00	0.00	0.00	0.97	0.85	0.01	22^{+2}_{-2}	22^{+2}_{-4}
60971	0.98	0.01	0.98	0.01	0.98	0.10	0.06	0.01	43^{+6}_{-6}	15^{+2}_{-2}
60979	1.00	1.00	0.00	0.04	0.00	1.00	1.00	0.48	29^{+2}_{-2}	29^{+2}_{-2}
61018	–	–	–	–	–	1.00	1.00	0.87	–	40^{+8}_{-4}
61175	1.00	0.00	0.99	0.73	0.90	0.92	0.03	1.00	40^{+6}_{-8}	27^{+10}_{-4}
61281	0.99	0.73	0.00	0.44	0.00	1.00	1.00	0.85	30^{+2}_{-4}	30^{+2}_{-4}
61286	0.99	0.56	0.03	1.00	0.16	1.00	0.96	1.00	37^{+12}_{-8}	34^{+14}_{-6}
61290	0.98	0.94	0.76	0.31	0.00	0.99	0.36	1.00	56^{+30}_{-22}	52^{+30}_{-26}
61431	1.00	0.08	1.00	0.14	0.99	0.54	0.46	0.23	42^{+6}_{-6}	18^{+4}_{-4}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
61520	1.00	0.01	1.00	0.08	0.14	1.00	0.91	1.00	51^{+18}_{-10}	48^{+18}_{-18}
61602	0.51	0.41	0.02	0.20	0.00	1.00	0.98	0.01	25^{+6}_{-4}	26^{+6}_{-4}
61766	–	–	–	–	–	1.00	1.00	1.00	–	53^{+28}_{-10}
61809	0.71	0.52	0.65	0.14	0.00	0.78	0.37	0.91	40^{+44}_{-16}	38^{+44}_{-16}
61916	1.00	1.00	0.93	1.00	0.00	1.00	1.00	1.00	112^{+12}_{-10}	111^{+12}_{-8}
61958	–	–	–	–	–	1.00	0.87	0.99	–	45^{+26}_{-16}
62027	0.47	0.00	0.52	0.00	0.58	0.00	0.00	0.00	24^{+6}_{-10}	2^{+2}_{-2}
62083	1.00	1.00	0.00	0.44	0.99	1.00	1.00	0.60	55^{+12}_{-8}	43^{+10}_{-10}
62115	1.00	0.99	1.00	0.09	1.00	0.05	0.03	0.10	58^{+8}_{-6}	13^{+2}_{-2}
62322	1.00	0.01	1.00	0.00	1.00	0.00	0.00	0.00	39^{+6}_{-4}	4^{+2}_{-2}
62361	–	–	–	–	–	0.85	0.79	0.03	–	23^{+6}_{-6}
62455	1.00	1.00	0.17	0.16	1.00	1.00	1.00	1.00	61^{+4}_{-2}	55^{+4}_{-4}
62566	–	–	–	–	–	1.00	1.00	0.00	–	25^{+2}_{-2}
62595	1.00	0.20	0.09	1.00	0.00	1.00	0.04	1.00	35^{+8}_{-4}	32^{+8}_{-6}
62608	0.88	0.00	0.51	0.00	0.00	1.00	1.00	0.00	26^{+2}_{-2}	24^{+2}_{-2}
62692	–	–	–	–	–	1.00	1.00	0.00	–	23^{+2}_{-2}
62810	–	–	–	–	–	0.02	0.00	0.81	–	16^{+2}_{-2}
62821	0.68	0.70	0.06	0.06	0.00	0.67	0.68	0.03	28^{+8}_{-4}	22^{+14}_{-6}
62829	0.16	0.07	0.03	0.56	0.03	0.43	0.07	0.62	18^{+2}_{-4}	17^{+2}_{-2}
62913	0.58	0.01	0.71	0.15	0.16	0.57	0.22	0.17	26^{+6}_{-2}	18^{+2}_{-2}
62981	–	–	–	–	–	1.00	1.00	0.25	–	32^{+6}_{-2}
63049	0.59	0.07	0.67	0.09	0.44	0.19	0.11	0.10	26^{+6}_{-8}	15^{+2}_{-2}
63117	1.00	0.84	0.90	0.01	0.99	0.03	0.03	0.01	40^{+6}_{-10}	8^{+2}_{-2}
63170	1.00	0.22	0.56	0.90	0.77	0.62	0.09	0.91	38^{+6}_{-6}	21^{+14}_{-6}
63253	0.00	0.00	0.01	0.00	0.00	0.13	0.00	1.00	16^{+2}_{-2}	16^{+2}_{-2}
63256	0.98	0.18	0.97	0.09	1.00	0.09	0.08	0.09	53^{+6}_{-10}	12^{+2}_{-2}
63266	–	–	–	–	–	1.00	1.00	0.01	–	38^{+10}_{-4}
63322	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	31^{+2}_{-2}	12^{+2}_{-2}
63334	0.40	0.00	0.02	0.90	0.14	0.10	0.02	0.82	24^{+4}_{-4}	16^{+2}_{-2}
63356	0.75	0.78	0.00	0.00	0.00	1.00	0.99	0.14	30^{+8}_{-6}	33^{+12}_{-4}
63368	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	75^{+8}_{-6}	39^{+8}_{-8}
63449	0.37	0.03	0.58	0.03	0.36	0.05	0.02	0.02	23^{+8}_{-8}	11^{+2}_{-2}
63742	0.00	0.00	0.00	0.07	0.00	0.00	0.00	1.00	17^{+2}_{-2}	16^{+2}_{-2}
63958	1.00	0.69	0.16	0.51	0.74	0.78	0.00	0.96	32^{+2}_{-6}	20^{+4}_{-4}
63970	–	–	–	–	–	1.00	1.00	0.02	–	31^{+4}_{-2}
63972	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	39^{+2}_{-2}	39^{+2}_{-2}
64086	0.27	0.00	0.00	0.00	0.00	1.00	1.00	0.00	24^{+2}_{-2}	25^{+2}_{-2}
64149	1.00	1.00	0.49	0.23	1.00	1.00	1.00	1.00	131^{+70}_{-49}	142^{+104}_{-29}
64217	0.10	0.09	0.00	0.00	0.00	0.84	0.69	0.05	17^{+8}_{-2}	23^{+4}_{-6}
64237	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	15^{+2}_{-2}	15^{+2}_{-2}
64272	0.74	0.03	0.83	0.03	0.63	0.06	0.06	0.03	29^{+8}_{-6}	14^{+2}_{-2}
64312	1.00	1.00	0.01	0.05	0.00	1.00	0.00	1.00	47^{+4}_{-4}	46^{+4}_{-4}
64523	1.00	1.00	0.06	0.26	0.01	1.00	1.00	1.00	50^{+18}_{-10}	45^{+16}_{-8}
64543	0.03	0.00	0.00	0.55	0.00	0.05	0.00	0.89	19^{+4}_{-4}	14^{+2}_{-4}
64557	1.00	0.99	1.00	1.00	0.95	1.00	1.00	1.00	70^{+4}_{-4}	62^{+4}_{-4}
64622	–	–	–	–	–	0.98	0.11	1.00	–	26^{+10}_{-4}
64778	0.82	0.83	0.33	0.13	0.01	0.89	0.84	0.18	36^{+24}_{-8}	33^{+26}_{-8}
65020	–	–	–	–	–	0.64	0.37	0.98	–	21^{+12}_{-6}
65192	1.00	0.54	1.00	0.82	0.07	1.00	0.97	1.00	106^{+84}_{-29}	112^{+75}_{-35}
65388	0.99	0.14	0.15	1.00	0.98	0.35	0.33	0.02	38^{+8}_{-8}	14^{+14}_{-4}
65522	0.04	0.00	0.02	0.53	0.00	1.00	0.57	0.84	22^{+2}_{-2}	21^{+2}_{-2}
65593	0.01	0.01	0.00	0.03	0.00	0.05	0.01	0.57	19^{+2}_{-2}	12^{+2}_{-2}
65896	0.05	0.00	0.00	0.57	0.06	0.00	0.00	0.00	17^{+4}_{-6}	9^{+2}_{-2}
65915	0.98	0.03	0.96	0.38	0.04	1.00	0.93	1.00	34^{+6}_{-6}	32^{+6}_{-6}
66013	–	–	–	–	–	0.69	0.71	0.10	–	26^{+24}_{-6}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
66020	–	–	–	–	–	1.00	1.00	0.61	–	32^{+6}_{-8}
66045	–	–	–	–	–	0.59	0.33	0.00	–	19^{+4}_{-2}
66057	–	–	–	–	–	1.00	0.59	0.00	–	19^{+2}_{-2}
66210	–	–	–	–	–	0.99	0.98	0.11	–	24^{+6}_{-4}
66236	0.43	0.17	0.11	0.00	0.00	0.84	0.81	0.00	23^{+10}_{-4}	23^{+8}_{-4}
66252	0.07	0.00	0.00	0.79	0.02	0.00	0.00	0.00	22^{+2}_{-4}	13^{+2}_{-2}
66278	–	–	–	–	–	0.54	0.37	0.78	–	18^{+16}_{-4}
66291	1.00	1.00	0.17	1.00	1.00	0.15	0.09	0.29	159^{+2}_{-6}	10^{+2}_{-2}
66339	0.83	0.21	0.32	1.00	0.06	0.89	0.14	1.00	34^{+18}_{-8}	30^{+18}_{-10}
66341	–	–	–	–	–	0.83	0.10	1.00	–	22^{+6}_{-4}
66467	0.41	0.52	0.00	0.00	0.00	0.99	0.18	0.78	25^{+4}_{-2}	20^{+2}_{-2}
66475	1.00	0.19	0.08	1.00	1.00	0.80	0.73	0.01	43^{+10}_{-4}	25^{+16}_{-4}
66515	–	–	–	–	–	1.00	1.00	0.04	–	35^{+14}_{-6}
66524	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	113^{+32}_{-14}	113^{+34}_{-14}
66575	0.66	0.20	0.63	0.59	0.18	0.78	0.73	0.60	36^{+34}_{-16}	33^{+30}_{-8}
66586	0.98	0.00	0.00	1.00	0.05	0.27	0.09	0.00	27^{+2}_{-2}	17^{+4}_{-2}
66690	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	88^{+6}_{-8}	89^{+8}_{-6}
66732	1.00	1.00	0.17	0.99	1.00	1.00	1.00	0.06	57^{+12}_{-6}	35^{+12}_{-8}
66917	0.47	0.00	0.33	0.88	0.00	0.71	0.11	0.98	24^{+12}_{-4}	22^{+6}_{-6}
67042	1.00	0.99	0.89	0.49	0.98	0.32	0.30	0.01	62^{+24}_{-12}	17^{+2}_{-2}
67385	–	–	–	–	–	1.00	1.00	1.00	–	36^{+8}_{-6}
67422	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	17^{+2}_{-2}	13^{+2}_{-2}
67663	0.95	0.05	0.84	1.00	0.00	1.00	0.98	1.00	38^{+8}_{-12}	36^{+12}_{-6}
67748	0.82	0.35	0.32	0.00	0.84	0.03	0.04	0.00	29^{+4}_{-6}	5^{+2}_{-4}
67981	0.99	0.88	0.40	0.35	0.76	0.51	0.46	0.28	38^{+8}_{-10}	17^{+26}_{-2}
67983	0.52	0.15	0.30	0.14	0.52	0.12	0.03	0.17	25^{+10}_{-8}	6^{+2}_{-2}
68002	0.43	0.00	0.62	0.00	0.00	1.00	1.00	0.00	25^{+2}_{-2}	23^{+2}_{-2}
68163	–	–	–	–	–	0.59	0.56	0.03	–	21^{+18}_{-8}
68247	–	–	–	–	–	0.38	0.17	0.86	–	16^{+8}_{-2}
68258	0.28	0.03	0.00	1.00	0.00	0.42	0.03	0.33	23^{+4}_{-2}	17^{+2}_{-2}
68435	–	–	–	–	–	1.00	1.00	0.23	–	49^{+14}_{-12}
68523	0.98	0.50	0.02	0.99	0.03	1.00	1.00	1.00	38^{+14}_{-8}	38^{+18}_{-8}
68557	0.21	0.00	0.01	0.84	0.00	0.52	0.02	0.89	19^{+8}_{-4}	18^{+8}_{-4}
68564	0.66	0.02	0.63	0.01	0.68	0.05	0.03	0.02	28^{+6}_{-6}	7^{+2}_{-4}
68582	–	–	–	–	–	0.19	0.01	0.55	–	12^{+6}_{-2}
68733	–	–	–	–	–	0.92	0.88	0.36	–	22^{+10}_{-4}
68817	0.86	0.05	0.87	0.07	0.85	0.03	0.03	0.07	37^{+8}_{-8}	12^{+2}_{-2}
68868	1.00	1.00	0.00	0.12	0.04	1.00	0.03	1.00	42^{+10}_{-6}	39^{+12}_{-4}
68877	0.99	0.96	0.17	0.24	0.72	0.64	0.51	0.53	38^{+8}_{-6}	23^{+14}_{-6}
68879	0.94	0.94	0.50	0.82	0.01	1.00	0.79	1.00	56^{+36}_{-20}	57^{+42}_{-16}
68904	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	67^{+6}_{-4}	66^{+4}_{-4}
69034	1.00	1.00	0.25	0.32	1.00	1.00	0.25	1.00	57^{+12}_{-10}	41^{+18}_{-8}
69122	0.24	0.00	0.04	0.96	0.00	0.58	0.06	0.96	20^{+10}_{-2}	19^{+6}_{-2}
69247	0.69	0.56	0.02	0.09	0.14	0.77	0.63	0.31	27^{+6}_{-6}	21^{+8}_{-2}
69320	0.34	0.10	0.37	0.04	0.04	0.85	0.81	0.05	23^{+2}_{-6}	21^{+2}_{-4}
69462	0.69	0.02	0.76	0.28	0.02	0.89	0.85	0.45	29^{+12}_{-8}	27^{+10}_{-4}
69591	0.34	0.06	0.14	0.71	0.02	0.50	0.25	0.73	20^{+10}_{-8}	18^{+10}_{-8}
69619	1.00	0.98	0.91	0.10	0.96	0.15	0.08	0.30	58^{+4}_{-6}	11^{+2}_{-2}
69625	–	–	–	–	–	0.82	0.76	0.36	–	33^{+24}_{-12}
69834	1.00	0.98	1.00	1.00	0.69	1.00	1.00	1.00	114^{+62}_{-28}	110^{+60}_{-24}
69848	–	–	–	–	–	1.00	1.00	1.00	–	38^{+6}_{-4}
69868	0.37	0.35	0.03	0.00	0.00	0.64	0.63	0.00	23^{+6}_{-6}	20^{+8}_{-4}
69892	1.00	0.99	0.93	0.66	0.98	0.96	0.12	1.00	75^{+6}_{-10}	27^{+14}_{-6}
69906	1.00	1.00	1.00	0.64	1.00	0.09	0.09	0.05	92^{+12}_{-4}	4^{+4}_{-2}
69929	0.14	0.00	0.09	0.00	0.00	0.91	0.91	0.00	22^{+2}_{-4}	21^{+4}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
69978	0.97	0.83	0.32	0.13	0.94	0.12	0.07	0.05	34^{+2}_{-8}	8^{+6}_{-4}
69996	0.68	0.44	0.00	0.65	0.66	0.00	0.00	0.00	27^{+8}_{-2}	11^{+2}_{-2}
70042	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.81	17^{+2}_{-2}	15^{+2}_{-2}
70057	0.90	0.10	0.00	0.94	0.00	1.00	1.00	0.00	27^{+2}_{-2}	22^{+2}_{-2}
70108	1.00	0.00	0.02	1.00	1.00	0.05	0.00	1.00	37^{+4}_{-2}	16^{+2}_{-2}
70145	1.00	0.38	0.00	0.96	0.99	0.35	0.02	0.44	30^{+4}_{-2}	16^{+10}_{-4}
70290	–	–	–	–	–	0.62	0.05	0.64	–	19^{+6}_{-2}
70337	0.48	0.12	0.22	0.65	0.30	0.32	0.05	0.53	25^{+14}_{-10}	12^{+10}_{-4}
70349	1.00	1.00	0.63	1.00	0.00	1.00	1.00	1.00	79^{+36}_{-18}	70^{+30}_{-16}
70530	0.62	0.46	0.25	0.35	0.27	0.48	0.45	0.30	27^{+12}_{-8}	15^{+20}_{-6}
70574	0.09	0.01	0.00	0.87	0.02	0.06	0.00	0.13	20^{+4}_{-4}	15^{+2}_{-2}
70586	–	–	–	–	–	0.96	0.94	0.05	–	48^{+32}_{-22}
70866	–	–	–	–	–	1.00	0.92	1.00	–	44^{+14}_{-14}
70875	–	–	–	–	–	1.00	1.00	0.07	–	38^{+14}_{-10}
70877	1.00	1.00	0.99	0.96	1.00	0.11	0.13	0.03	127^{+6}_{-8}	6^{+4}_{-2}
71071	–	–	–	–	–	1.00	1.00	1.00	–	34^{+8}_{-4}
71096	0.40	0.00	0.49	0.15	0.03	0.53	0.49	0.00	23^{+8}_{-4}	18^{+6}_{-8}
71237	0.40	0.00	0.12	0.00	0.00	1.00	0.59	1.00	25^{+2}_{-2}	22^{+2}_{-2}
71264	0.70	0.08	0.67	0.28	0.49	0.27	0.12	0.20	29^{+8}_{-8}	15^{+2}_{-2}
71381	0.00	0.00	0.00	0.86	0.00	0.01	0.00	0.01	16^{+2}_{-4}	13^{+2}_{-2}
71436	0.94	0.83	0.02	0.98	0.01	0.99	0.99	0.03	43^{+24}_{-12}	50^{+30}_{-18}
71441	–	–	–	–	–	0.77	0.75	0.29	–	27^{+20}_{-6}
71447	–	–	–	–	–	0.96	0.94	0.31	–	47^{+38}_{-16}
71712	–	–	–	–	–	1.00	0.29	1.00	–	106^{+82}_{-19}
71945	0.00	0.00	0.01	0.00	0.00	0.07	0.00	1.00	18^{+2}_{-2}	16^{+2}_{-2}
72257	0.60	0.39	0.10	0.16	0.08	0.99	0.99	0.29	27^{+8}_{-6}	25^{+10}_{-4}
72276	–	–	–	–	–	1.00	0.99	0.11	–	23^{+4}_{-2}
72316	0.02	0.00	0.02	0.16	0.00	0.29	0.00	0.86	17^{+4}_{-2}	17^{+2}_{-2}
72385	–	–	–	–	–	1.00	1.00	0.91	–	42^{+18}_{-14}
72438	0.68	0.01	0.44	0.20	0.71	0.01	0.00	0.03	27^{+6}_{-4}	7^{+2}_{-2}
72482	–	–	–	–	–	0.75	0.75	0.25	–	28^{+24}_{-6}
72499	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.03	69^{+8}_{-6}	67^{+6}_{-6}
72503	–	–	–	–	–	1.00	1.00	0.00	–	39^{+8}_{-4}
72510	1.00	1.00	0.93	0.03	0.99	0.09	0.09	0.03	67^{+6}_{-8}	7^{+2}_{-4}
72556	0.61	0.16	0.51	0.20	0.62	0.23	0.15	0.17	27^{+18}_{-12}	5^{+8}_{-2}
72578	1.00	0.97	1.00	0.28	0.00	1.00	1.00	1.00	65^{+14}_{-12}	67^{+20}_{-14}
72583	–	–	–	–	–	0.55	0.25	0.31	–	17^{+6}_{-2}
72710	–	–	–	–	–	0.70	0.73	0.08	–	28^{+24}_{-6}
72862	1.00	1.00	0.11	1.00	0.00	1.00	1.00	1.00	162^{+54}_{-28}	158^{+56}_{-22}
73020	–	–	–	–	–	0.30	0.18	0.50	–	13^{+8}_{-8}
73216	–	–	–	–	–	0.99	0.98	0.00	–	26^{+4}_{-6}
73315	1.00	0.90	0.05	1.00	1.00	0.09	0.10	0.01	45^{+6}_{-6}	3^{+4}_{-2}
73580	–	–	–	–	–	0.68	0.32	0.34	–	19^{+4}_{-4}
73685	–	–	–	–	–	1.00	1.00	0.00	–	20^{+2}_{-2}
73697	–	–	–	–	–	1.00	1.00	0.42	–	45^{+10}_{-8}
73771	0.99	0.97	0.00	0.89	0.11	1.00	0.82	1.00	36^{+6}_{-6}	32^{+6}_{-6}
73869	0.06	0.21	0.00	0.00	0.00	1.00	1.00	0.00	24^{+2}_{-2}	23^{+2}_{-2}
73966	0.12	0.00	0.02	0.83	0.00	0.32	0.01	0.88	17^{+4}_{-6}	15^{+8}_{-2}
73969	–	–	–	–	–	0.61	0.25	0.99	–	21^{+12}_{-4}
74070	0.01	0.00	0.00	0.03	0.00	0.06	0.00	1.00	17^{+4}_{-2}	15^{+2}_{-2}
74117	0.66	0.00	0.72	0.19	0.15	0.64	0.31	0.64	27^{+6}_{-6}	20^{+6}_{-6}
74187	–	–	–	–	–	0.65	0.34	0.65	–	20^{+6}_{-4}
74333	1.00	0.52	0.00	0.84	0.00	1.00	0.00	1.00	32^{+2}_{-2}	31^{+2}_{-2}
74368	1.00	0.91	1.00	0.92	1.00	1.00	1.00	0.97	78^{+18}_{-16}	57^{+26}_{-20}
74425	–	–	–	–	–	0.97	0.23	1.00	–	32^{+18}_{-8}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
74470	0.39	0.02	0.31	0.26	0.08	0.53	0.52	0.24	22^{+12}_{-2}	20^{+14}_{-8}
74565	0.46	0.01	0.51	0.25	0.08	0.48	0.34	0.46	24^{+8}_{-10}	17^{+8}_{-12}
74600	0.12	0.00	0.00	0.67	0.06	0.09	0.05	0.00	20^{+2}_{-6}	14^{+2}_{-4}
74604	0.08	0.03	0.00	0.44	0.00	0.45	0.03	1.00	20^{+4}_{-4}	18^{+4}_{-2}
74680	0.96	0.09	0.36	1.00	0.00	1.00	0.31	1.00	37^{+8}_{-10}	36^{+10}_{-8}
74716	0.34	0.05	0.28	0.00	0.01	0.63	0.61	0.00	22^{+6}_{-8}	21^{+10}_{-4}
74778	0.88	0.83	0.38	0.08	0.89	0.03	0.01	0.05	34^{+10}_{-8}	6^{+2}_{-2}
74859	–	–	–	–	–	0.73	0.63	0.87	–	28^{+16}_{-14}
74875	1.00	0.16	0.00	0.00	0.00	1.00	1.00	0.00	29^{+2}_{-2}	28^{+2}_{-2}
74938	1.00	0.80	0.32	1.00	0.97	1.00	0.99	1.00	72^{+28}_{-10}	61^{+40}_{-24}
74963	–	–	–	–	–	0.97	0.84	0.00	–	20^{+2}_{-2}
75095	0.67	0.04	0.73	0.26	0.25	0.75	0.73	0.28	32^{+32}_{-8}	27^{+22}_{-10}
75110	1.00	0.43	1.00	1.00	0.04	1.00	0.98	1.00	47^{+10}_{-6}	44^{+8}_{-6}
75141	0.64	0.00	0.83	0.07	0.00	0.93	0.90	0.20	27^{+10}_{-4}	26^{+8}_{-2}
75174	1.00	1.00	0.53	1.00	1.00	0.97	0.00	1.00	69^{+2}_{-2}	24^{+4}_{-6}
75257	1.00	1.00	0.08	0.00	0.00	1.00	1.00	0.00	37^{+6}_{-6}	32^{+6}_{-4}
75711	1.00	0.93	1.00	0.69	1.00	1.00	1.00	1.00	236^{+82}_{-48}	190^{+143}_{-31}
75729	–	–	–	–	–	1.00	1.00	0.00	–	22^{+2}_{-2}
75769	1.00	1.00	0.01	1.00	1.00	1.00	1.00	0.93	120^{+2}_{-4}	40^{+6}_{-4}
75812	–	–	–	–	–	0.58	0.48	0.52	–	20^{+8}_{-10}
75959	–	–	–	–	–	0.80	0.15	0.99	–	22^{+6}_{-4}
75965	0.00	0.00	0.00	0.37	0.00	0.01	0.00	1.00	16^{+2}_{-2}	15^{+2}_{-2}
76013	1.00	1.00	1.00	1.00	1.00	0.79	0.00	1.00	70^{+6}_{-6}	20^{+2}_{-4}
76236	–	–	–	–	–	0.80	0.80	0.00	–	25^{+8}_{-8}
76304	1.00	1.00	0.00	0.01	1.00	0.99	0.00	1.00	45^{+2}_{-2}	22^{+2}_{-4}
76401	–	–	–	–	–	0.28	0.02	0.99	–	15^{+4}_{-2}
76416	–	–	–	–	–	0.59	0.55	0.27	–	22^{+20}_{-8}
76426	–	–	–	–	–	1.00	0.65	1.00	–	35^{+12}_{-8}
76581	–	–	–	–	–	0.51	0.45	0.39	–	18^{+20}_{-4}
76605	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.12	82^{+8}_{-4}	31^{+8}_{-4}
76642	1.00	0.92	0.38	1.00	0.94	0.48	0.38	0.26	44^{+8}_{-6}	17^{+10}_{-6}
76664	1.00	1.00	1.00	1.00	0.01	1.00	1.00	1.00	56^{+2}_{-4}	54^{+2}_{-2}
76733	0.17	0.00	0.26	0.00	0.00	0.55	0.24	0.50	20^{+4}_{-6}	19^{+8}_{-2}
76768	0.15	0.00	0.25	0.18	0.00	0.81	0.44	0.69	21^{+4}_{-4}	21^{+2}_{-6}
76849	–	–	–	–	–	0.74	0.67	0.33	–	26^{+18}_{-8}
76934	–	–	–	–	–	0.95	0.93	0.00	–	24^{+4}_{-6}
76947	1.00	1.00	0.24	0.05	0.04	1.00	1.00	0.03	79^{+44}_{-14}	71^{+38}_{-8}
77023	–	–	–	–	–	1.00	1.00	0.84	–	37^{+20}_{-6}
77042	0.74	0.00	0.18	0.00	0.88	0.00	0.00	0.00	27^{+2}_{-4}	4^{+2}_{-2}
77056	–	–	–	–	–	0.63	0.56	0.54	–	24^{+18}_{-10}
77092	0.55	0.00	0.60	0.08	0.02	0.64	0.64	0.16	25^{+10}_{-4}	21^{+8}_{-6}
77178	–	–	–	–	–	1.00	0.98	1.00	–	62^{+22}_{-12}
77396	–	–	–	–	–	1.00	0.00	1.00	–	25^{+2}_{-2}
77471	0.97	0.90	0.20	0.86	0.97	0.27	0.26	0.04	36^{+6}_{-8}	8^{+12}_{-2}
77481	–	–	–	–	–	0.47	0.20	0.80	–	18^{+12}_{-6}
77575	–	–	–	–	–	1.00	0.67	1.00	–	60^{+44}_{-18}
77658	–	–	–	–	–	0.97	0.97	0.48	–	48^{+34}_{-14}
77676	0.99	0.17	0.00	1.00	0.00	1.00	0.00	1.00	31^{+4}_{-4}	31^{+4}_{-4}
77720	–	–	–	–	–	0.47	0.09	1.00	–	17^{+4}_{-4}
77730	–	–	–	–	–	1.00	0.00	1.00	–	22^{+2}_{-2}
77835	0.00	0.00	0.00	0.00	0.00	0.88	0.00	1.00	22^{+2}_{-2}	19^{+2}_{-2}
77990	0.59	0.51	0.40	0.01	0.60	0.00	0.00	0.00	28^{+38}_{-4}	4^{+2}_{-2}
77995	1.00	0.00	1.00	0.99	0.94	0.98	0.98	0.01	42^{+10}_{-4}	28^{+6}_{-4}
78078	1.00	0.92	0.00	0.00	0.55	1.00	0.00	1.00	34^{+4}_{-4}	25^{+2}_{-2}
78131	–	–	–	–	–	0.34	0.00	0.94	–	16^{+2}_{-4}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
78145	0.95	0.65	0.74	0.01	0.96	0.00	0.00	0.00	36^{+4}_{-8}	9^{+2}_{-2}
78168	0.06	0.01	0.00	0.53	0.09	0.00	0.00	0.00	18^{+4}_{-6}	6^{+2}_{-2}
78171	–	–	–	–	–	0.26	0.09	0.56	–	12^{+8}_{-2}
78355	0.85	0.66	0.01	0.00	0.90	0.00	0.00	0.00	30^{+6}_{-6}	4^{+2}_{-2}
78582	1.00	1.00	0.97	0.95	1.00	0.02	0.01	0.00	58^{+6}_{-6}	7^{+2}_{-4}
78592	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	55^{+2}_{-2}	51^{+2}_{-2}
78604	–	–	–	–	–	0.70	0.70	0.01	–	22^{+12}_{-4}
78681	1.00	0.04	1.00	0.34	0.00	1.00	1.00	0.91	32^{+4}_{-4}	31^{+4}_{-4}
78805	–	–	–	–	–	0.15	0.09	0.52	–	12^{+4}_{-2}
78846	–	–	–	–	–	0.97	0.01	1.00	–	23^{+6}_{-4}
78855	–	–	–	–	–	0.44	0.22	0.71	–	16^{+12}_{-6}
78884	–	–	–	–	–	0.96	0.97	0.00	–	31^{+10}_{-8}
79225	0.50	0.04	0.56	0.04	0.00	0.92	0.93	0.00	25^{+4}_{-4}	24^{+6}_{-6}
79357	0.02	0.02	0.00	0.00	0.00	0.98	0.97	0.00	21^{+2}_{-2}	21^{+2}_{-2}
79466	0.91	0.48	0.75	0.08	0.90	0.06	0.04	0.07	36^{+6}_{-8}	11^{+2}_{-2}
79687	–	–	–	–	–	0.76	0.02	1.00	–	21^{+6}_{-6}
79740	0.37	0.26	0.00	0.29	0.08	0.35	0.02	1.00	23^{+6}_{-4}	17^{+2}_{-2}
79853	1.00	1.00	0.00	0.06	1.00	1.00	0.34	1.00	54^{+2}_{-8}	31^{+4}_{-2}
79932	0.74	0.78	0.06	0.11	0.55	0.54	0.32	0.21	31^{+14}_{-6}	17^{+6}_{-2}
79974	1.00	0.85	1.00	0.99	1.00	0.95	0.94	0.74	120^{+10}_{-12}	38^{+28}_{-8}
80021	0.46	0.00	0.82	0.00	0.00	1.00	1.00	0.00	25^{+2}_{-2}	23^{+2}_{-2}
80305	–	–	–	–	–	0.71	0.59	0.69	–	26^{+22}_{-8}
80405	0.55	0.00	0.50	0.50	0.03	0.69	0.49	0.73	26^{+12}_{-6}	22^{+8}_{-8}
80448	0.29	0.09	0.21	0.00	0.11	0.51	0.33	0.00	21^{+6}_{-2}	18^{+4}_{-4}
80675	1.00	0.56	1.00	0.55	0.01	1.00	1.00	0.34	64^{+12}_{-10}	62^{+14}_{-8}
80752	0.90	0.01	0.00	1.00	0.29	0.16	0.00	1.00	28^{+2}_{-2}	16^{+2}_{-2}
80778	–	–	–	–	–	0.77	0.73	0.05	–	20^{+6}_{-4}
80782	0.12	0.01	0.09	0.59	0.03	0.21	0.07	0.59	14^{+2}_{-4}	12^{+2}_{-4}
80917	1.00	1.00	0.10	1.00	0.00	1.00	1.00	1.00	85^{+30}_{-22}	86^{+36}_{-18}
80941	0.00	0.00	0.00	1.00	0.00	0.01	0.00	0.02	17^{+2}_{-2}	12^{+2}_{-2}
80945	0.19	0.00	0.12	0.93	0.03	0.40	0.16	0.92	17^{+8}_{-4}	16^{+2}_{-4}
80988	–	–	–	–	–	0.03	0.00	0.55	–	12^{+2}_{-2}
80990	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	267^{+88}_{-52}	238^{+98}_{-56}
81007	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	19^{+2}_{-2}	14^{+2}_{-2}
81100	1.00	0.98	0.80	0.03	0.99	0.02	0.00	0.05	43^{+6}_{-4}	9^{+2}_{-2}
81104	1.00	0.03	1.00	1.00	0.00	1.00	0.00	1.00	57^{+14}_{-12}	56^{+18}_{-10}
81122	0.86	0.83	0.33	0.12	0.92	0.18	0.12	0.15	33^{+12}_{-8}	5^{+4}_{-2}
81289	0.00	0.00	0.00	0.28	0.00	0.08	0.00	0.96	15^{+2}_{-2}	15^{+2}_{-2}
81305	1.00	0.99	0.17	0.03	0.99	0.00	0.00	0.35	50^{+10}_{-10}	11^{+2}_{-2}
81377	0.72	0.00	1.00	0.00	0.00	1.00	1.00	0.00	25^{+2}_{-2}	25^{+2}_{-2}
81438	–	–	–	–	–	0.20	0.11	0.58	–	12^{+2}_{-2}
81620	–	–	–	–	–	0.90	0.22	1.00	–	32^{+22}_{-8}
81630	0.99	0.99	0.00	0.00	0.14	0.97	0.42	0.99	31^{+4}_{-2}	23^{+2}_{-6}
81696	1.00	0.23	0.81	0.46	0.97	0.56	0.31	0.41	36^{+4}_{-6}	18^{+2}_{-2}
81724	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	18^{+2}_{-2}	12^{+2}_{-2}
81741	0.03	0.00	0.50	0.00	0.00	1.00	0.99	0.00	23^{+2}_{-2}	22^{+2}_{-2}
81814	0.18	0.03	0.02	0.27	0.07	0.05	0.00	0.87	20^{+6}_{-4}	13^{+2}_{-2}
81904	0.72	0.00	0.58	0.33	0.00	0.84	0.48	0.67	27^{+2}_{-2}	21^{+2}_{-6}
81963	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.32	65^{+24}_{-6}	57^{+28}_{-16}
82000	1.00	1.00	0.00	0.31	1.00	1.00	1.00	0.97	48^{+4}_{-6}	33^{+8}_{-4}
82133	–	–	–	–	–	1.00	0.11	1.00	–	36^{+18}_{-6}
82171	1.00	1.00	0.76	0.95	0.93	1.00	1.00	1.00	75^{+10}_{-20}	67^{+10}_{-26}
82204	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	71^{+14}_{-10}	72^{+12}_{-12}
82216	0.00	0.00	0.06	0.00	0.00	0.97	0.96	0.00	20^{+2}_{-2}	20^{+2}_{-2}
82217	0.99	0.98	0.03	0.13	1.00	0.04	0.04	0.00	37^{+4}_{-6}	9^{+4}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
82273	0.00	0.00	0.00	0.55	0.00	0.00	0.00	1.00	15^{+2}_{-2}	15^{+2}_{-2}
82304	–	–	–	–	–	0.98	0.92	0.97	–	43^{+26}_{-8}
82324	1.00	1.00	0.02	1.00	0.92	1.00	1.00	1.00	120^{+10}_{-12}	116^{+8}_{-18}
82378	0.64	0.49	0.07	0.03	0.67	0.10	0.09	0.04	27^{+10}_{-4}	6^{+2}_{-2}
82385	0.21	0.00	0.00	1.00	0.00	0.92	0.06	1.00	23^{+4}_{-2}	21^{+4}_{-2}
82391	0.68	0.20	0.95	0.21	0.03	0.87	0.73	0.80	29^{+12}_{-4}	29^{+20}_{-10}
82475	–	–	–	–	–	1.00	0.00	1.00	–	23^{+4}_{-2}
82504	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.82	17^{+2}_{-2}	16^{+2}_{-2}
82526	0.01	0.00	0.00	0.74	0.00	0.00	0.00	0.00	17^{+4}_{-2}	15^{+2}_{-2}
82596	–	–	–	–	–	0.69	0.65	0.03	–	22^{+12}_{-6}
82604	0.51	0.05	0.49	0.05	0.04	0.78	0.75	0.01	25^{+16}_{-6}	25^{+12}_{-6}
82617	0.57	0.54	0.13	0.04	0.57	0.02	0.01	0.05	30^{+34}_{-4}	7^{+2}_{-2}
82649	–	–	–	–	–	0.90	0.02	1.00	–	26^{+8}_{-8}
82650	0.70	0.00	0.87	0.00	0.00	1.00	1.00	0.00	27^{+4}_{-4}	27^{+4}_{-4}
82658	–	–	–	–	–	0.81	0.80	0.06	–	32^{+22}_{-12}
82676	0.55	0.43	0.16	0.06	0.45	0.20	0.20	0.06	26^{+12}_{-4}	5^{+4}_{-2}
82691	0.92	0.89	0.01	0.00	0.94	0.01	0.01	0.00	33^{+6}_{-4}	6^{+2}_{-2}
82775	1.00	1.00	0.98	0.01	1.00	0.01	0.01	0.00	118^{+8}_{-6}	2^{+2}_{-2}
82783	1.00	0.98	0.05	0.01	0.94	0.11	0.11	0.01	33^{+2}_{-4}	6^{+4}_{-2}
82798	0.33	0.00	0.00	0.00	0.00	0.99	0.00	1.00	25^{+2}_{-2}	20^{+2}_{-2}
82817	1.00	0.96	0.17	1.00	0.97	1.00	1.00	0.00	42^{+4}_{-4}	26^{+2}_{-2}
82848	–	–	–	–	–	0.57	0.53	0.07	–	20^{+16}_{-4}
82868	0.68	0.62	0.00	0.00	0.75	0.00	0.00	0.00	27^{+6}_{-4}	7^{+2}_{-2}
82911	0.51	0.39	0.03	0.04	0.53	0.04	0.03	0.03	25^{+6}_{-8}	5^{+2}_{-2}
83003	–	–	–	–	–	1.00	1.00	0.05	–	60^{+28}_{-12}
83132	–	–	–	–	–	0.80	0.68	0.68	–	26^{+10}_{-12}
83250	–	–	–	–	–	0.87	0.85	0.23	–	33^{+24}_{-10}
83254	1.00	1.00	1.00	0.99	0.11	1.00	1.00	0.57	108^{+26}_{-52}	103^{+36}_{-30}
83266	–	–	–	–	–	0.50	0.39	0.50	–	18^{+16}_{-6}
83377	–	–	–	–	–	0.82	0.78	0.00	–	23^{+8}_{-4}
83505	–	–	–	–	–	0.88	0.86	0.02	–	33^{+12}_{-16}
83574	0.89	0.65	0.50	0.73	0.75	0.70	0.49	0.81	38^{+18}_{-10}	25^{+14}_{-4}
83587	1.00	0.99	0.08	0.00	0.91	0.77	0.77	0.00	38^{+8}_{-4}	22^{+4}_{-6}
83629	–	–	–	–	–	0.92	0.88	0.56	–	33^{+14}_{-10}
83635	0.75	0.45	0.00	0.01	0.81	0.00	0.00	0.00	28^{+6}_{-4}	8^{+2}_{-2}
83643	1.00	1.00	1.00	0.17	1.00	0.61	0.03	0.96	45^{+4}_{-4}	20^{+8}_{-4}
84038	–	–	–	–	–	1.00	1.00	1.00	–	211^{+146}_{-42}
84139	0.79	0.70	0.00	0.01	0.18	0.64	0.61	0.07	28^{+6}_{-4}	21^{+12}_{-4}
84226	0.84	0.88	0.00	0.00	0.90	0.00	0.00	0.01	31^{+8}_{-2}	5^{+2}_{-2}
84239	0.78	0.23	0.52	0.80	0.00	0.95	0.93	0.17	29^{+8}_{-6}	27^{+12}_{-4}
84260	1.00	0.03	1.00	0.25	0.97	0.77	0.22	0.83	44^{+8}_{-8}	22^{+10}_{-4}
84282	0.87	0.88	0.05	0.06	0.88	0.07	0.07	0.11	51^{+24}_{-26}	7^{+2}_{-2}
84326	–	–	–	–	–	0.58	0.58	0.02	–	19^{+8}_{-4}
84338	0.97	0.99	0.10	0.06	0.98	0.03	0.03	0.02	30^{+4}_{-2}	6^{+2}_{-2}
84345	0.92	0.98	0.00	0.00	0.00	0.95	0.73	0.31	28^{+2}_{-4}	22^{+2}_{-4}
84380	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	16^{+2}_{-2}	13^{+2}_{-2}
84385	–	–	–	–	–	0.72	0.06	0.97	–	24^{+14}_{-8}
84401	0.87	0.76	0.37	0.29	0.90	0.43	0.38	0.32	32^{+10}_{-6}	15^{+8}_{-4}
84483	0.36	0.04	0.17	1.00	0.04	0.56	0.18	0.98	22^{+10}_{-4}	19^{+10}_{-4}
84625	1.00	0.03	0.00	1.00	0.00	1.00	0.00	1.00	32^{+2}_{-4}	26^{+2}_{-4}
84671	1.00	1.00	0.01	0.09	1.00	1.00	1.00	1.00	85^{+2}_{-4}	66^{+4}_{-4}
84680	–	–	–	–	–	1.00	0.75	1.00	–	83^{+52}_{-18}
84687	0.73	0.70	0.44	0.06	0.75	0.02	0.01	0.01	47^{+52}_{-4}	10^{+2}_{-2}
84731	0.37	0.00	0.50	0.01	0.05	0.48	0.50	0.00	21^{+10}_{-8}	18^{+6}_{-6}
84745	0.99	0.83	0.04	0.48	0.88	0.28	0.06	0.50	36^{+2}_{-8}	12^{+12}_{-4}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
84794	0.33	0.32	0.00	0.05	0.00	1.00	0.00	1.00	24^{+4}_{-2}	21^{+2}_{-2}
84946	–	–	–	–	–	0.97	0.88	1.00	–	40^{+32}_{-12}
85015	–	–	–	–	–	1.00	1.00	1.00	–	77^{+22}_{-22}
85035	0.63	0.39	0.36	0.42	0.59	0.43	0.29	0.61	29^{+16}_{-8}	15^{+8}_{-4}
85112	0.08	0.00	0.06	0.89	0.00	1.00	0.00	1.00	22^{+2}_{-2}	21^{+2}_{-2}
85159	0.71	0.40	0.51	0.40	0.10	0.72	0.69	0.45	32^{+24}_{-10}	28^{+16}_{-18}
85162	0.91	0.04	0.94	0.00	0.39	0.87	0.81	0.00	30^{+4}_{-4}	20^{+2}_{-2}
85294	1.00	1.00	0.00	0.95	1.00	1.00	0.93	1.00	48^{+2}_{-2}	39^{+4}_{-2}
85331	1.00	1.00	0.02	1.00	1.00	0.99	0.10	1.00	76^{+6}_{-10}	31^{+8}_{-8}
85357	–	–	–	–	–	0.47	0.25	0.65	–	17^{+14}_{-12}
85398	0.39	0.01	0.19	0.80	0.05	0.54	0.23	0.78	21^{+16}_{-6}	20^{+16}_{-8}
85409	0.77	0.71	0.19	0.04	0.85	0.07	0.08	0.02	30^{+4}_{-12}	3^{+2}_{-2}
85453	–	–	–	–	–	0.76	0.73	0.30	–	27^{+20}_{-4}
85530	–	–	–	–	–	0.98	0.87	0.00	–	20^{+2}_{-2}
85560	1.00	0.51	1.00	0.63	0.98	0.99	0.98	0.05	43^{+10}_{-4}	28^{+8}_{-6}
85885	0.83	0.62	0.33	0.04	0.57	0.48	0.46	0.03	32^{+12}_{-8}	17^{+10}_{-4}
85919	0.60	0.46	0.14	0.33	0.64	0.21	0.12	0.25	26^{+8}_{-8}	5^{+6}_{-2}
86023	–	–	–	–	–	0.50	0.21	0.73	–	18^{+10}_{-6}
86107	1.00	0.97	0.11	1.00	0.23	1.00	0.99	1.00	57^{+26}_{-20}	55^{+38}_{-10}
86153	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	81^{+8}_{-4}	76^{+8}_{-8}
86246	0.73	0.73	0.26	0.13	0.97	0.28	0.23	0.09	27^{+8}_{-2}	8^{+4}_{-2}
86269	0.55	0.57	0.00	0.00	0.54	0.00	0.00	0.00	26^{+6}_{-6}	10^{+2}_{-2}
86284	0.01	0.00	0.47	0.00	0.00	0.95	0.91	0.00	21^{+2}_{-2}	20^{+2}_{-2}
86450	0.61	0.00	0.24	0.89	0.39	0.47	0.00	0.99	27^{+12}_{-8}	18^{+4}_{-2}
86476	0.99	0.95	0.03	0.00	0.99	0.00	0.00	0.00	36^{+6}_{-4}	6^{+2}_{-2}
86709	1.00	0.85	0.00	1.00	0.00	1.00	0.49	1.00	36^{+10}_{-4}	35^{+8}_{-6}
86732	1.00	1.00	0.00	0.00	1.00	0.94	0.44	0.00	38^{+2}_{-2}	19^{+2}_{-2}
86747	–	–	–	–	–	0.48	0.22	0.85	–	17^{+6}_{-4}
86807	–	–	–	–	–	0.27	0.09	0.73	–	14^{+4}_{-4}
86937	–	–	–	–	–	1.00	0.00	1.00	–	26^{+6}_{-4}
87099	0.84	0.02	0.74	0.85	0.10	0.86	0.78	0.83	39^{+24}_{-12}	35^{+24}_{-10}
87244	0.44	0.03	0.47	0.54	0.12	0.60	0.49	0.41	23^{+18}_{-10}	20^{+10}_{-8}
87251	0.86	0.01	0.05	0.96	0.06	0.94	0.04	1.00	35^{+22}_{-4}	32^{+22}_{-8}
87280	0.05	0.06	0.00	0.00	0.00	0.89	0.88	0.00	20^{+2}_{-2}	21^{+4}_{-2}
87379	1.00	1.00	0.00	0.00	0.94	1.00	1.00	0.00	31^{+2}_{-2}	19^{+2}_{-2}
87397	1.00	0.99	0.31	0.27	0.95	0.60	0.57	0.43	54^{+14}_{-12}	22^{+26}_{-8}
87430	1.00	1.00	0.09	0.01	1.00	0.00	0.00	0.02	42^{+2}_{-4}	6^{+2}_{-2}
87522	–	–	–	–	–	1.00	0.99	0.53	–	47^{+12}_{-20}
87723	–	–	–	–	–	0.63	0.25	0.87	–	22^{+16}_{-10}
87728	0.03	0.00	0.18	0.00	0.00	0.02	0.00	0.99	21^{+4}_{-2}	16^{+2}_{-2}
87742	–	–	–	–	–	0.46	0.16	0.81	–	18^{+10}_{-6}
87747	1.00	1.00	0.28	0.95	0.90	1.00	1.00	0.04	69^{+24}_{-16}	62^{+18}_{-22}
87788	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	341^{+38}_{-96}	290^{+98}_{-62}
87809	–	–	–	–	–	0.56	0.51	0.25	–	19^{+10}_{-6}
87812	0.01	0.00	0.00	0.26	0.00	0.03	0.00	0.74	15^{+4}_{-2}	12^{+2}_{-2}
87839	1.00	0.98	0.03	0.02	0.98	0.14	0.11	0.03	37^{+6}_{-4}	15^{+2}_{-2}
87864	1.00	0.93	0.12	1.00	0.95	0.43	0.22	0.87	47^{+6}_{-14}	16^{+8}_{-2}
87866	0.00	0.00	0.00	1.00	0.00	0.18	0.00	0.99	18^{+2}_{-2}	17^{+2}_{-2}
87869	–	–	–	–	–	0.53	0.54	0.02	–	19^{+10}_{-6}
87886	1.00	1.00	0.00	0.01	1.00	0.01	0.01	0.00	42^{+4}_{-6}	2^{+2}_{-2}
87928	0.84	0.01	0.91	0.25	0.12	0.94	0.94	0.12	39^{+28}_{-8}	37^{+22}_{-4}
88004	1.00	1.00	0.00	0.04	1.00	0.01	0.00	0.01	45^{+6}_{-4}	11^{+2}_{-2}
88055	0.47	0.46	0.07	0.04	0.07	0.66	0.66	0.07	25^{+14}_{-10}	23^{+18}_{-8}
88147	–	–	–	–	–	0.51	0.50	0.02	–	18^{+8}_{-6}
88156	–	–	–	–	–	0.95	0.01	1.00	–	30^{+12}_{-8}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
88171	–	–	–	–	–	0.65	0.66	0.16	–	24^{+16}_{-6}
88201	–	–	–	–	–	0.47	0.05	0.76	–	17^{+14}_{-6}
88258	0.75	0.01	0.77	0.17	0.19	0.80	0.78	0.16	31^{+16}_{-10}	26^{+10}_{-8}
88294	0.76	0.38	0.03	0.00	0.53	0.07	0.06	0.00	28^{+4}_{-6}	14^{+2}_{-2}
88305	1.00	1.00	0.01	1.00	1.00	1.00	1.00	1.00	58^{+8}_{-4}	45^{+6}_{-6}
88328	–	–	–	–	–	0.53	0.40	0.42	–	18^{+12}_{-8}
88346	0.39	0.00	0.44	0.01	0.53	0.00	0.00	0.00	24^{+8}_{-4}	6^{+2}_{-2}
88380	0.05	0.00	0.08	0.10	0.00	0.60	0.32	0.11	19^{+4}_{-4}	19^{+4}_{-2}
88434	0.15	0.01	0.08	0.63	0.08	0.08	0.01	0.16	19^{+6}_{-4}	9^{+4}_{-2}
88496	0.70	0.69	0.13	0.12	0.73	0.14	0.12	0.11	28^{+6}_{-8}	5^{+2}_{-2}
88518	1.00	0.80	1.00	0.07	1.00	1.00	1.00	1.00	62^{+6}_{-4}	38^{+12}_{-4}
88562	1.00	0.23	0.00	1.00	1.00	0.00	0.00	0.00	34^{+2}_{-2}	13^{+2}_{-2}
88620	–	–	–	–	–	1.00	0.99	0.33	–	60^{+38}_{-28}
88652	0.99	0.92	0.08	0.21	0.88	0.15	0.12	0.11	34^{+4}_{-4}	7^{+2}_{-2}
88671	0.51	0.00	0.03	1.00	0.00	1.00	0.32	1.00	25^{+4}_{-2}	25^{+4}_{-2}
88714	0.02	0.01	0.00	0.12	0.01	0.00	0.00	1.00	17^{+2}_{-2}	13^{+2}_{-2}
88730	0.97	0.87	0.11	0.06	0.85	0.16	0.12	0.06	30^{+4}_{-2}	6^{+2}_{-2}
88743	0.98	0.33	0.00	0.00	0.01	1.00	1.00	0.02	28^{+2}_{-2}	22^{+2}_{-2}
88855	0.58	0.35	0.04	0.33	0.51	0.10	0.04	0.34	26^{+4}_{-6}	10^{+2}_{-2}
88859	0.81	0.77	0.01	0.00	0.76	0.08	0.09	0.00	29^{+6}_{-4}	11^{+4}_{-4}
88966	–	–	–	–	–	0.53	0.49	0.17	–	19^{+8}_{-10}
88981	0.02	0.00	0.00	0.74	0.00	0.18	0.00	0.67	19^{+4}_{-2}	16^{+2}_{-4}
88984	–	–	–	–	–	0.74	0.59	0.76	–	28^{+20}_{-8}
89061	0.24	0.03	0.07	0.81	0.06	0.26	0.07	0.78	21^{+4}_{-6}	14^{+4}_{-2}
89217	0.09	0.01	0.05	0.50	0.02	0.09	0.09	0.04	17^{+4}_{-4}	9^{+2}_{-2}
89302	–	–	–	–	–	0.61	0.52	0.44	–	21^{+8}_{-8}
89366	–	–	–	–	–	0.72	0.69	0.02	–	21^{+6}_{-4}
89382	0.44	0.00	0.42	0.00	0.00	0.82	0.72	0.03	24^{+6}_{-6}	23^{+6}_{-6}
89386	1.00	0.07	0.99	1.00	0.47	1.00	1.00	1.00	36^{+4}_{-8}	28^{+2}_{-4}
89394	–	–	–	–	–	0.93	0.83	0.38	–	24^{+6}_{-4}
89397	–	–	–	–	–	1.00	0.99	0.47	–	30^{+10}_{-8}
89535	0.18	0.01	0.13	0.73	0.00	0.29	0.12	0.74	16^{+6}_{-6}	14^{+4}_{-2}
89553	–	–	–	–	–	0.84	0.83	0.01	–	26^{+10}_{-10}
89584	1.00	1.00	0.30	0.12	1.00	0.20	0.17	0.11	48^{+6}_{-10}	4^{+2}_{-2}
89683	0.97	0.04	0.00	1.00	0.00	1.00	0.02	1.00	35^{+10}_{-4}	34^{+6}_{-12}
89688	0.53	0.57	0.02	0.09	0.42	0.21	0.24	0.02	26^{+8}_{-4}	13^{+8}_{-4}
89743	0.68	0.41	0.05	0.21	0.62	0.11	0.04	0.19	28^{+6}_{-6}	9^{+2}_{-2}
89755	1.00	1.00	0.88	0.04	1.00	0.03	0.00	0.22	53^{+6}_{-4}	9^{+2}_{-4}
89789	1.00	0.02	0.71	0.75	0.07	0.77	0.14	0.89	30^{+6}_{-4}	23^{+14}_{-4}
89828	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	39^{+2}_{-2}	4^{+2}_{-2}
89859	–	–	–	–	–	0.65	0.50	0.26	–	21^{+6}_{-4}
89866	–	–	–	–	–	0.52	0.32	0.70	–	18^{+8}_{-4}
89902	–	–	–	–	–	1.00	1.00	1.00	–	35^{+6}_{-4}
89956	0.49	0.43	0.13	0.15	0.55	0.11	0.09	0.12	25^{+8}_{-4}	6^{+2}_{-2}
89975	0.83	0.84	0.02	0.07	0.33	0.84	0.87	0.00	32^{+6}_{-10}	25^{+4}_{-12}
90001	0.74	0.63	0.10	0.14	0.70	0.15	0.13	0.13	29^{+6}_{-8}	3^{+2}_{-2}
90018	–	–	–	–	–	1.00	1.00	0.33	–	50^{+26}_{-12}
90231	0.72	0.44	0.17	0.68	0.74	0.00	0.00	0.00	31^{+14}_{-4}	10^{+2}_{-2}
90314	1.00	0.96	0.23	1.00	0.80	1.00	0.98	1.00	62^{+46}_{-12}	57^{+46}_{-14}
90452	–	–	–	–	–	0.76	0.73	0.24	–	34^{+22}_{-8}
90494	0.55	0.49	0.00	0.00	0.60	0.00	0.00	0.00	25^{+2}_{-8}	9^{+2}_{-2}
90497	0.01	0.00	0.05	0.00	0.00	0.65	0.47	0.00	20^{+2}_{-4}	19^{+2}_{-2}
90507	–	–	–	–	–	0.73	0.02	0.96	–	23^{+14}_{-4}
90604	0.68	0.28	0.21	0.02	0.20	0.57	0.48	0.05	27^{+6}_{-6}	19^{+4}_{-6}
90610	0.57	0.05	0.64	0.15	0.08	0.74	0.76	0.17	28^{+22}_{-12}	30^{+14}_{-10}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
90692	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	39^{+4}_{-6}	4^{+2}_{-2}
90761	0.67	0.05	0.69	0.18	0.18	0.87	0.88	0.15	32^{+24}_{-8}	32^{+18}_{-8}
90797	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	64^{+4}_{-4}	13^{+2}_{-2}
90804	0.37	0.00	0.46	0.27	0.01	0.67	0.56	0.28	23^{+10}_{-6}	21^{+8}_{-6}
90871	–	–	–	–	–	0.52	0.42	0.50	–	19^{+14}_{-10}
90886	–	–	–	–	–	1.00	1.00	0.85	–	59^{+34}_{-22}
90927	–	–	–	–	–	0.64	0.45	0.74	–	23^{+16}_{-10}
90950	0.61	0.03	0.70	0.19	0.09	0.78	0.78	0.21	29^{+22}_{-8}	28^{+16}_{-4}
90971	0.57	0.00	0.75	0.14	0.21	0.55	0.51	0.03	26^{+8}_{-6}	19^{+4}_{-4}
90992	–	–	–	–	–	0.58	0.56	0.06	–	20^{+14}_{-6}
91003	1.00	0.99	0.39	0.13	0.99	0.15	0.11	0.10	62^{+6}_{-6}	3^{+2}_{-2}
91004	0.35	0.00	0.49	0.00	0.00	0.65	0.63	0.00	22^{+8}_{-6}	21^{+6}_{-4}
91049	1.00	1.00	0.85	0.99	0.98	1.00	1.00	0.05	100^{+40}_{-20}	91^{+62}_{-24}
91066	0.52	0.07	0.49	0.08	0.08	0.64	0.62	0.10	25^{+12}_{-8}	23^{+6}_{-4}
91233	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	35^{+2}_{-2}	10^{+2}_{-2}
91292	–	–	–	–	–	1.00	1.00	0.73	–	123^{+60}_{-48}
91302	0.80	0.10	0.92	0.60	0.03	0.83	0.66	0.46	27^{+4}_{-4}	23^{+12}_{-4}
91352	0.40	0.04	0.36	0.51	0.14	0.53	0.44	0.52	21^{+22}_{-8}	19^{+14}_{-6}
91359	1.00	1.00	0.99	1.00	1.00	0.56	0.42	0.54	116^{+12}_{-10}	21^{+20}_{-8}
91373	0.95	0.94	0.00	0.04	0.00	1.00	1.00	0.00	35^{+14}_{-2}	35^{+10}_{-6}
91444	–	–	–	–	–	1.00	0.21	1.00	–	48^{+24}_{-8}
91477	0.92	0.88	0.26	0.05	0.94	0.08	0.07	0.06	41^{+14}_{-12}	3^{+2}_{-2}
91594	1.00	1.00	0.11	0.00	1.00	1.00	1.00	0.11	73^{+4}_{-10}	54^{+8}_{-10}
91599	1.00	1.00	0.13	0.00	1.00	0.99	0.98	0.00	53^{+4}_{-2}	29^{+8}_{-6}
91659	1.00	1.00	0.00	0.01	1.00	0.01	0.00	0.00	32^{+2}_{-2}	14^{+2}_{-2}
91713	–	–	–	–	–	0.52	0.37	0.82	–	20^{+10}_{-2}
91828	–	–	–	–	–	0.72	0.71	0.02	–	24^{+14}_{-10}
91845	0.01	0.00	0.01	0.00	0.00	0.90	0.83	0.00	20^{+2}_{-2}	20^{+2}_{-2}
91851	1.00	1.00	0.07	0.93	0.99	0.76	0.50	0.86	55^{+8}_{-4}	25^{+10}_{-8}
91898	1.00	1.00	1.00	0.93	1.00	1.00	0.92	1.00	46^{+6}_{-4}	35^{+10}_{-2}
91974	0.63	0.63	0.00	0.00	0.67	0.00	0.00	0.00	27^{+6}_{-2}	9^{+2}_{-2}
91988	0.82	0.49	0.05	0.04	0.57	0.13	0.00	0.41	29^{+6}_{-4}	14^{+4}_{-2}
92038	0.53	0.00	0.64	0.00	0.01	0.79	0.81	0.01	26^{+12}_{-6}	25^{+10}_{-4}
92041	1.00	0.74	0.60	0.99	0.96	1.00	0.00	0.00	37^{+4}_{-6}	19^{+2}_{-2}
92056	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	29^{+2}_{-2}	27^{+2}_{-2}
92130	–	–	–	–	–	1.00	1.00	0.84	–	56^{+24}_{-14}
92133	0.24	0.00	0.20	0.91	0.01	0.79	0.00	1.00	23^{+4}_{-2}	20^{+2}_{-4}
92136	0.41	0.03	0.26	0.69	0.05	0.61	0.40	0.67	24^{+8}_{-8}	20^{+6}_{-4}
92175	0.48	0.00	0.76	0.00	0.01	0.89	0.76	0.00	25^{+4}_{-4}	21^{+4}_{-2}
92178	0.54	0.52	0.00	0.02	0.00	0.93	0.78	0.21	25^{+4}_{-6}	23^{+4}_{-4}
92202	1.00	1.00	1.00	1.00	0.89	1.00	1.00	1.00	271^{+146}_{-72}	272^{+157}_{-64}
92301	0.71	0.38	0.00	0.15	0.32	0.03	0.03	0.02	26^{+2}_{-2}	13^{+2}_{-2}
92390	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	56^{+8}_{-4}	56^{+8}_{-6}
92391	0.48	0.00	0.62	0.14	0.01	0.85	0.86	0.16	25^{+10}_{-6}	25^{+8}_{-6}
92434	0.97	0.98	0.01	0.01	0.91	0.60	0.54	0.02	37^{+8}_{-6}	19^{+10}_{-4}
92478	0.30	0.07	0.14	0.53	0.18	0.27	0.04	0.43	17^{+8}_{-12}	11^{+8}_{-4}
92488	0.94	0.74	0.14	0.76	0.31	1.00	0.99	0.84	36^{+8}_{-12}	31^{+14}_{-6}
92512	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	37^{+2}_{-2}	36^{+2}_{-2}
92525	–	–	–	–	–	1.00	1.00	1.00	–	71^{+26}_{-14}
92747	1.00	0.00	1.00	0.97	0.00	1.00	1.00	0.98	45^{+8}_{-12}	44^{+10}_{-6}
92758	–	–	–	–	–	0.84	0.79	0.20	–	31^{+20}_{-6}
92787	–	–	–	–	–	0.96	0.93	0.68	–	30^{+10}_{-8}
92791	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	18^{+2}_{-2}	12^{+2}_{-2}
92845	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	86^{+10}_{-14}	39^{+2}_{-2}
92919	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	40^{+2}_{-2}	30^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
93015	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	50^{+4}_{-4}	31^{+2}_{-2}
93034	0.88	0.04	0.01	0.32	0.04	0.41	0.02	0.69	26^{+2}_{-2}	17^{+6}_{-4}
93051	0.01	0.00	0.03	0.00	0.00	0.78	0.56	0.00	20^{+2}_{-2}	19^{+2}_{-2}
93111	1.00	0.00	1.00	1.00	1.00	0.93	0.65	0.53	40^{+2}_{-2}	22^{+2}_{-4}
93118	0.35	0.00	0.10	0.92	0.01	0.58	0.16	0.84	22^{+8}_{-6}	20^{+10}_{-6}
93132	0.04	0.00	0.00	0.41	0.00	0.19	0.00	0.64	18^{+4}_{-2}	15^{+4}_{-4}
93234	0.53	0.00	0.79	0.00	0.00	0.93	0.92	0.01	25^{+4}_{-8}	25^{+6}_{-4}
93279	0.09	0.16	0.00	0.00	0.00	0.97	0.96	0.00	22^{+2}_{-2}	21^{+4}_{-2}
93340	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	27^{+2}_{-2}	16^{+2}_{-2}
93396	0.77	0.63	0.27	0.85	0.05	0.95	0.88	0.86	40^{+38}_{-10}	41^{+40}_{-8}
93417	1.00	1.00	0.34	0.00	1.00	1.00	1.00	0.00	56^{+8}_{-6}	46^{+12}_{-6}
93449	0.97	0.41	0.06	0.97	0.84	0.53	0.10	0.65	34^{+6}_{-4}	18^{+2}_{-4}
93510	–	–	–	–	–	1.00	1.00	0.39	–	51^{+24}_{-14}
93537	0.80	0.01	0.84	0.36	0.14	0.89	0.86	0.53	33^{+12}_{-12}	30^{+14}_{-6}
93581	0.48	0.08	0.38	0.12	0.06	0.54	0.58	0.11	25^{+10}_{-8}	20^{+10}_{-6}
93602	–	–	–	–	–	0.01	0.00	0.87	–	13^{+2}_{-2}
93629	–	–	–	–	–	1.00	1.00	0.01	–	21^{+2}_{-2}
93631	–	–	–	–	–	1.00	1.00	1.00	–	95^{+24}_{-36}
93642	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.65	22^{+2}_{-2}	13^{+2}_{-2}
93796	1.00	1.00	0.76	0.00	1.00	0.00	0.00	0.00	41^{+8}_{-4}	5^{+2}_{-2}
93867	0.88	0.02	0.75	0.12	0.00	1.00	1.00	0.12	30^{+6}_{-4}	28^{+6}_{-2}
93892	0.13	0.00	0.10	0.30	0.00	0.52	0.28	0.28	19^{+4}_{-4}	18^{+2}_{-4}
93895	–	–	–	–	–	0.65	0.61	0.34	–	23^{+12}_{-6}
93934	0.63	0.17	0.69	0.58	0.09	0.81	0.77	0.51	28^{+14}_{-8}	26^{+28}_{-4}
93941	–	–	–	–	–	0.76	0.62	0.04	–	20^{+4}_{-2}
93952	–	–	–	–	–	0.56	0.59	0.24	–	21^{+14}_{-6}
93974	0.05	0.01	0.00	0.69	0.00	0.35	0.02	0.52	19^{+4}_{-4}	17^{+4}_{-2}
94014	–	–	–	–	–	0.88	0.83	0.46	–	27^{+10}_{-6}
94103	1.00	0.12	1.00	0.42	0.33	0.84	0.78	0.45	33^{+6}_{-2}	26^{+12}_{-10}
94141	0.01	0.00	0.08	0.00	0.00	0.56	0.52	0.00	19^{+2}_{-2}	18^{+2}_{-2}
94157	0.75	0.23	0.39	0.00	0.37	0.56	0.50	0.00	29^{+4}_{-4}	19^{+4}_{-4}
94198	–	–	–	–	–	0.79	0.57	0.90	–	29^{+20}_{-10}
94260	0.24	0.05	0.00	0.57	0.00	0.74	0.24	0.64	22^{+4}_{-4}	20^{+4}_{-4}
94344	1.00	1.00	0.00	0.65	1.00	0.00	0.00	0.00	32^{+2}_{-2}	3^{+2}_{-2}
94356	0.37	0.11	0.20	0.28	0.03	0.41	0.27	0.79	22^{+8}_{-6}	15^{+4}_{-4}
94385	0.01	0.00	0.00	0.98	0.00	0.19	0.00	1.00	20^{+2}_{-2}	17^{+2}_{-2}
94391	–	–	–	–	–	1.00	1.00	1.00	–	58^{+12}_{-4}
94434	0.35	0.01	0.27	0.00	0.01	0.66	0.62	0.00	23^{+6}_{-2}	20^{+4}_{-2}
94445	0.98	0.96	0.00	0.01	0.49	0.77	0.67	0.01	31^{+6}_{-2}	22^{+6}_{-6}
94492	–	–	–	–	–	1.00	0.86	1.00	–	42^{+10}_{-6}
94500	–	–	–	–	–	0.61	0.53	0.17	–	20^{+6}_{-8}
94528	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	35^{+2}_{-2}	13^{+2}_{-2}
94589	–	–	–	–	–	0.65	0.64	0.00	–	18^{+2}_{-2}
94716	0.97	0.93	0.02	0.47	0.02	1.00	1.00	0.28	34^{+10}_{-6}	32^{+10}_{-4}
94730	0.72	0.47	0.04	0.67	0.16	0.80	0.04	0.84	32^{+20}_{-8}	27^{+22}_{-10}
94740	0.69	0.00	0.76	0.56	0.36	0.33	0.12	0.14	28^{+4}_{-6}	17^{+4}_{-2}
94747	0.02	0.00	0.00	0.99	0.00	0.18	0.00	1.00	17^{+4}_{-4}	15^{+4}_{-2}
94761	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	63^{+2}_{-2}	38^{+2}_{-2}
94843	–	–	–	–	–	1.00	1.00	0.18	–	33^{+16}_{-4}
94859	–	–	–	–	–	0.97	0.96	0.43	–	33^{+8}_{-12}
94899	1.00	1.00	1.00	1.00	1.00	1.00	0.35	1.00	164^{+8}_{-4}	48^{+6}_{-4}
94934	1.00	1.00	0.70	0.15	0.13	1.00	1.00	0.31	109^{+26}_{-22}	105^{+22}_{-28}
94937	0.99	0.04	0.00	1.00	0.52	0.97	0.02	1.00	38^{+8}_{-10}	30^{+12}_{-6}
95099	0.35	0.02	0.33	0.02	0.06	0.52	0.51	0.05	21^{+8}_{-8}	19^{+10}_{-2}
95138	–	–	–	–	–	0.15	0.01	0.86	–	13^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
95251	–	–	–	–	–	0.97	0.81	0.99	–	46^{+32}_{-14}
95306	0.22	0.05	0.01	0.00	0.01	0.76	0.47	0.00	23^{+2}_{-2}	20^{+2}_{-4}
95325	0.48	0.03	0.58	0.48	0.26	0.58	0.43	0.50	25^{+20}_{-8}	20^{+12}_{-6}
95372	0.09	0.16	0.00	0.00	0.00	0.85	0.86	0.00	23^{+2}_{-2}	19^{+2}_{-2}
95408	0.02	0.00	0.00	0.99	0.00	0.12	0.00	0.71	18^{+2}_{-2}	14^{+2}_{-4}
95524	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	81^{+24}_{-12}	74^{+24}_{-16}
95537	–	–	–	–	–	0.84	0.79	0.47	–	31^{+22}_{-10}
95551	0.84	0.32	0.81	0.00	0.89	0.00	0.00	0.00	37^{+8}_{-14}	6^{+2}_{-2}
95624	0.51	0.07	0.63	0.28	0.49	0.14	0.03	0.24	26^{+14}_{-8}	9^{+6}_{-2}
95648	–	–	–	–	–	0.65	0.03	0.94	–	19^{+4}_{-4}
95702	1.00	0.98	1.00	0.24	1.00	1.00	1.00	1.00	259^{+4}_{-8}	46^{+16}_{-12}
95750	–	–	–	–	–	0.62	0.59	0.45	–	22^{+14}_{-12}
95818	0.99	0.00	1.00	0.29	0.87	0.83	0.64	0.22	36^{+8}_{-4}	21^{+4}_{-4}
95873	1.00	1.00	0.68	0.08	1.00	1.00	1.00	0.29	49^{+4}_{-2}	30^{+8}_{-2}
95911	–	–	–	–	–	0.92	0.90	0.07	–	39^{+34}_{-10}
95952	0.33	0.00	0.38	0.00	0.01	0.69	0.67	0.01	22^{+10}_{-4}	21^{+8}_{-4}
96003	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	33^{+4}_{-2}	32^{+2}_{-4}
96045	–	–	–	–	–	0.85	0.80	0.61	–	30^{+22}_{-12}
96115	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	160^{+20}_{-8}	112^{+16}_{-26}
96130	1.00	0.97	0.03	0.98	1.00	0.05	0.03	0.23	40^{+8}_{-4}	11^{+2}_{-2}
96132	–	–	–	–	–	0.74	0.25	0.20	–	19^{+4}_{-2}
96254	0.70	0.20	0.63	0.64	0.62	0.43	0.06	0.71	32^{+16}_{-12}	15^{+12}_{-6}
96357	–	–	–	–	–	1.00	0.99	0.41	–	56^{+46}_{-14}
96362	0.37	0.43	0.01	0.04	0.00	0.66	0.63	0.03	23^{+8}_{-6}	21^{+10}_{-4}
96428	0.99	0.00	1.00	0.22	0.89	0.79	0.18	0.53	35^{+4}_{-6}	20^{+2}_{-4}
96546	1.00	1.00	0.01	1.00	0.75	1.00	1.00	0.64	40^{+4}_{-2}	32^{+8}_{-4}
96599	1.00	0.99	1.00	0.98	1.00	1.00	1.00	1.00	396^{+26}_{-14}	92^{+54}_{-48}
96693	1.00	1.00	0.00	0.00	0.04	1.00	1.00	0.00	35^{+2}_{-4}	32^{+2}_{-2}
96700	0.97	0.64	0.03	0.00	0.74	0.15	0.11	0.00	29^{+2}_{-2}	13^{+4}_{-2}
96825	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	29^{+2}_{-2}	28^{+2}_{-2}
96860	–	–	–	–	–	1.00	0.03	1.00	–	33^{+16}_{-6}
96910	–	–	–	–	–	0.97	0.01	0.94	–	23^{+4}_{-4}
96966	0.98	0.98	0.03	0.01	0.60	0.97	0.96	0.00	37^{+6}_{-6}	26^{+8}_{-4}
96986	–	–	–	–	–	1.00	0.32	1.00	–	49^{+18}_{-14}
97006	1.00	0.00	1.00	1.00	1.00	0.95	0.00	1.00	39^{+2}_{-2}	21^{+4}_{-2}
97045	0.45	0.04	0.34	0.84	0.52	0.17	0.09	0.33	25^{+6}_{-6}	10^{+4}_{-2}
97084	–	–	–	–	–	0.58	0.61	0.05	–	20^{+12}_{-6}
97135	1.00	0.76	1.00	1.00	0.50	1.00	1.00	1.00	99^{+58}_{-26}	96^{+44}_{-42}
97198	–	–	–	–	–	1.00	0.60	1.00	–	47^{+8}_{-10}
97201	0.66	0.63	0.07	0.28	0.03	0.80	0.84	0.27	31^{+22}_{-12}	29^{+22}_{-12}
97246	0.84	0.60	0.55	0.02	0.82	0.09	0.06	0.02	34^{+10}_{-10}	12^{+2}_{-2}
97260	0.46	0.13	0.00	0.93	0.54	0.00	0.00	0.00	25^{+6}_{-4}	7^{+2}_{-2}
97275	0.49	0.22	0.25	0.16	0.52	0.09	0.07	0.12	24^{+10}_{-8}	4^{+2}_{-4}
97365	0.21	0.00	0.12	1.00	0.03	0.34	0.00	1.00	22^{+2}_{-4}	17^{+2}_{-2}
97394	1.00	1.00	0.00	1.00	1.00	0.09	0.02	0.21	106^{+4}_{-4}	10^{+6}_{-4}
97395	–	–	–	–	–	1.00	0.28	1.00	–	51^{+24}_{-18}
97402	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	37^{+4}_{-2}	36^{+4}_{-2}
97432	1.00	0.76	1.00	0.01	0.99	1.00	1.00	0.47	38^{+2}_{-2}	26^{+4}_{-2}
97450	1.00	0.92	0.09	1.00	0.95	1.00	0.02	1.00	37^{+4}_{-4}	22^{+2}_{-2}
97475	–	–	–	–	–	1.00	1.00	0.31	–	34^{+20}_{-6}
97518	–	–	–	–	–	0.96	0.96	0.34	–	51^{+40}_{-14}
97545	0.74	0.65	0.01	0.03	0.44	0.22	0.10	0.50	28^{+6}_{-2}	15^{+4}_{-2}
97560	0.92	0.92	0.00	0.00	0.09	0.86	0.85	0.00	30^{+6}_{-4}	23^{+6}_{-4}
97611	0.35	0.00	0.69	0.29	0.01	1.00	1.00	0.00	24^{+2}_{-4}	21^{+2}_{-2}
97618	–	–	–	–	–	0.66	0.19	0.90	–	22^{+8}_{-10}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
97678	–	–	–	–	–	1.00	1.00	0.22	–	53^{+24}_{-8}
97679	0.09	0.00	0.00	1.00	0.00	0.77	0.00	1.00	23^{+2}_{-2}	19^{+2}_{-2}
97680	0.20	0.02	0.08	0.96	0.00	0.45	0.10	0.95	20^{+8}_{-2}	17^{+4}_{-2}
97774	0.43	0.13	0.01	0.00	0.00	1.00	1.00	0.00	25^{+4}_{-2}	23^{+2}_{-2}
97778	–	–	–	–	–	0.51	0.49	0.22	–	18^{+18}_{-6}
97804	0.28	0.05	0.15	0.47	0.07	0.33	0.03	0.55	16^{+10}_{-10}	13^{+10}_{-6}
97845	1.00	0.00	1.00	0.00	1.00	0.99	0.84	0.20	61^{+6}_{-2}	22^{+2}_{-2}
97874	–	–	–	–	–	0.99	0.99	0.39	–	56^{+40}_{-14}
97886	0.48	0.42	0.00	0.00	0.00	0.97	0.83	0.00	25^{+2}_{-2}	20^{+2}_{-2}
97895	0.57	0.44	0.00	0.00	0.00	1.00	1.00	0.01	26^{+4}_{-2}	25^{+4}_{-4}
97957	–	–	–	–	–	0.47	0.07	0.60	–	18^{+8}_{-4}
97979	1.00	0.04	0.84	0.67	1.00	0.29	0.00	0.82	31^{+4}_{-4}	15^{+4}_{-4}
97985	0.95	0.96	0.00	0.00	0.00	1.00	1.00	0.00	29^{+2}_{-4}	26^{+4}_{-4}
98073	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	39^{+2}_{-2}	34^{+2}_{-2}
98085	0.54	0.04	0.52	0.65	0.19	0.62	0.16	0.68	27^{+20}_{-8}	21^{+10}_{-8}
98163	1.00	0.02	1.00	0.00	0.96	1.00	1.00	1.00	66^{+8}_{-10}	58^{+10}_{-8}
98242	0.21	0.01	0.65	0.34	0.07	0.19	0.04	0.42	23^{+2}_{-2}	10^{+8}_{-2}
98286	–	–	–	–	–	1.00	1.00	0.04	–	28^{+4}_{-6}
98353	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	49^{+2}_{-4}	24^{+2}_{-2}
98360	0.49	0.20	0.12	0.38	0.22	0.61	0.50	0.05	25^{+8}_{-6}	19^{+4}_{-4}
98371	1.00	0.94	1.00	0.00	1.00	0.10	0.10	0.00	38^{+2}_{-2}	14^{+2}_{-4}
98377	0.84	0.86	0.12	0.62	0.33	0.95	0.94	0.71	44^{+28}_{-18}	40^{+32}_{-16}
98388	–	–	–	–	–	0.39	0.00	0.98	–	18^{+2}_{-2}
98396	0.90	0.65	0.90	0.04	0.92	0.03	0.02	0.02	52^{+24}_{-16}	8^{+2}_{-2}
98418	1.00	0.89	0.41	0.06	0.90	0.76	0.72	0.04	38^{+8}_{-2}	22^{+6}_{-6}
98443	–	–	–	–	–	1.00	1.00	0.45	–	47^{+24}_{-10}
98458	0.40	0.02	0.38	0.50	0.23	0.24	0.01	0.54	23^{+10}_{-8}	12^{+8}_{-2}
98610	1.00	0.11	0.76	0.00	0.00	1.00	1.00	0.00	31^{+2}_{-2}	26^{+2}_{-4}
98661	0.99	0.99	0.00	0.02	0.42	0.98	0.98	0.01	34^{+6}_{-4}	24^{+6}_{-4}
98738	0.95	0.00	0.00	1.00	0.00	0.77	0.00	1.00	27^{+2}_{-2}	20^{+2}_{-4}
98753	0.36	0.14	0.32	0.07	0.05	0.51	0.51	0.07	23^{+8}_{-6}	19^{+6}_{-4}
98762	–	–	–	–	–	1.00	1.00	1.00	–	79^{+40}_{-24}
98773	1.00	1.00	0.36	1.00	0.84	1.00	1.00	1.00	64^{+18}_{-14}	52^{+26}_{-6}
98817	1.00	1.00	0.00	0.00	0.45	1.00	1.00	0.00	78^{+8}_{-8}	75^{+10}_{-6}
98995	0.08	0.00	0.00	0.97	0.00	0.54	0.03	0.98	19^{+4}_{-2}	18^{+2}_{-4}
99005	0.26	0.20	0.04	0.06	0.05	0.53	0.46	0.05	20^{+8}_{-4}	19^{+6}_{-4}
99067	0.92	0.05	0.94	0.13	0.81	0.14	0.09	0.26	31^{+4}_{-8}	11^{+2}_{-2}
99070	–	–	–	–	–	0.73	0.05	0.88	–	30^{+36}_{-6}
99120	1.00	1.00	0.00	0.04	1.00	1.00	1.00	1.00	56^{+6}_{-2}	38^{+2}_{-4}
99221	0.01	0.00	0.09	0.01	0.00	0.86	0.69	0.00	20^{+4}_{-2}	20^{+2}_{-2}
99234	0.56	0.31	0.05	0.03	0.54	0.09	0.02	0.13	26^{+4}_{-10}	10^{+4}_{-4}
99250	0.41	0.01	0.27	0.34	0.00	0.93	0.79	0.42	24^{+6}_{-4}	23^{+4}_{-4}
99283	0.90	0.00	0.97	0.02	0.87	0.05	0.03	0.03	31^{+8}_{-4}	10^{+2}_{-2}
99303	0.32	0.02	0.00	1.00	0.00	1.00	0.88	1.00	24^{+2}_{-2}	24^{+2}_{-4}
99349	–	–	–	–	–	0.28	0.03	0.91	–	16^{+2}_{-4}
99363	–	–	–	–	–	0.88	0.16	0.89	–	23^{+6}_{-6}
99435	1.00	0.11	0.58	0.30	0.39	1.00	0.11	1.00	33^{+2}_{-6}	24^{+2}_{-4}
99527	1.00	1.00	0.99	0.03	1.00	0.02	0.01	0.01	50^{+2}_{-2}	7^{+2}_{-2}
99546	–	–	–	–	–	1.00	0.84	0.88	–	25^{+6}_{-2}
99580	1.00	0.06	0.96	1.00	0.93	1.00	0.14	1.00	52^{+18}_{-6}	35^{+18}_{-8}
99618	0.54	0.19	0.41	0.08	0.02	0.84	0.85	0.09	25^{+10}_{-6}	24^{+10}_{-4}
99670	0.30	0.07	0.10	0.54	0.32	0.26	0.11	0.35	24^{+2}_{-4}	9^{+12}_{-4}
99943	–	–	–	–	–	1.00	1.00	0.07	–	74^{+46}_{-20}
99953	0.52	0.48	0.01	0.00	0.00	0.99	0.96	0.00	25^{+6}_{-4}	24^{+4}_{-6}
100005	–	–	–	–	–	0.96	0.55	1.00	–	25^{+4}_{-6}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
100088	0.66	0.58	0.12	0.05	0.01	0.89	0.87	0.05	30^{+18}_{-8}	31^{+18}_{-12}
100110	–	–	–	–	–	1.00	1.00	1.00	–	43^{+2}_{-4}
100142	0.61	0.58	0.00	0.00	0.00	1.00	0.99	0.00	26^{+2}_{-4}	25^{+4}_{-4}
100172	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	63^{+2}_{-2}	35^{+4}_{-4}
100180	–	–	–	–	–	1.00	1.00	1.00	–	106^{+61}_{-39}
100296	0.60	0.05	0.76	0.01	0.42	0.23	0.23	0.01	26^{+6}_{-6}	12^{+8}_{-2}
100308	0.77	0.67	0.03	0.13	0.10	0.95	0.90	0.11	30^{+10}_{-8}	28^{+14}_{-6}
100314	–	–	–	–	–	0.80	0.23	0.59	–	20^{+4}_{-2}
100346	–	–	–	–	–	1.00	1.00	0.33	–	48^{+14}_{-18}
100376	–	–	–	–	–	0.65	0.45	0.08	–	19^{+4}_{-2}
100390	1.00	0.39	0.01	0.98	0.02	0.92	0.41	0.93	32^{+6}_{-4}	25^{+8}_{-6}
100391	0.44	0.02	0.53	0.35	0.23	0.21	0.06	0.40	25^{+6}_{-6}	14^{+4}_{-2}
100392	1.00	0.01	1.00	0.06	1.00	0.02	0.01	0.04	43^{+6}_{-4}	5^{+2}_{-4}
100409	1.00	0.01	1.00	0.97	1.00	0.08	0.04	0.17	66^{+6}_{-6}	9^{+2}_{-2}
100524	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.66	14^{+2}_{-2}	12^{+2}_{-2}
100534	–	–	–	–	–	1.00	0.43	1.00	–	67^{+24}_{-20}
100556	–	–	–	–	–	0.87	0.41	0.95	–	33^{+24}_{-14}
100651	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	55^{+14}_{-8}	55^{+10}_{-14}
100684	1.00	1.00	0.97	1.00	0.99	1.00	1.00	1.00	81^{+8}_{-2}	73^{+6}_{-6}
100708	0.85	0.01	0.95	0.08	0.88	0.04	0.01	0.11	30^{+6}_{-6}	5^{+2}_{-2}
100845	–	–	–	–	–	1.00	1.00	0.00	–	22^{+2}_{-2}
100866	0.33	0.35	0.03	0.10	0.03	0.49	0.50	0.10	20^{+14}_{-6}	18^{+12}_{-6}
100903	–	–	–	–	–	1.00	0.82	1.00	–	44^{+22}_{-10}
101112	0.65	0.08	0.74	0.08	0.55	0.10	0.07	0.14	27^{+6}_{-4}	8^{+2}_{-2}
101186	0.73	0.25	0.05	0.96	0.03	0.71	0.35	0.99	29^{+6}_{-8}	22^{+10}_{-6}
101219	–	–	–	–	–	0.94	0.95	0.43	–	42^{+38}_{-12}
101316	0.03	0.00	0.00	0.59	0.00	0.14	0.01	0.45	15^{+2}_{-2}	12^{+6}_{-4}
101350	1.00	0.00	0.37	1.00	0.48	1.00	0.00	1.00	38^{+4}_{-4}	30^{+4}_{-6}
101412	1.00	1.00	0.04	1.00	0.02	1.00	1.00	1.00	66^{+28}_{-16}	66^{+30}_{-14}
101608	0.00	0.00	0.00	1.00	0.00	0.75	0.00	1.00	20^{+2}_{-2}	19^{+2}_{-2}
101634	0.38	0.02	0.32	0.55	0.02	0.55	0.15	0.98	24^{+4}_{-6}	19^{+10}_{-4}
101692	0.54	0.00	0.22	0.99	0.00	0.96	0.02	1.00	25^{+8}_{-2}	25^{+6}_{-2}
101790	–	–	–	–	–	0.53	0.54	0.11	–	18^{+4}_{-4}
101796	–	–	–	–	–	0.55	0.51	0.02	–	19^{+6}_{-2}
101832	–	–	–	–	–	0.92	0.88	0.66	–	37^{+32}_{-12}
101841	0.53	0.50	0.12	0.26	0.13	0.70	0.67	0.25	27^{+24}_{-8}	24^{+26}_{-10}
101870	0.07	0.01	0.00	0.60	0.00	0.19	0.01	0.47	14^{+4}_{-2}	11^{+6}_{-4}
101909	0.16	0.00	0.00	0.06	0.00	0.92	0.85	0.08	22^{+2}_{-4}	21^{+4}_{-2}
101921	0.56	0.46	0.01	0.04	0.01	0.94	0.93	0.14	26^{+10}_{-4}	25^{+10}_{-4}
101923	0.50	0.00	0.53	0.15	0.00	0.89	0.87	0.21	25^{+10}_{-4}	25^{+8}_{-6}
101938	–	–	–	–	–	1.00	1.00	0.00	–	27^{+4}_{-4}
101953	1.00	1.00	0.00	0.05	1.00	1.00	1.00	1.00	47^{+2}_{-2}	37^{+4}_{-4}
101967	0.85	0.02	0.90	0.83	0.22	0.86	0.43	0.93	38^{+22}_{-12}	33^{+24}_{-10}
102000	–	–	–	–	–	0.78	0.71	0.00	–	21^{+4}_{-4}
102096	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	87^{+18}_{-10}	85^{+18}_{-8}
102377	0.92	0.00	0.00	1.00	0.00	0.99	0.00	1.00	31^{+8}_{-4}	28^{+6}_{-6}
102387	–	–	–	–	–	1.00	1.00	0.69	–	28^{+10}_{-6}
102440	0.55	0.06	0.22	0.83	0.03	0.70	0.03	0.93	27^{+14}_{-6}	22^{+14}_{-6}
102504	0.96	0.59	0.93	0.74	0.14	1.00	0.99	0.84	49^{+36}_{-12}	45^{+26}_{-14}
102531	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	36^{+2}_{-2}	36^{+2}_{-2}
102589	0.00	0.00	0.00	0.52	0.00	0.01	0.00	0.70	17^{+2}_{-2}	12^{+2}_{-4}
102609	1.00	0.14	0.99	0.21	0.98	0.20	0.15	0.27	44^{+6}_{-6}	9^{+6}_{-2}
102641	–	–	–	–	–	1.00	1.00	0.45	–	70^{+36}_{-26}
102658	1.00	1.00	0.85	0.00	1.00	1.00	1.00	1.00	90^{+4}_{-10}	73^{+12}_{-6}
102772	0.17	0.00	0.28	0.05	0.00	0.66	0.28	0.42	21^{+6}_{-4}	20^{+4}_{-4}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
102804	–	–	–	–	–	1.00	0.00	1.00	–	32^{+6}_{-2}
102912	1.00	1.00	0.00	0.04	0.00	1.00	1.00	0.09	43^{+2}_{-6}	43^{+4}_{-4}
102916	0.78	0.81	0.00	0.00	0.36	0.57	0.00	1.00	28^{+6}_{-2}	18^{+2}_{-2}
102918	0.53	0.55	0.04	0.25	0.03	0.72	0.69	0.24	28^{+22}_{-10}	26^{+20}_{-10}
102943	–	–	–	–	–	0.73	0.69	0.08	–	21^{+6}_{-4}
102950	0.77	0.75	0.00	0.09	0.57	0.00	0.00	0.21	28^{+4}_{-4}	14^{+2}_{-2}
102953	0.10	0.05	0.07	0.45	0.11	0.19	0.06	0.54	16^{+4}_{-2}	14^{+2}_{-2}
102978	0.78	0.14	0.00	0.14	0.00	1.00	0.00	1.00	26^{+2}_{-2}	22^{+2}_{-2}
102979	–	–	–	–	–	0.10	0.04	0.78	–	13^{+2}_{-2}
102999	1.00	0.45	1.00	1.00	0.95	1.00	1.00	1.00	94^{+48}_{-16}	77^{+44}_{-28}
103035	0.39	0.07	0.00	0.00	0.00	1.00	1.00	0.00	24^{+2}_{-2}	23^{+2}_{-2}
103049	–	–	–	–	–	1.00	0.00	1.00	–	23^{+2}_{-2}
103141	0.24	0.08	0.03	0.48	0.03	0.71	0.27	0.60	22^{+4}_{-4}	20^{+4}_{-2}
103242	0.31	0.28	0.00	0.09	0.03	0.74	0.75	0.07	21^{+6}_{-4}	21^{+6}_{-4}
103263	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	43^{+4}_{-2}	42^{+2}_{-4}
103358	0.63	0.62	0.08	0.08	0.10	0.82	0.82	0.13	31^{+24}_{-10}	30^{+26}_{-8}
103471	0.32	0.06	0.02	0.00	0.00	0.93	0.92	0.00	23^{+2}_{-4}	21^{+4}_{-2}
103637	0.78	0.71	0.07	0.08	0.08	0.85	0.84	0.07	36^{+20}_{-12}	31^{+18}_{-16}
103740	–	–	–	–	–	0.98	0.13	1.00	–	25^{+6}_{-6}
103763	0.19	0.06	0.01	0.33	0.01	0.30	0.08	0.63	18^{+8}_{-4}	14^{+6}_{-6}
103868	0.98	0.32	0.31	0.32	0.63	0.71	0.06	1.00	32^{+2}_{-2}	21^{+6}_{-4}
104030	–	–	–	–	–	1.00	0.49	1.00	–	32^{+4}_{-6}
104168	1.00	1.00	0.00	0.57	1.00	1.00	0.00	1.00	47^{+4}_{-4}	39^{+6}_{-4}
104172	0.00	0.00	0.00	1.00	0.00	0.81	0.00	1.00	20^{+2}_{-2}	19^{+2}_{-2}
104205	1.00	0.88	0.00	0.01	0.00	0.96	0.95	0.01	30^{+4}_{-2}	23^{+4}_{-4}
104261	0.87	0.14	0.98	0.02	0.02	1.00	0.99	0.17	34^{+16}_{-4}	32^{+18}_{-4}
104268	0.53	0.00	0.82	0.00	0.67	0.00	0.00	0.00	26^{+6}_{-6}	9^{+1}_{-1}
104316	0.97	0.01	0.49	0.97	0.84	0.62	0.02	0.87	37^{+10}_{-10}	22^{+18}_{-6}
104320	0.96	0.72	0.02	1.00	0.02	1.00	0.95	1.00	50^{+28}_{-18}	50^{+32}_{-16}
104444	–	–	–	–	–	1.00	1.00	1.00	–	92^{+82}_{-16}
104523	–	–	–	–	–	0.33	0.00	0.64	–	17^{+4}_{-2}
104548	0.80	0.03	0.00	1.00	0.02	0.98	0.14	1.00	36^{+18}_{-12}	35^{+24}_{-4}
104579	0.57	0.51	0.07	0.05	0.08	0.83	0.78	0.12	28^{+16}_{-6}	27^{+16}_{-6}
104609	0.14	0.09	0.00	0.43	0.00	0.47	0.19	0.59	18^{+6}_{-6}	17^{+8}_{-4}
104732	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	33^{+2}_{-2}	16^{+2}_{-2}
104814	0.99	0.00	1.00	0.12	0.97	0.07	0.00	0.22	32^{+4}_{-4}	8^{+4}_{-2}
104871	1.00	0.00	0.00	1.00	0.01	1.00	0.29	1.00	35^{+4}_{-2}	29^{+4}_{-4}
105016	0.99	0.98	0.02	0.26	0.01	1.00	0.99	0.43	49^{+26}_{-12}	44^{+32}_{-8}
105113	0.12	0.08	0.01	0.02	0.01	0.63	0.49	0.02	20^{+2}_{-4}	19^{+2}_{-2}
105164	0.97	0.10	0.08	0.00	0.00	1.00	1.00	0.00	29^{+4}_{-2}	29^{+4}_{-2}
105182	1.00	0.39	0.99	0.48	1.00	0.99	0.97	0.27	35^{+2}_{-2}	23^{+2}_{-2}
105186	1.00	0.06	0.30	1.00	0.06	1.00	0.13	1.00	60^{+22}_{-18}	57^{+22}_{-20}
105205	0.84	0.49	0.02	0.53	0.32	0.69	0.64	0.12	29^{+6}_{-4}	20^{+4}_{-4}
105268	0.39	0.37	0.00	0.00	0.00	0.96	0.97	0.00	24^{+4}_{-4}	24^{+4}_{-4}
105307	–	–	–	–	–	0.98	0.65	0.00	–	19^{+2}_{-2}
105353	–	–	–	–	–	1.00	0.99	0.99	–	68^{+38}_{-34}
105423	–	–	–	–	–	0.00	0.00	1.00	–	13^{+2}_{-2}
105581	–	–	–	–	–	1.00	1.00	0.72	–	61^{+16}_{-14}
105607	0.39	0.01	0.00	0.00	0.00	0.81	0.79	0.00	25^{+2}_{-2}	19^{+2}_{-2}
105633	–	–	–	–	–	0.97	0.08	1.00	–	58^{+42}_{-28}
105649	–	–	–	–	–	0.85	0.56	0.95	–	27^{+14}_{-8}
105669	0.22	0.24	0.04	0.06	0.05	0.67	0.65	0.04	20^{+4}_{-4}	20^{+4}_{-4}
105690	0.94	0.07	0.89	0.14	0.84	0.21	0.10	0.20	40^{+12}_{-10}	14^{+2}_{-2}
105709	0.96	0.84	0.18	0.07	0.10	0.98	0.96	0.09	43^{+24}_{-10}	41^{+28}_{-8}
105881	0.08	0.00	0.65	0.00	0.00	1.00	0.00	1.00	24^{+2}_{-2}	23^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
105912	0.79	0.37	0.77	0.55	0.09	0.90	0.81	0.87	42^{+40}_{-14}	42^{+34}_{-14}
105949	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.01	47^{+4}_{-4}	46^{+4}_{-4}
106052	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	37^{+6}_{-6}	37^{+6}_{-6}
106053	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.52	34^{+4}_{-2}	31^{+4}_{-4}
106306	0.41	0.00	0.75	0.00	0.42	0.00	0.00	0.00	24^{+6}_{-4}	10^{+2}_{-2}
106343	–	–	–	–	–	0.31	0.03	0.62	–	14^{+6}_{-4}
106448	–	–	–	–	–	0.95	0.94	0.03	–	39^{+20}_{-14}
106474	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	13^{+2}_{-2}	11^{+2}_{-2}
106564	0.53	0.01	0.48	0.08	0.00	0.84	0.40	0.92	25^{+10}_{-2}	24^{+6}_{-6}
106620	0.98	0.08	0.98	0.61	0.82	0.87	0.35	0.90	51^{+20}_{-16}	31^{+30}_{-4}
106643	1.00	1.00	0.22	0.13	0.00	1.00	1.00	1.00	84^{+6}_{-6}	83^{+4}_{-6}
106716	0.90	0.82	0.42	0.05	0.39	1.00	1.00	0.06	38^{+14}_{-12}	30^{+10}_{-6}
106723	0.52	0.19	0.00	0.49	0.22	0.00	0.00	0.00	25^{+2}_{-2}	12^{+2}_{-2}
106746	1.00	1.00	0.66	1.00	0.00	1.00	1.00	1.00	97^{+32}_{-16}	97^{+20}_{-28}
106848	0.88	0.89	0.00	0.01	0.00	1.00	1.00	0.00	27^{+4}_{-2}	27^{+4}_{-2}
106850	1.00	1.00	0.91	0.28	1.00	1.00	1.00	1.00	75^{+12}_{-4}	47^{+16}_{-12}
106917	1.00	1.00	0.17	0.76	1.00	1.00	0.51	1.00	91^{+42}_{-26}	82^{+52}_{-24}
106973	0.30	0.02	0.00	0.58	0.00	0.93	0.56	0.56	23^{+4}_{-4}	21^{+4}_{-2}
106974	0.33	0.30	0.00	0.06	0.00	0.67	0.63	0.06	22^{+10}_{-4}	21^{+10}_{-4}
107012	–	–	–	–	–	0.56	0.29	0.25	–	18^{+2}_{-4}
107173	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.40	19^{+2}_{-2}	11^{+4}_{-2}
107259	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	83^{+34}_{-14}	65^{+32}_{-18}
107276	0.50	0.04	0.52	0.10	0.49	0.04	0.03	0.07	25^{+26}_{-4}	10^{+2}_{-2}
107315	0.00	0.00	0.00	1.00	0.00	0.92	0.24	0.00	22^{+2}_{-2}	19^{+2}_{-2}
107325	–	–	–	–	–	0.71	0.62	0.36	–	23^{+14}_{-10}
107418	0.30	0.02	0.26	0.70	0.36	0.34	0.19	0.40	20^{+8}_{-4}	16^{+2}_{-2}
107588	–	–	–	–	–	0.30	0.11	0.75	–	15^{+2}_{-2}
107653	1.00	0.01	1.00	0.47	1.00	0.01	0.01	0.00	47^{+8}_{-4}	4^{+2}_{-2}
107723	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	33^{+2}_{-2}	31^{+2}_{-2}
107734	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.00	13^{+2}_{-2}	9^{+2}_{-2}
107751	0.93	0.91	0.04	0.15	0.03	0.98	0.98	0.25	45^{+24}_{-22}	45^{+28}_{-16}
107789	0.31	0.06	0.23	0.52	0.20	0.43	0.17	0.56	18^{+12}_{-4}	16^{+6}_{-4}
107887	0.09	0.00	0.00	0.65	0.01	0.15	0.02	0.00	20^{+4}_{-2}	17^{+2}_{-2}
107913	0.52	0.00	0.53	0.27	0.45	0.02	0.01	0.04	24^{+16}_{-4}	13^{+2}_{-2}
107923	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	61^{+2}_{-2}	33^{+4}_{-4}
107952	0.63	0.18	0.01	0.00	0.00	0.99	0.96	0.01	26^{+4}_{-6}	26^{+6}_{-4}
107998	–	–	–	–	–	1.00	1.00	1.00	–	34^{+2}_{-4}
108030	0.81	0.09	0.29	0.00	0.01	1.00	1.00	0.00	28^{+4}_{-2}	24^{+4}_{-2}
108085	0.00	0.00	0.00	0.91	0.00	0.39	0.00	1.00	18^{+2}_{-2}	18^{+2}_{-2}
108099	1.00	1.00	0.02	0.60	0.01	1.00	1.00	0.85	100^{+58}_{-16}	100^{+50}_{-32}
108215	1.00	1.00	0.76	0.98	1.00	0.47	0.38	0.35	68^{+4}_{-8}	17^{+12}_{-4}
108233	0.36	0.41	0.00	0.00	0.00	0.79	0.78	0.00	23^{+8}_{-4}	23^{+6}_{-6}
108296	1.00	0.17	1.00	1.00	0.00	1.00	0.96	1.00	40^{+6}_{-4}	39^{+8}_{-4}
108378	1.00	0.44	1.00	0.00	1.00	0.34	0.36	0.00	33^{+4}_{-4}	16^{+4}_{-8}
108410	–	–	–	–	–	0.51	0.38	0.19	–	18^{+10}_{-4}
108427	0.94	0.02	0.94	0.04	0.91	0.04	0.03	0.04	31^{+2}_{-4}	9^{+2}_{-4}
108543	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.00	18^{+2}_{-2}	16^{+2}_{-2}
108552	–	–	–	–	–	0.75	0.02	0.93	–	19^{+2}_{-2}
108578	–	–	–	–	–	1.00	1.00	0.00	–	36^{+6}_{-2}
108597	0.67	0.36	0.09	0.49	0.32	0.96	0.60	0.80	28^{+10}_{-6}	23^{+4}_{-2}
108766	0.76	0.78	0.00	0.15	0.01	0.94	0.96	0.44	32^{+18}_{-8}	33^{+18}_{-10}
108886	1.00	0.06	0.24	1.00	0.86	0.83	0.03	0.97	45^{+20}_{-6}	34^{+26}_{-14}
108911	0.91	0.04	0.91	0.08	0.87	0.07	0.06	0.07	42^{+16}_{-10}	9^{+2}_{-4}
108975	0.05	0.00	0.01	0.45	0.00	0.25	0.00	0.59	17^{+4}_{-4}	15^{+4}_{-2}
109051	–	–	–	–	–	0.45	0.01	0.98	–	18^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
109082	0.33	0.03	0.14	0.78	0.24	0.44	0.05	0.79	19^{+14}_{-6}	16^{+12}_{-4}
109096	0.01	0.00	0.00	1.00	0.00	0.53	0.00	1.00	18^{+2}_{-2}	18^{+2}_{-2}
109114	–	–	–	–	–	1.00	1.00	0.87	–	51^{+24}_{-8}
109247	–	–	–	–	–	1.00	1.00	0.97	–	94^{+56}_{-28}
109311	0.77	0.00	0.59	0.12	0.70	0.02	0.00	0.09	29^{+6}_{-4}	11^{+2}_{-2}
109332	0.35	0.00	0.44	0.00	0.00	0.62	0.59	0.09	21^{+6}_{-6}	20^{+6}_{-4}
109339	–	–	–	–	–	0.95	0.90	0.01	–	20^{+2}_{-2}
109393	0.33	0.32	0.07	0.03	0.04	0.91	0.91	0.04	23^{+4}_{-4}	22^{+4}_{-2}
109556	1.00	1.00	1.00	0.50	1.00	1.00	1.00	0.13	66^{+4}_{-2}	36^{+6}_{-2}
109562	1.00	0.34	0.99	0.99	0.98	0.40	0.13	0.55	64^{+4}_{-6}	17^{+2}_{-2}
109602	1.00	1.00	0.05	0.58	0.05	1.00	1.00	0.63	82^{+48}_{-36}	84^{+58}_{-20}
109726	–	–	–	–	–	1.00	1.00	0.65	–	53^{+14}_{-14}
109737	0.93	0.85	0.00	0.80	0.65	0.24	0.00	0.19	30^{+4}_{-4}	18^{+2}_{-2}
109933	1.00	0.99	0.07	0.17	0.48	1.00	1.00	0.97	41^{+10}_{-4}	33^{+8}_{-6}
109989	0.98	0.73	0.05	0.00	0.00	1.00	1.00	0.00	30^{+6}_{-2}	28^{+2}_{-4}
109990	1.00	0.00	0.00	1.00	1.00	0.47	0.00	0.99	34^{+2}_{-4}	18^{+2}_{-4}
109996	0.99	0.33	0.94	0.06	0.92	0.25	0.25	0.06	42^{+4}_{-6}	15^{+2}_{-2}
110025	1.00	0.08	1.00	0.04	1.00	0.02	0.01	0.01	47^{+6}_{-4}	15^{+2}_{-2}
110073	1.00	1.00	0.01	1.00	0.00	1.00	1.00	1.00	71^{+16}_{-14}	70^{+16}_{-14}
110119	0.76	0.64	0.03	0.17	0.01	0.95	0.87	0.23	28^{+6}_{-4}	25^{+6}_{-4}
110154	1.00	0.99	1.00	0.25	1.00	0.07	0.01	0.12	116^{+6}_{-6}	14^{+2}_{-2}
110200	0.65	0.06	0.44	0.14	0.50	0.16	0.14	0.15	28^{+4}_{-8}	12^{+2}_{-2}
110266	0.92	0.00	0.99	0.00	0.86	0.01	0.01	0.00	30^{+4}_{-4}	13^{+2}_{-2}
110275	0.52	0.04	0.54	0.00	0.44	0.19	0.16	0.00	26^{+16}_{-6}	11^{+6}_{-4}
110287	0.49	0.54	0.02	0.13	0.08	0.70	0.69	0.13	25^{+16}_{-10}	24^{+16}_{-12}
110298	0.98	0.99	0.00	0.00	0.00	1.00	1.00	0.51	33^{+6}_{-2}	33^{+6}_{-6}
110324	–	–	–	–	–	1.00	0.93	0.65	–	27^{+6}_{-4}
110356	0.72	0.03	0.79	0.00	0.53	0.25	0.25	0.00	29^{+6}_{-6}	14^{+6}_{-4}
110362	0.99	0.40	0.96	0.09	0.95	0.15	0.12	0.08	51^{+6}_{-8}	14^{+2}_{-2}
110386	0.42	0.12	0.00	0.00	0.00	1.00	0.95	0.06	24^{+4}_{-4}	26^{+4}_{-4}
110431	1.00	0.78	0.99	0.25	0.98	0.09	0.06	0.12	80^{+14}_{-20}	13^{+2}_{-2}
110497	0.17	0.15	0.00	0.00	0.00	0.66	0.66	0.00	20^{+4}_{-6}	20^{+4}_{-6}
110504	0.83	0.02	0.81	0.05	0.79	0.07	0.08	0.03	34^{+8}_{-10}	9^{+2}_{-2}
110517	–	–	–	–	–	1.00	1.00	0.00	–	23^{+2}_{-2}
110585	–	–	–	–	–	1.00	0.56	1.00	–	65^{+58}_{-12}
110590	–	–	–	–	–	1.00	1.00	0.90	–	40^{+18}_{-8}
110603	–	–	–	–	–	1.00	1.00	0.08	–	44^{+8}_{-8}
110609	0.05	0.01	0.00	0.52	0.00	0.72	0.16	0.25	22^{+2}_{-2}	19^{+2}_{-2}
110632	–	–	–	–	–	0.68	0.17	0.92	–	24^{+20}_{-8}
110662	0.95	0.12	0.88	0.15	0.90	0.18	0.10	0.16	38^{+4}_{-8}	12^{+2}_{-2}
110817	0.46	0.17	0.33	0.62	0.44	0.44	0.02	0.73	25^{+16}_{-10}	17^{+12}_{-4}
110949	0.15	0.00	0.00	0.99	0.01	0.65	0.00	1.00	20^{+6}_{-2}	19^{+4}_{-2}
110975	0.37	0.26	0.01	0.51	0.01	0.57	0.48	0.43	20^{+14}_{-8}	20^{+16}_{-6}
110992	1.00	1.00	1.00	0.06	1.00	1.00	1.00	1.00	55^{+6}_{-4}	42^{+6}_{-8}
110993	–	–	–	–	–	0.51	0.38	0.29	–	18^{+10}_{-4}
110998	0.66	0.07	0.74	0.13	0.72	0.02	0.02	0.03	31^{+12}_{-16}	6^{+2}_{-2}
111003	–	–	–	–	–	1.00	1.00	0.12	–	55^{+18}_{-10}
111071	0.99	0.34	0.96	0.08	0.96	0.12	0.10	0.10	51^{+6}_{-8}	12^{+2}_{-2}
111086	1.00	0.00	1.00	0.00	0.95	1.00	0.02	1.00	40^{+4}_{-4}	31^{+6}_{-4}
111522	–	–	–	–	–	1.00	1.00	0.99	–	84^{+32}_{-34}
111713	0.40	0.37	0.01	0.35	0.02	0.64	0.62	0.34	22^{+14}_{-10}	23^{+16}_{-8}
111810	1.00	1.00	0.93	0.00	0.00	1.00	1.00	1.00	60^{+2}_{-4}	58^{+2}_{-4}
111893	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	59^{+8}_{-4}	51^{+6}_{-6}
111946	1.00	0.07	0.36	1.00	0.99	0.99	0.04	1.00	53^{+4}_{-4}	25^{+10}_{-4}
111972	0.55	0.06	0.22	0.08	0.32	0.20	0.10	0.07	26^{+6}_{-6}	14^{+2}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
112098	1.00	0.00	1.00	0.00	0.00	0.28	0.09	0.00	27^{+2}_{-2}	18^{+2}_{-2}
112138	1.00	1.00	0.00	0.46	0.00	1.00	1.00	0.59	66^{+28}_{-16}	70^{+36}_{-10}
112248	–	–	–	–	–	0.53	0.24	0.70	–	19^{+22}_{-2}
112250	–	–	–	–	–	0.62	0.06	0.78	–	21^{+20}_{-4}
112272	–	–	–	–	–	1.00	0.73	1.00	–	51^{+12}_{-14}
112415	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.05	42^{+4}_{-2}	26^{+6}_{-4}
112482	0.99	0.95	0.54	0.42	0.00	1.00	1.00	0.83	40^{+14}_{-8}	36^{+12}_{-10}
112551	–	–	–	–	–	1.00	0.00	1.00	–	25^{+4}_{-2}
112689	0.01	0.02	0.00	0.00	0.00	0.88	0.83	0.00	21^{+2}_{-2}	19^{+2}_{-2}
112698	0.84	0.34	0.17	0.00	0.02	1.00	1.00	0.00	28^{+4}_{-2}	26^{+6}_{-2}
112790	–	–	–	–	–	1.00	0.89	1.00	–	38^{+12}_{-8}
112809	0.02	0.00	0.00	1.00	0.00	0.08	0.01	0.83	19^{+2}_{-4}	14^{+2}_{-2}
112821	0.03	0.05	0.00	0.00	0.00	0.90	0.89	0.00	20^{+2}_{-4}	20^{+4}_{-2}
112894	0.83	0.20	0.19	1.00	0.05	1.00	0.42	1.00	31^{+12}_{-4}	30^{+10}_{-4}
112931	–	–	–	–	–	0.91	0.56	0.74	–	23^{+4}_{-4}
112987	0.97	0.26	0.77	1.00	0.05	0.99	0.48	1.00	53^{+28}_{-22}	52^{+32}_{-22}
113009	0.00	0.00	0.00	0.54	0.00	0.01	0.00	0.13	14^{+2}_{-2}	8^{+2}_{-4}
113064	0.85	0.05	0.59	1.00	0.00	0.97	0.03	1.00	37^{+16}_{-10}	36^{+18}_{-12}
113236	0.06	0.03	0.00	0.07	0.00	0.56	0.46	0.06	20^{+2}_{-2}	18^{+2}_{-2}
113432	–	–	–	–	–	1.00	1.00	0.00	–	47^{+4}_{-6}
113478	1.00	1.00	0.00	0.26	0.00	1.00	1.00	0.26	44^{+8}_{-4}	40^{+8}_{-6}
113556	0.89	0.54	0.07	0.00	0.00	0.97	0.86	0.85	30^{+4}_{-6}	27^{+8}_{-6}
113561	0.86	0.01	0.82	0.06	0.80	0.05	0.04	0.07	34^{+6}_{-6}	9^{+2}_{-2}
113562	1.00	0.00	1.00	0.88	0.99	1.00	1.00	1.00	83^{+4}_{-6}	75^{+4}_{-6}
113577	0.42	0.19	0.16	0.87	0.25	0.45	0.21	0.87	22^{+16}_{-4}	17^{+10}_{-4}
113726	0.98	0.00	0.99	0.08	0.95	0.10	0.11	0.00	34^{+2}_{-8}	14^{+4}_{-4}
113732	–	–	–	–	–	0.96	0.88	0.08	–	29^{+10}_{-8}
113787	–	–	–	–	–	1.00	0.05	1.00	–	30^{+6}_{-4}
113881	1.00	1.00	0.00	0.48	0.00	1.00	1.00	1.00	61^{+2}_{-2}	59^{+2}_{-2}
113952	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	14^{+2}_{-2}	14^{+2}_{-2}
114009	1.00	1.00	0.17	0.56	0.05	1.00	1.00	0.54	36^{+12}_{-8}	37^{+14}_{-6}
114025	1.00	0.93	1.00	1.00	1.00	1.00	1.00	0.97	84^{+6}_{-2}	41^{+6}_{-6}
114093	1.00	1.00	0.02	0.00	0.00	1.00	1.00	0.00	33^{+4}_{-2}	32^{+2}_{-4}
114155	1.00	0.01	1.00	0.00	0.00	1.00	1.00	1.00	33^{+2}_{-2}	24^{+2}_{-2}
114201	1.00	0.99	0.05	0.01	0.01	1.00	1.00	0.00	33^{+2}_{-2}	30^{+4}_{-2}
114213	0.88	0.02	0.00	1.00	0.00	1.00	0.02	1.00	28^{+6}_{-2}	24^{+4}_{-2}
114343	–	–	–	–	–	0.81	0.81	0.10	–	20^{+2}_{-4}
114389	1.00	1.00	0.03	0.00	0.00	1.00	1.00	1.00	34^{+2}_{-2}	30^{+2}_{-2}
114398	0.55	0.00	0.00	1.00	0.99	0.00	0.00	0.00	25^{+2}_{-2}	1^{+2}_{-2}
114426	1.00	0.93	1.00	1.00	1.00	0.73	0.64	0.23	313^{+4}_{-4}	23^{+14}_{-4}
114482	1.00	1.00	0.99	0.14	0.99	0.34	0.08	0.33	69^{+4}_{-8}	16^{+4}_{-2}
114507	0.34	0.20	0.00	0.03	0.01	0.97	0.77	0.01	24^{+4}_{-2}	21^{+2}_{-2}
114594	0.30	0.27	0.04	0.05	0.02	0.97	0.88	0.04	24^{+2}_{-4}	22^{+2}_{-4}
114656	1.00	1.00	0.55	1.00	1.00	1.00	0.00	1.00	107^{+10}_{-12}	56^{+20}_{-12}
114685	0.97	0.79	0.86	0.18	0.89	0.22	0.14	0.14	48^{+18}_{-6}	14^{+2}_{-2}
114692	–	–	–	–	–	1.00	1.00	1.00	–	105^{+44}_{-38}
114998	–	–	–	–	–	0.95	0.59	0.99	–	46^{+44}_{-8}
115144	0.85	0.02	0.99	0.07	0.00	1.00	0.92	1.00	28^{+4}_{-2}	30^{+4}_{-4}
115186	0.75	0.64	0.07	0.35	0.49	0.64	0.65	0.34	35^{+22}_{-14}	27^{+24}_{-14}
115195	–	–	–	–	–	0.87	0.01	1.00	–	20^{+2}_{-2}
115263	0.10	0.00	0.27	0.04	0.00	0.21	0.00	0.87	19^{+6}_{-4}	15^{+4}_{-4}
115352	–	–	–	–	–	1.00	1.00	0.14	–	47^{+24}_{-10}
115406	–	–	–	–	–	0.01	0.01	0.65	–	12^{+2}_{-2}
115516	–	–	–	–	–	1.00	1.00	0.00	–	22^{+2}_{-2}
115566	0.98	0.36	0.99	0.14	0.99	0.20	0.19	0.11	41^{+12}_{-8}	6^{+8}_{-2}

Table C.2: – Continued. –

HIP	$P_{v_{pec}}$	P_U	P_V	P_W	$P_{v_{r,pec}}$	$P_{v_{t,pec}}$	$P_{v_{l,pec}}$	$P_{v_{b,pec}}$	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
115591	0.10	0.00	0.88	0.00	0.21	0.00	0.00	0.00	23^{+2}_{-2}	8^{+2}_{-2}
115729	0.80	0.05	0.05	1.00	0.77	0.21	0.21	0.20	27^{+4}_{-2}	12^{+4}_{-2}
115755	0.97	0.90	0.00	0.00	0.00	1.00	1.00	0.00	27^{+2}_{-2}	27^{+2}_{-2}
115809	–	–	–	–	–	0.45	0.22	0.74	–	17^{+12}_{-6}
115906	1.00	1.00	0.00	0.03	0.00	1.00	1.00	1.00	79^{+20}_{-4}	74^{+6}_{-16}
116279	0.01	0.00	0.00	0.18	0.00	0.98	0.58	0.21	21^{+2}_{-2}	20^{+2}_{-2}
116292	0.47	0.00	0.47	0.95	0.06	1.00	0.00	1.00	25^{+2}_{-2}	20^{+2}_{-2}
116483	0.70	0.03	0.69	0.00	0.79	0.01	0.02	0.00	28^{+6}_{-4}	6^{+2}_{-2}
116484	–	–	–	–	–	0.98	0.92	0.98	–	40^{+16}_{-14}
116549	–	–	–	–	–	1.00	0.41	1.00	–	52^{+20}_{-20}
116653	1.00	1.00	0.99	0.00	0.00	1.00	1.00	0.00	45^{+4}_{-2}	44^{+2}_{-4}
116799	1.00	1.00	1.00	0.78	0.02	1.00	1.00	1.00	80^{+36}_{-22}	82^{+30}_{-36}
116987	–	–	–	–	–	1.00	1.00	0.02	–	31^{+8}_{-4}
117088	1.00	0.00	1.00	0.18	0.00	1.00	0.11	1.00	42^{+2}_{-2}	39^{+2}_{-2}
117254	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	323^{+16}_{-12}	322^{+14}_{-14}
117290	0.46	0.49	0.02	0.24	0.08	0.61	0.59	0.17	25^{+18}_{-10}	21^{+12}_{-16}
117299	0.02	0.00	0.00	0.80	0.00	0.06	0.00	0.75	15^{+4}_{-2}	13^{+2}_{-4}
117309	–	–	–	–	–	1.00	0.95	0.00	–	22^{+2}_{-2}
117315	0.03	0.00	0.00	0.03	0.00	0.87	0.00	1.00	20^{+2}_{-2}	19^{+2}_{-2}
117514	0.54	0.52	0.04	0.02	0.06	0.99	0.97	0.02	25^{+6}_{-4}	22^{+2}_{-2}
117700	–	–	–	–	–	0.93	0.86	0.06	–	22^{+4}_{-2}
117842	0.46	0.41	0.02	0.50	0.26	0.52	0.45	0.42	21^{+20}_{-10}	18^{+28}_{-2}
117887	1.00	1.00	0.07	0.48	0.00	1.00	1.00	1.00	51^{+4}_{-4}	48^{+2}_{-4}
117956	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	33^{+4}_{-2}	31^{+4}_{-2}
118077	0.98	0.00	0.97	0.00	0.01	1.00	1.00	0.00	28^{+2}_{-2}	22^{+2}_{-2}
118121	0.82	0.00	0.63	0.87	0.79	0.00	0.00	0.00	29^{+4}_{-6}	11^{+2}_{-2}
118192	–	–	–	–	–	0.86	0.85	0.10	–	36^{+26}_{-12}
118214	0.54	0.60	0.00	0.00	0.00	0.91	0.89	0.00	26^{+10}_{-6}	25^{+8}_{-4}

Table C.3: Runaway probabilities for runaway star candidates found by comparison with OB associations and clusters (as listed in Table A.1). 25 runaway stars are identified from $\vec{v}_{pec}$ and ten from $\vec{v}_{t,pec}$. Four stars are included in both lists (see section 2.3.2.3). Columns 2 and 3 list the possible parent association/cluster as well as the runaway probability P. The absolute velocity values are given in Columns 4 and 5. Errors correspond to 68 % confidence. The last column indicates whether the star was already identified as a runaway star in sections 2.3.2.1 and 2.3.2.2 ("prev" for previous identification; "new" for new identification).

HIP	Assoc./cl.	P	$\lvert\vec{v}_{pec}\rvert$ [km/s]	$\lvert\vec{v}_{t,pec}\rvert$ [km/s]	new ident.
			from $\vec{v}_{pec}$		
1803	Argus	0.56	27^{+1}_{-1}	27^{+2}_{-2}	prev
16147	α Per	0.52	11^{+2}_{-2}	10^{+2}_{-2}	new
16826	α Per	0.67	14^{+1}_{-2}	13^{+2}_{-2}	new
17499	Pleiades	0.91	16^{+2}_{-1}	15^{+2}_{-2}	new
17694	Pleiades	0.54	14^{+4}_{-1}	13^{+4}_{-2}	new
17702	Pleiades	0.77	15^{+2}_{-3}	13^{+2}_{-2}	new
17847	Pleiades	0.82	15^{+3}_{-3}	12^{+2}_{-2}	new
28370	Ori OB1	0.67	28^{+1}_{-2}	3^{+2}_{-2}	prev
42459	IC 2391	0.63	8^{+1}_{-2}	7^{+2}_{-2}	new
42504	IC 2391	0.52	8^{+3}_{-1}	7^{+2}_{-2}	new
42536	IC 2391	0.65	18^{+2}_{-1}	17^{+2}_{-2}	new
42637	η Cha	1.00	7^{+7}_{-1}	1^{+2}_{-2}	new
42726	IC 2391	0.95	14^{+6}_{-1}	9^{+2}_{-2}	new
42794	η Cha	1.00	9^{+4}_{-5}	2^{+2}_{-2}	new
43783	CarA	1.00	18^{+4}_{-4}	11^{+2}_{-2}	new
52502	IC 2602	0.57	21^{+5}_{-4}	9^{+2}_{-2}	new
52633	ϵ Cha	0.51	17^{+7}_{-4}	2^{+2}_{-2}	new
52736	IC 2602	0.60	12^{+4}_{-4}	7^{+2}_{-2}	new
61199	ϵ Cha	0.52	8^{+1}_{-1}	7^{+2}_{-2}	new
61585	ϵ Cha	0.51	10^{+3}_{-7}	2^{+2}_{-2}	new
76664	ϵ Cha	0.52	55^{+3}_{-2}	54^{+2}_{-4}	prev
109492	Cep OB6	0.57	12^{+1}_{-1}	11^{+2}_{-2}	new
110991	Cep OB6	0.92	13^{+2}_{-2}	12^{+2}_{-2}	new
115527	Argus	1.00	10^{+1}_{-1}	9^{+2}_{-2}	new
118008	β Pic-Cap	1.00	18^{+3}_{-2}	15^{+2}_{-2}	new
			from $\vec{v}_{t,pec}$		
1803	AB Dor	0.90	27^{+1}_{-1}	27^{+2}_{-2}	prev
13402	AB Dor	1.00	11^{+1}_{-1}	10^{+2}_{-2}	new
16244	α Per	0.63	13^{+2}_{-1}	12^{+2}_{-2}	new
24478	ColA	1.00	–	15^{+2}_{-2}	prev
25859	ColA	0.51	30^{+4}_{-3}	20^{+2}_{-2}	prev
42536	IC 2391	0.66	18^{+2}_{-2}	17^{+2}_{-2}	new
43783	CarA	1.00	18^{+3}_{-5}	11^{+2}_{-2}	new
63253	Her-Lyr	1.00	16^{+2}_{-2}	16^{+2}_{-2}	prev
67422	Her-Lyr	1.00	17^{+1}_{-1}	13^{+2}_{-2}	prev
115527	Argus	1.00	10^{+1}_{-1}	9^{+2}_{-2}	new

Table C.4: Additional young stars situated well outside any OB association/cluster and the Galactic plane (see section 2.3.2.4), i.e. runaway star candidates. Columns 3 and 4 give the distance z to the Galactic plane as well as the stellar velocity W_{pec} in this direction. The absolute velocity values are given in columns 5 and 6. Errors correspond to 68 % confidence.

HIP	other name	z [pc]	W_{pec} [km/s]	v_{pec} [km/s]	$v_{t,pec}$ [km/s]
5805	HD 7598	-477^{+280}_{-350}	–	–	13^{+13}_{-13}
11242	HD 14920	-609^{+310}_{-255}	–	–	16^{+10}_{-16}
50684	RS Sex	555^{+135}_{-245}	-16^{+10}_{-8}	12^{+6}_{-10}	7^{+5}_{-7}
56473	90 Leo	488^{+320}_{-280}	-3^{+6}_{-10}	14^{+8}_{-10}	8^{+6}_{-8}

D Procedure

D.1 Estimating the Supernova Progenitor Mass Using ^{26}Al

The mass of the supernova progenitor can be estimated from the measured 1.8 MeV γ flux since the ejected amount of ^{26}Al depends upon the mass of the progenitor star (Fig. 1.2). From the COMPTEL 1.8 MeV map the flux integrated over the (calculated) area of the SNR can be directly obtained in units of [photons $\cdot$ cm^{-2} $\cdot$ s^{-1} $\cdot$ sr^{-1}] using the software *fitsview*[67]. The pixelsize is one square degree, hence the flux must be multiplied by $3 \cdot 10^{-4}$. The number of emitted photons N_{ph} can be calculated as

$$N_{ph} = 2f \cdot 4\pi d^2_{\odot,today} \cdot \frac{\tau_{^{26}\mathrm{Al}}}{\ln 2}, \tag{1}$$

where f is the 1.8 MeV COMPTEL flux in units of [photons $\cdot$ cm^{-2} $\cdot$ s^{-1}], $d_{\odot,today}$ is the distance of the supernova to the Sun as it is today and $\tau_{^{26}\mathrm{Al}} = 0.72$ Myr is the half-time of ^{26}Al [432, 490]. The factor of two is owing to that only half of the flux is observable, i.e. the part that is emitted towards the observer.
The ejected mass M_{ej} of ^{26}Al can then be derived using the decay law,

$$M_{ej} = N_{ph} \cdot m_{^{26}\mathrm{Al}} \cdot 2^{\frac{t_{SN}}{\tau_{^{26}\mathrm{Al}}}}, \tag{2}$$

with $m_{^{26}\mathrm{Al}}$ being the mass of an atom of ^{26}Al. M_{ej} can then be compared with theoretical models as shown in Fig. 1.2.

D.2 Evolution of the Smallest Separation d_{min} Found Between Two Objects Depending on the Number of Monte Carlo Runs

To evaluate the smallest separation between two objects after a certain number of Monte Carlo runs, cases were constructed in which a NS and a runaway star once were at the same place at some specific time in the past.
Five pairs of NSs and runaway stars were randomly selected from a population synthesis as described in section 3.2.1. The corresponding positions of the supernovae in which each pair was ejected as well as the peculiar velocities of the NSs and runaway stars are given in Table D.1. The trajectory of each star was then calculated up to 5 Myr (into the future) and their positions and velocities logged at 1, 2, 3, 4 and 5 Myr. These positions and velocities were treated as "present parameters". Adopting the median errors of these parameters from the real samples of NSs and runaway stars, "new present parameters" were achieved that are consistent within the errors with the original "present parameters" to make the data comparable to the real sample data. Utilising a Monte Carlo simulation, the stellar

[67]This software is available at http://heasarc.gsfc.nasa.gov.

Table D.1: Supernova positions and peculiar NS and runaway star velocities for five artificial cases. X, Y and Z are coordinates in a right-handed coordinate system centred at the Sun at $t = 0$, i.e. the beginning of the population synthesis (here 100 Myr in the past). U, V, and W are the components of the peculiar space velocity (corrected for Solar motion and Galactic rotation).

(XYZ_{SN})	(UVW_{NS})	(UVW_{run})
$(-1083, 1944, 100)$	$(95.4, -236.6, 192.3)$	$(17.5, 17.8, 21.3)$
$(1020, -1512, 30)$	$(494.2, -292.9, 238.4)$	$(-25.7, -50.1, 0.5)$
$(5501, -892, -127)$	$(-194.4, -211.1, 107.1)$	$(-0.8, 0.9, -38.5)$
$(-1809, -2292, -21)$	$(307.5, 308.1, 402.2)$	$(-44.1, -6.9, 17.8)$
$(-1190, 1715, -83)$	$(-78.8, -168.3, 73.9)$	$(-36.5, -27.3, 11.3)$

Table D.2: d_{min} thresholds for the selection of former companion candidates for Monte Carlo simualtions with 10^4, 10^5 and $3 \cdot 10^6$ runs.

	for runaways with known v_r			for runaways with unknown v_r		
	10^4	10^5	$3 \cdot 10^6$	10^4	10^5	$3 \cdot 10^6$
1 Myr	≤ 4 pc	≤ 2 pc	≤ 1 pc	≤ 7 pc	≤ 5 pc	≤ 1 pc
2 Myr	≤ 6 pc	≤ 3 pc	≤ 1 pc	≤ 20 pc	≤ 7 pc	≤ 2 pc
3 Myr	≤ 7 pc	≤ 4 pc	≤ 1 pc	≤ 40 pc	≤ 10 pc	≤ 2 pc
4 Myr	≤ 9 pc	≤ 5 pc	≤ 1 pc	≤ 40 pc	≤ 10 pc	≤ 3 pc
5 Myr	≤ 15 pc	≤ 7 pc	≤ 3 pc	≤ 40 pc	≤ 10 pc	≤ 3 pc

positions were then again calculated backwards for 1, 2, 3, 4 and 5 Myr, respectively. The smallest separation found after a certain number of runs was then logged. After 10^4 runs it is typically a few tens of pc while after a few million runs it is only a few pc (Fig. D.1). The same was done assuming that the runaway star has unknown radial velocity v_r, i.e. varying v_r within ± 500 km/s as assumed for the real cases (right panel in Fig. D.1). Thereafter, the thresholds for choosing former companion candidates were derived. They are given in Table D.2. Note that stellar associations and clusters share similar kinematic properties as runaway stars. The uncertainty in size due to the velocity dispersion, and hence the difference between the radius of the association and the critical radius R_{crit} (see section 3.1), is a few pc after 1 Myr calculation and ranges up to a few tens of pc after 5 Myr calculation.[68] This is comparable to the smallest d_{min} values found in the cases of NS/runaway star pairs. Therefore, choosing a threshold R_{crit} (or even $3R_{assoc}$) is sufficient.

[68] To be on the safe sidee, it is neglected that stellar associations expand, i.e. were smaller in the past.

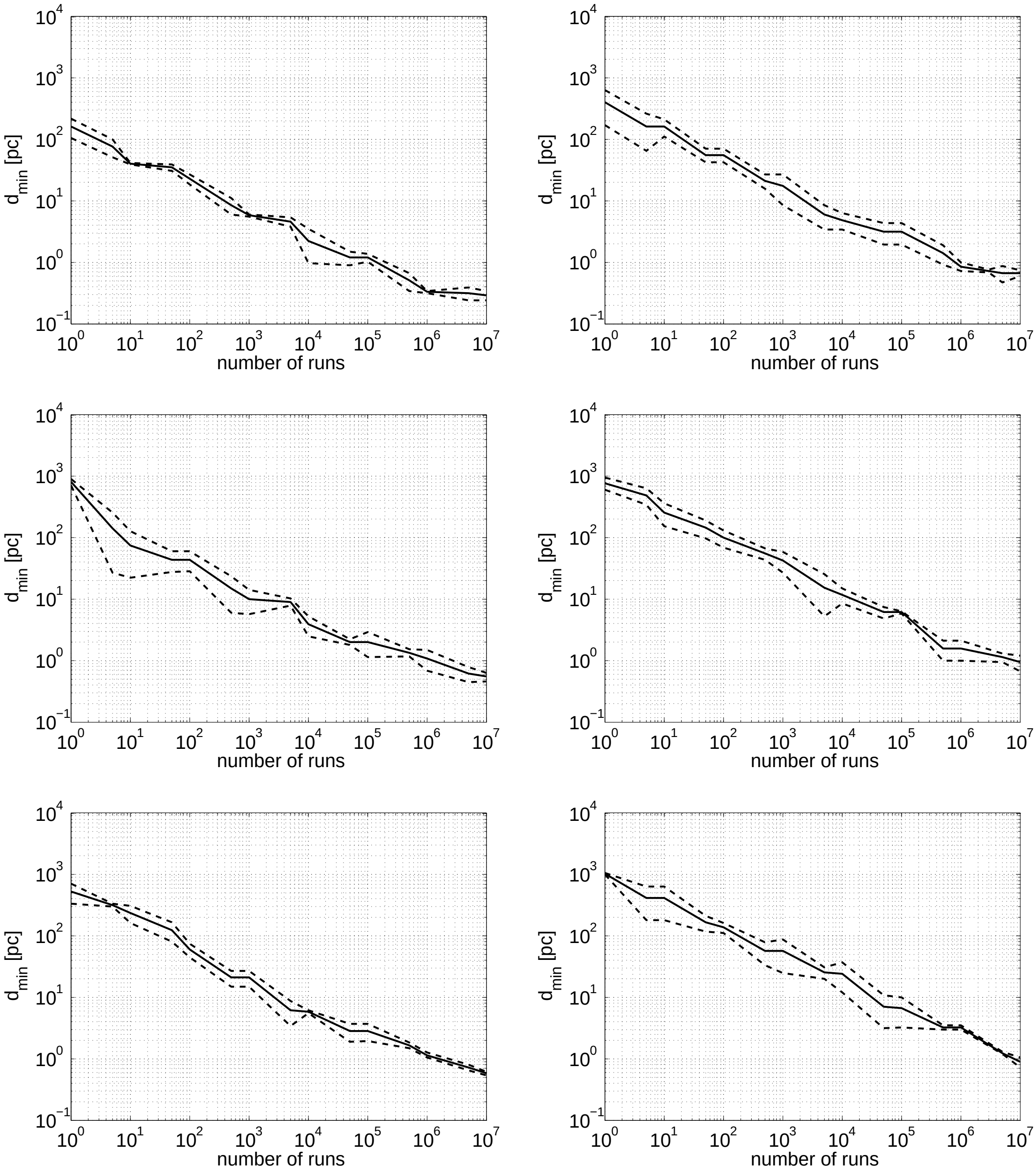


Figure D.1: Evolution of d_{min} during a Monte Carlo simulation for constructed cases where the NS and the runaway star with known (left panel) and unknown v_r (right panel) were at the same place 1, 2, 3, 4 and 5 Myr (from top to bottom) in the past. Dashed lines mark the 1σ standard deviation.

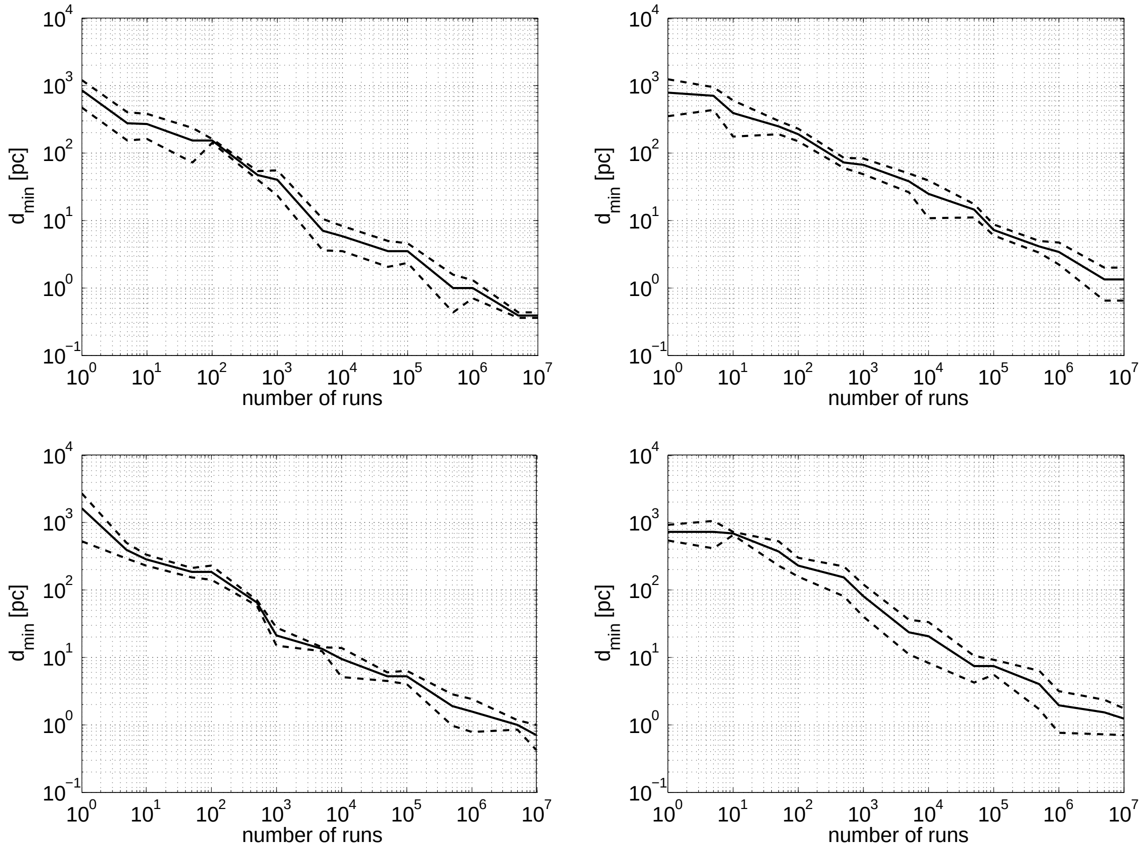


Figure D.1: – Continued –

D.3 The Initial Size of a Stellar Association or Cluster

Typically, stellar groups expand due to the velocity dispersion of their member stars. In the following, the initial size of a stellar group is derived. The stellar distribution within an association or cluster is often described with a Plummer model for which $N(r) \propto \left(1+\frac{r^2}{R^2}\right)^{-\frac{5}{2}}$, with N being the number of stars within a radius r from the association/cluster centre [415]. A Gaussian distribution with standard deviation $\sigma = R/3$ is in good agreement with the Plummer model and used here for simplicity. Then, the number of stars within a radius r from the association/cluster centre is

$$N(r) = \frac{1}{\sqrt{2\pi}\frac{R}{3}} \exp\left|-\frac{r^2}{2\left(\frac{R}{3}\right)^2}\right|. \tag{3}$$

The position of a star at radius $\tilde{r}$ and with velocity v after time t is

$$r_t = \tilde{r} + vt. \tag{4}$$

Assuming that the velocity distribution of the member stars is also Gaussian,

$$f(v) = \frac{1}{\sqrt{2\pi}\sigma_v} \exp\left|-\frac{v^2}{2\sigma_v^2}\right|, \tag{5}$$

with σ_v being the velocity dispersion within the stellar group, the probability of finding a star at a radius r_t after time t is given by

$$\begin{aligned} \hat{N}(r_t) &= \int_{-\infty}^{\infty} N(\tilde{r}) f\left(\frac{r_t-\tilde{r}}{t}\right) d\tilde{r} \\ &= \frac{1}{\sqrt{2\pi}} \frac{1}{\sqrt{\sigma_v^2 t^2 + \left(\frac{R}{3}\right)^2}} \exp\left|-\frac{r_t^2}{2\left[\sigma_v^2 t^2 + \left(\frac{R}{3}\right)^2\right]}\right|. \end{aligned} \tag{6}$$

The expression $3\sqrt{\sigma_v^2 t^2 + \left(\frac{R}{3}\right)^2}$ corresponds then to the association/cluster radius after time t which is observed today and R is the initial association/cluster radius R_{init}. Hence, the initial radius of an association/cluster with observed radius R_{assoc}, velocity dispersion σ_v and age t is

$$R_{init} = 3\sqrt{\left(\frac{R_{assoc}}{3}\right)^2 - \sigma_v^2 t^2}. \tag{7}$$

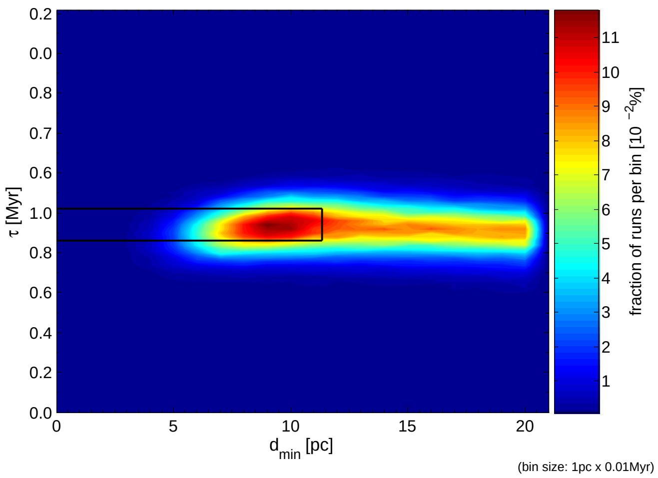


Figure D.2: Distibution of the number of runs in the τ-d_{min} space. As an example the separation between RX J1856.5−3754 and US is shown here (see section 4.1.1). The rectangle marks the region for determination of the present NS parameters and the position of the supernova [for the shown case given in Table 4.1, panel (b)].

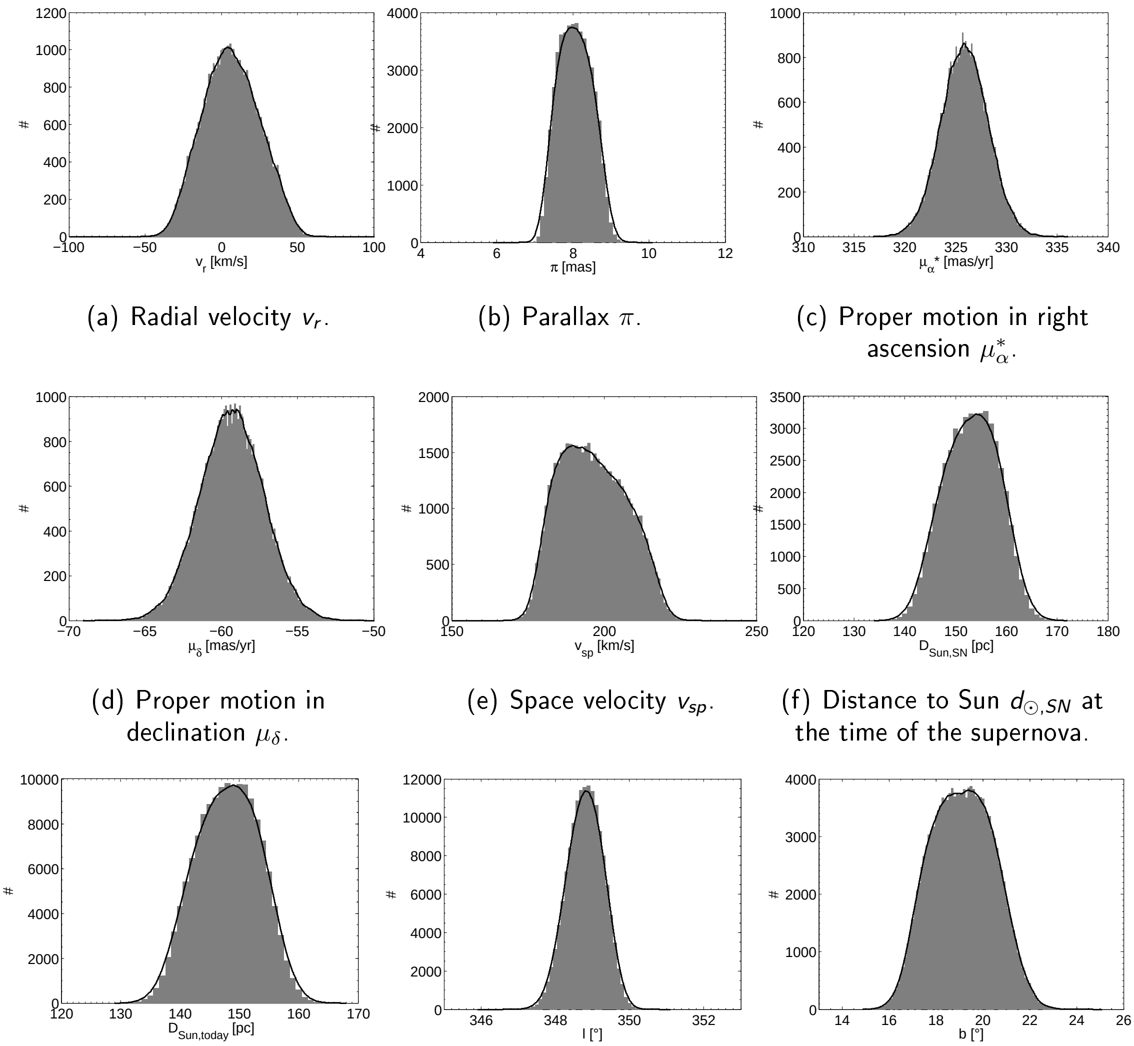
D.4 Derivation of Present-Day Neutron Star Parameters and Supernova Position

In chapter 4, present NS parameters (proper motions μ_α^* and μ_δ, heliocentric radial velocities v_r, peculiar space velocities v_{sp}, parallaxes π or distances d_{NS}) as well as position (distance to the Sun at the time of the supernova $d_{\odot,SN}$ and as seen today, $d_{\odot,today}$, and Galactic coordinates l, b, as seen from Earth at present) and time of the proposed supernova event are given for the most promising cases where the parent association of a NS or even a former companion candidate was found. Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.

To obtain these parameters, an area within the τ-d_{min} contour plot is defined such that its boundaries approximately reflect a 68 % decline from the peak.[69] The parameter values were then derived by selecting the input parameters (π or d_{NS}, μ_α^*, μ_δ, v_r) which correspond to runs that fall into a rectangular region compassing the defined area and also runs with the smallest d_{min} (Fig. D.2). The distance to the Sun as well as Galactic coordinates at the time of the supernova were then calculated for each parameter set.

From the histogram of each parameter its value and error is obtained by drawing an interpolation curve to better characterise the shape of the distribution (which is not necessarily Gaussian, Fig. D.3). The "mean" of the parameter is then given by the maximum of the curve. The error intervals include about 68 % of the histogram area (note that these are not 1σ errors as the distributions are not Gaussian).

[69] Since the histogram part beyond the peak (in some cases it is even a plateau) is not well represented by equation 3.2 in most cases, the area is limited to $d_{min} \lesssim \mu + \sigma$.



(a) Radial velocity v_r.

(b) Parallax π.

(c) Proper motion in right ascension μ_α^*.

(d) Proper motion in declination μ_δ.

(e) Space velocity v_{sp}.

(f) Distance to Sun $d_{\odot,SN}$ at the time of the supernova.

(g) Distance to Sun $d_{\odot,today}$ as seen from the Earth today.

(h) Galactic longitude l.

(i) Galactic latitude b.

Figure D.3: NS parameters and supernova position derived from Monte Carlo runs falling into the rectangular region shown in Fig. D.2. (a)-(e): Distributions of present-day parameters for RX J1856.5−3754 if it was born in US (section 4.1.1). (f)-(i): Position of the potential supernova. Lines are interpolation curves to easier see the shape of the histogram and determine the confidence intervals of the parameters.

E Results

E.1 PSR J0034−0721 – Search for Former Companion Candidates

After one million Monte Carlo runs, 39 runaway stars with full 3D kinematics were found for which the smallest separation to PSR J0034−0721 was less than 1 pc. For further 60 runaway stars with unknown radial velocity it was less than 2 pc assuming reasonable space velocities for these stars (see appendix D.2 for justification of the separation thresholds). Three of these 99 possible encounters are significant, 12 further could have occurred inside Argus, the possible birth association of the NS (section 4.3.1). Altogether, these are 15

Table E.1: Discussion on possible former companion candidates to PSR J0034−0721.

HIP	Properties and conclusion
52093	This B8 star (Simbad) has no published v_r measurement.
63356	This star is a G8III star (Simbad; Hipparcos catalogue gives G9II-III, thus included in the sample of massive, i.e. possibly young, stars because of its luminosity class). Hence, it is probably too old to be the former companion to PSR J0034−0721 (potential massive, hence young stars for luminosity class III must be earlier than A0).
85294	This K2II supergiant (Simbad) has a near-zero rotational velocity [124]. It is unlikely that this star is a BSS runaway star.
92056	This K0II-III single star [147] has a near-zero rotational velocity [124]. It is unlikely that this star is a BSS runaway star.
92512	This star is a G9IIIb variable star of RS CVn type (Simbad; Hipparcos catalogue gives K0II-III, thus included in the sample of massive, i.e. possibly young, stars because of luminosity class) and a spectroscopic binary [147]. Its $v \sin i = 14.7 \pm 1.0$ km/s [124]. RS CVn variables show augmented chromospheric activity [437][70]. [25] determine a stellar age of 94 Myr from the mass-age relation of chromospherically active binary stars. Hence, the star is too old to be associated with PSR J0034−0721.
95873	This K3II supergiant (Simbad) has a near-zero rotational velocity [124]. It is unlikely that this star is a BSS runaway star.
97198	The v_r of this K0II-III star (Simbad) is unknown.
101938	This B8 star (Simbad) has no published v_r measurement.
113952	This F4II supergiant (Simbad) has $v \sin i = 20.1 \pm 2.0$ km/s [124]. It is unlikely that this star is a BSS runaway star.
115263	This star is a A5II supergiant (Simbad).
115755	This star is a B9III variable star of α^2 CVn type. Stars of this type are rotating variables with strong magnetic fields and show chemical peculiarities such as strong silicon, strontium and chromium lines as well as rare earths [437].

possible former companion candidates. The distributions of separations d_{min} are very broad. This is probably due to the broad velocity distribution for PSR J0034−0721 because there is only minor restriction from the small transverse velocity of 78^{+8}_{-6} km/s. Therefore, for many cases no clear conclusion could be drawn from adapting equations 3.2 and 3.3 to the d_{min} distributions. Hence, 11 of the 15 preliminary candidates remain. For them, it is possible that they were at the same place at the same time in the past as PSR J0034−0721. They are discussed in Table E.1.

Concluding, five former companion candidates remain: HIP 52093, HIP 97198, HIP 101938, HIP 115263 and HIP 115755.

[70] http://www.sai.msu.su/groups/cluster/gcvs/gcvs/iii/vartype.txt

E.2 PSR J0454+5543 – Search for Former Companion Candidates

Seven runaway stars with full 3D kinematic data were found for which the smallest separation to PSR J0454+5543 after three million Monte Carlo runs was smaller than 1 pc. Further nine stars with unknown radial velocity were found for which the smallest separation to PSR J0454+5543 did not exceed 2 pc assuming plausible space velocities for the runaway star (see appendix D.2 for justification of the d_{min} thresholds). None of these 16 possible encounters is significant. For two stars (HIP 11279, HIP 11347), the encounter position is situated within one of the possible parent associations of PSR J0454+5543, Table 4.23 (both in Cam OB1). HIP 11279 is a B2Iae supergiant star (Simbad) with a low $v \sin i = 50$ km/s [3, 454]. HIP 11347 is also an early B type supergiant, B1Ib. Comparing the d_{min} distribution with the theoretically expected one (equations 3.2) yields that both candidates were not at the same place at the same time as PSR J0454+5543 but might have experienced a close fly-by instead ($\mu = 5.0$, $\sigma = 2.5$ for HIP 11279; $\mu = 8.3$, $\sigma = 4.9$ for HIP 11347). Hence, no convincing former companion candidate was found for PSR J0454+5543.

E.3 PSR J0630−2834 – Search for Former Companion Candidates

After three million Monte Carlo runs, 34 runaway stars with full 3D kinematics and 17 stars with unknown radial velocity were found for which the smallest separation to PSR J0630−2834 was less than 1 pc assuming reasonable space velocities for stars with unknown v_r. Eight of these 51 possible encounters are significant. They are possible former companions to the NS. For 24 stars the putative encounter could have occurred inside one of the possible birth associations (section 4.3.3, all inside the YLA). These stars were treated as possible former companions as well. Altogether, 26 (eight significant encounters, 24 encounters inside YLA, six included in both) preliminary former companion candidates were identified. For 17 of the 26 cases it was found that both stars could have been at the same place at the same time in the past ($\mu = 0$, equation 3.3). Details for these 17 stars are summarised in the Table E.2. Considering their properties, eight former companion candidates to PSR J0630−2834 remain: HIP 37385, HIP 39121, HIP 40326, HIP 47018, HIP 47155, HIP 48745, HIP 50901 and HIP 53759. For one of these stars, HIP 47155, the predicted supernova position coincides with the Antlia SNR (see section 4.3.3. The predicted SNR distance, however, would be only ≈ 60 pc which is at the lower boundary of the estimated distance to the Antlia SNR by [353], which is uncertain though.

Table E.2: Discussion on possible former companion candidates to PSR J0630−2834.

HIP	Properties and conclusion
37385	This star is a B8V star (Simbad).
39121	This A3II/III star is an astrometric binary (Simbad, [331]) without radial velocity measurement.
40326	This K1II-III star is a spectroscopic binary [147].
40430	This star is an O9nne cataclysmic variable star (Simbad), hence too old to be associated with PSR J0630−2834 (see footnote 49).
47018	This A2II/III star is a λ Bootes star (Simbad).
47155	This A6IIw λ Bootes star (Simbad) has no radial velocity measurement published yet.
47267	This G8II supergiant is a barium star [359], hence too old to be the former companion to PSR J0630−2834 (see footnote 45).
48745	This star is a B3II star (Simbad).
50901	This star is a A4II supergiant (Simbad) without radial velocity measurement.
53759	This star is a A2/A3II/III star (Simbad) without radial velocity measurement.
56703	This A0 main sequence star (Simbad) has no radial velocity measurement. In the HR diagram it lies slightly below the model ZAMS. The evolutionary model by [88] predicts an age of $\approx$ 400 Myr. Hence, the star is too old to be associated with a young NS.
60979	This star is a M2II-III semi-pulsating variable star (Simbad). Since it is an S star[71] [253], it is too old to be associated with PSR J0630−2834.
66252	This K5Ve star is a flare star [179] with low $v \sin i$ of 8.3 ± 0.5 km/s [343], hence probably not a BSS runaway star, unless it is observed pole-on.
66732	This O type subdwarf is the central star of a planetary nebula [533], hence too old to be the former companion to PSR J0630−2834.
75729	This star is a A0 main sequence star (Simbad) without radial velocity measurement. In the HR diagram it lies slightly below the model ZAMS. The evolutionary model by [88] predicts an age of $\approx$ 160 Myr. Hence, the star is too old to be associated with a young NS.
54282	This star is a A0 main sequence star (Simbad) without radial velocity measurement. In the HR diagram it lies slightly below the model ZAMS. The evolutionary model by [88] predicts an age of $\approx$ 400 Myr. Hence, the star is too old to be associated with a young NS.

E.4 The Geminga Pulsar (PSR J0633+1746) – Search for Former Companion Candidates

As the radial velocity of the Geminga Pulsar is restricted by the observation of its bow shock and could be confirmed by the identification of its probable birth association Ori OB1a, a uniform v_r distribution in the range −300 to +300 km/s was used in the calculations to

[71] S stars are late-type stars on the asymptotic giant branch. They show bands of s-process elements. It is believed that S stars are in an intermediate stage between normal M type giants and Carbon stars [352]. Many of them are long-period variable stars [266, 364] with their companion being a white dwarf.

search for former companion candidates.
19 runaway stars (11 with 3D full kinematics and eight with unknown v_r) could have come as close as 1 pc to the Geminga Pulsar (assuming reasonable spatial velocities for the runaway stars without v_r), two of them within Ori OB1. They are treated as possible former companion candidates to the Geminga Pulsar. Two further encounters were found to be significant. These two stars are also regarded as possible former companion stars. For two of the altogether four cases the NS and runaway star could have been at the same place at the same time in the past (i.e. $\mu = 0$, equation 3.3), HIP 29678 and HIP 108543. In the case of HIP 108543 a present parallax of the Geminga pulsar of $7.5^{+0.4}_{-0.2}$ mas is predicted, inconsistent with the measurement of 4.0 ± 1.3 mas [156].
The remaining candidate HIP 29678 is a B1V star in a double system with zero $v \sin i$ [3] and a helium abundance of He/H $= 0.122 \pm 0.018$ [322].[72] These parameters suggest that the star gained its runaway status from dynamical ejection rather than a supernova of a former companion. [230] suggested the runaway star HIP 22061 (and a possible third unidentified component) as a former companion of HIP 29678, indicating that this system got disrupted due to dynamical interactions in its parent cluster.
Concluding, no plausible former companion candidate was found for the Geminga Pulsar.

E.5 PSR J0659+1414

E.5.1 Search for Possible Parent Associations

To exclude or propose other possible formation sites of PSR J0659+1414, it was investigated whether it could have been born within a young association or cluster. Eight associations were found within which PSR J0659+1414 could be placed within the past ≈ 2.5 Myr.[73] As further indication, equation 3.2 was adapted to the first bins of the d_{min} distributions to estimate the distances of the putative supernovae to the association centres (in a few cases, where equation 3.2 could not be adapted to the slope of the distribution, the d_{min} peak and 68 % interval was determined). For all eight cases, the supernova site was found to be consistent with the association boundaries. However, the nominal radii of the majority of candidate associations are rather large ($\gtrsim 50$ pc). In Table E.3 the position of the supernova and the properties PSR J0659+1414 would currently have if it was born in the respective association are given. For the five associations that belong to the YLA (section 2.1.2), the proposed supernova sites would have been recent (≈ 0.5 Myr[74]) and very close to Earth ($\approx 30 - 70$ pc). A lower limit of the intensity of a γ ray emission feature (COMPTEL 1.8 MeV, ^{26}Al) can be estimated by assuming a minimum supernova ^{26}Al yield of $1.5 \cdot 10^{-5}$ M$_\odot$ (for a progenitor star with ≈ 8 M$_\odot$ [301, 548]) uniformly distributed over

[72] Known BSS runaways such as ζ Ophiuchi or ξ Persei have helium abundances of He/H ≈ 0.2 [230] (converted from $\epsilon =$ He/ (He + H) into He/H).
[73] Note, that this is already ≈ 25 times the characteristic age of the pulsar. No further association was identified up to 5 Myr into the past.
[74] Note, however, that this is already $5\tau_{char}$.

Table E.3: Present-day parameters of PSR J0659+1414 and supernova position and time for possible parent associations. Column designations are as in Table 4.2.

Assoc.	(μ, σ)	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
Tuc-Hor	(33.8, 1.7)	$0.56^{+0.15}_{-0.14}$	532^{+84}_{-114}	44.1±0.6	−2.4±0.3	529^{+101}_{-93}	$3.6^{+0.3}_{-0.3}$	34^{+6}_{-4}	33^{+7}_{-4}	$91.2^{+10.7}_{-13.9}$	$-70.2^{+1.5}_{-1.0}$	7 − 30
β Pic-Cap	32^{+30}_{-16}	$0.58^{+0.43}_{-0.19}$	536^{+73}_{-118}	44.1±0.6	−2.4±0.3	511^{+104}_{-86}	$3.5^{+0.4}_{-0.2}$	37^{+4}_{-6}	37^{+6}_{-6}	$108.0^{+14.3}_{-16.2}$	$-70.4^{+1.2}_{-1.0}$	7 − 38
AB Dor	(0, 27.6)	$0.62^{+0.35}_{-0.25}$	478^{+122}_{-75}	44.1±0.6	−2.4±0.3	501^{+106}_{-92}	$3.5^{+0.4}_{-0.3}$	35^{+5}_{-9}	37^{+5}_{-9}	$150.3^{+8.5}_{-8.3}$	$-65.5^{+3.0}_{-2.5}$	4 − 9
Cas-Tau	120^{+7}_{-16}	$0.36^{+0.34}_{-0.14}$	188^{+120}_{-54}	44.1±0.6	−2.4±0.3	220^{+93}_{-75}	$3.3^{+0.3}_{-0.4}$	99^{+12}_{-9}	110^{+14}_{-10}	$190.8^{+1.7}_{-4.1}$	$-18.4^{+3.4}_{-10.4}$	6 − 7
Mon OB1	(44.0, 5.5)	$0.58^{+0.38}_{-0.20}$	-415^{+87}_{-105}	44.1±0.6	−2.4±0.3	435^{+100}_{-84}	$3.4^{+0.4}_{-0.3}$	562^{+4}_{-4}	572^{+4}_{-3}	$199.8^{+0.3}_{-0.4}$	$4.9^{+0.7}_{-1.0}$	$\gtrsim 9$
λ Ori	(17.1, 3.9)	$2.18^{+0.24}_{-0.08}$	-29^{+3}_{-9}	44.1±0.6	−2.3±0.3	64^{+3}_{-2}	$3.6^{+0.4}_{-0.2}$	368^{+3}_{-11}	399^{+6}_{-9}	$194.2^{+0.4}_{-0.2}$	$-11.1^{+0.6}_{-0.8}$	47 − 62
ColA	(50.1, 3.3)	$0.47^{+0.38}_{-0.17}$	464^{+113}_{-62}	44.1±0.6	−2.4±0.3	477^{+97}_{-38}	$3.5^{+0.4}_{-0.3}$	50^{+3}_{-4}	56^{+4}_{-3}	$190.0^{+2.2}_{-2.3}$	$-24.9^{+5.4}_{-4.0}$	8 − 9
Argus	24^{+29}_{-14}	$0.57^{+0.09}_{-0.12}$	549^{+104}_{-90}	44.0±0.6	−2.4±0.3	559^{+96}_{-98}	$3.6^{+0.3}_{-0.3}$	36^{+5}_{-5}	36^{+5}_{-6}	$76.9^{+15.4}_{-8.4}$	$-69.2^{+2.5}_{-1.3}$	7 − 8

Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.

a circle with the size of the SNR (calculated from time and distance to the supernova, section 1.3). For such recent and nearby supernovae, the average pixel value (for COMPTEL 1.8 keV) in the SNR area is ≈ 1 to $2 \cdot 10^{-5}\,\mathrm{cm^{-2}s^{-1}sr^{-1}}$. This small value (due to the large angular sizes of the possible SNRs of a few tens of degrees) does not allow further exclusion of associations. However, Cas-Tau may be excluded since the supernova position would lie at the association edge although the nominal radius is very large (108 pc, $R_{crit} = 111$ pc). Futhrmore, the predicted progenitor mass is smaller than the minimum mass required for a core-collapse supernova ($\approx 8 - 9\,\mathrm{M_\odot}$, [e.g. 214]). Only 0.04 % of runs yield separations d_{min} to the centre of λ Ori that are consistent with R_{crit} (18 pc, nominal radius 15 pc). The predicted radial velocity for those encounters is very small. For a low-density environment [391] predict a toroidal pulsar wind nebula (bow shock) with a radius of $\approx 3''$. In fact, [401] found a nearly circular feature around the pulsar in a Chandra image that suggests a face-on torus, i.e. the pulsar is mainly moving in radial direction. That would be inconsistent with an origin in λ Ori. Hence, the YLA Tuc-Hor, β Pic-Cap, AB Dor, ColA and Argus as well as Mon OB1 remain possible parent associations (although the YLA seem less likely due to their present mass functions, see section 2.1.2) if PSR J0659+1414 was not born in the supernova that created the Monogem Ring SNR.

E.5.2 Search for Possible Former Companions Not Connected with the Monogem Ring

It was checked whether a runaway star could be connected with PSR J0659+1414 that would support a non-association between the SNR and the pulsar, i.e. it was searched for possible encounters between PSR J0659+1414 and runaway stars that could have occurred also outside the Monogem Ring. Twelve candidates (nine with full 3D kinematics, three with unknown v_r) were found for which either encounters with PSR J0659+1414 appear significant (three stars) or the encounter may have occurred inside one of the six pos-

Table E.4: Discussion on possible former companion candidates to PSR J0659+1414 if it is not connected to the Monogem Ring SNR.

HIP	Properties and conclusion
5081	This star is a F4II-III spectroscopic binary [147] with low $v \sin i = 6.6 \pm 0.9$ km/s [461], hence probably no BSS runaway star.
5477	This star is a G6II-III giant star (Simbad).
17952	This star is a K1II supergiant with near-zero $v \sin i$ [124], hence probably not a BSS runaway star unless it is observed pole-on. The kinematic age of PSR J0659+1414 would be ≈ 1.6 Myr. Assuming an initial spin period of 20 ms as estimated for the Crab Pulsar [341], this implies a braking index as small as $n \approx 0.5$. The smallest braking indices observed are that of Vela with $n = 1.4 \pm 0.2$ [320] and PSR J1734−3333 with $n = 0.9 \pm 0.2$ [152]. Hence, it might be unlikely that PSR J0659+1414 is already 1.6 Myr old although the initial spin period could be much smaller ($\lesssim 10^{-3}$ s required for $n \approx 1$).
19855	[334] give a gyro age of this G8V star in a binary system (B component, A component = HIP 19859, [147]) of 500 ± 60 Myr. This is in accordance with being a member of the UMa group as proposed by [382]. However, according to [300], HIP 19855 could be a weak-line T Tauri star. If treated as pre-main sequence star its age is 40 ± 17 Myr (section 2.3).
101608	This star is a A5II/III giant with $v \sin i = 93$ km/s [7, 434].
112790	This B5V star with unknown v_r is a SB1 candidate [347] with $v \sin i = 70$ km/s and normal disk abundance (i.e. no He enhancement) [346], hence probably not a BSS runaway star.
115195	This star without v_r measurement is designated as sdO in Simbad. It is a white dwarf [5].
115527	This G5V star is a young isolated nearby star (35 ± 8 Myr; [486], section 2.3).

sible parent associations (if PSR J0659+1414 did not form inside the Monogem Ring), see Table E.3. For eight cases, equations 3.2 and 3.3 suggest that the runaway star and the NS could have been at the same place and time in the past ($\mu = 0$). Those eight former companion candidates to PSR J0659+1414 are discussed in Table E.4. Four of them are possible BSS runaway stars (HIP 5477, HIP 19855, HIP 115527). The present parameters of PSR J0659+1414 if the respective runaway star was the former companion are given in Table E.5. Since the predicted supernovae would have occurred only recently and very close to the Sun, ^{26}Al cannot be used as further indicator because the SNRs would cover several tens of degrees that makes it impossible to measure the associated 1.8 MeV γ flux.

E.6 PSR J0820−1350 – Search for Former Companion Candidates

Four runaway stars with known radial velocities and further three stars without v_r were found, for which the smallest separation to PSR J0820−1350 found after three million

Table E.5: Present-day parameters of PSR J0659+1414 and supernova position and time for former companion candidates and the respective parent association/cluster. Column designations are as in Table 4.5.

HIP	Assoc./cl.	τ	Predicted present-day NS parameters					Predicted supernova position				M_{prog}
			v_r	μ_α^*	μ_δ	v_{sp}	π	$d_{\odot,SN}$	$d_{\odot,today}$	l	b	
	[pc]	[Myr]	[km/s]	[mas/yr]	[mas/yr]	[km/s]	[mas]	[pc]	[pc]	[°]	[°]	[M$_\odot$]
5477	ColA	$0.90^{+0.19}_{-0.09}$	298^{+39}_{-33}	44.1±0.6	−2.4±0.3	286^{+36}_{-35}	$3.2^{+0.2}_{-0.4}$	65^{+9}_{-5}	71^{+9}_{-6}	$160.1^{+6.3}_{-3.7}$	$-59.1^{+2.0}_{-2.8}$	–
19855^s	ColA	$0.52^{+0.08}_{-0.12}$	681^{+110}_{-124}	44.0±0.6	−2.4±0.3	617^{+170}_{-64}	$3.7^{+0.4}_{-0.2}$	29^{+3}_{-2}	34^{+3}_{-2}	$188.2^{+1.5}_{-1.9}$	$-30.7^{+4.6}_{-1.7}$	6 – 11
101608	β Pic-Cap, Argus	$0.54^{+0.12}_{-0.12}$	566^{+128}_{-112}	44.0±0.6	−2.4±0.3	598^{+97}_{-139}	$3.8^{+0.3}_{-0.4}$	74^{+2}_{-3}	69^{+2}_{-2}	$32.0^{+2.7}_{-2.4}$	$-34.3^{+2.2}_{-6.9}$	–
115527^s	ColA	$0.43^{+0.04}_{-0.05}$	653^{+73}_{-73}	44.0±0.7	−2.4±0.3	700^{+49}_{-97}	$3.8^{+0.2}_{-0.4}$	32^{+1}_{-4}	30^{+1}_{-2}	$55.0^{+6.9}_{-6.6}$	$-64.6^{+3.9}_{-2.6}$	6 – 10

Note that it is possible that the derived value for v_r is larger than that of v_{sp} because v_r is heliocentric whereas v_{sp} is the peculiar velocity of the NS that reflects its kick velocity.
For , no age estimation was possible (hence, no M_{prog}). It was considered young because of its luminosity class (section 2.3.1).

Monte Carlo runs was less than 3 pc (assuming plausible space velocities for those stars with unknown v_r). None of these seven possible encounters is significant nor can be placed within one of the proposed birth associations (Table 4.24).
Hence, no former companion candidate was found for PSR J0820−1350. However, it is still well possible that PSR J0820−1350 is ≈ 5 Myr old or even older. By constraining the NS parameters it might be possible to calculate the orbits even for larger ages than done in this work; a restriction on the radial velocity of the NS (and runaway stars) is crucial here.

E.7 PSR J0826+2637 – Search for Former Companion Candidates

In total, 137 runaway stars could have come close to the PSR J0826+2637 sometime in the past 5 Myr (109 with known v_r, 28 with unknown v_r). None of these encounters are significant, however one association between PSR J0826+2637 and a runaway star is highly interesting: The G0Ia supergiant HIP 13962 could have been at the same place as PSR J0826+2637 inside (or at least close to) the small cluster Stock 7 (nominal radius ≈ 2 pc [268]; R_{crit} = 30 pc). The predicted radial velocity of PSR J0826+2637 would be close to zero. Therefore, the calculations were repeated with $v_r = 0 \pm 100$ km/s for the NS. Using those Monte Carlo runs for which both stars were within 30 pc around the cluster centre, adapting equation 3.3 to the d_{min} distribution predicts that both objects could have been at the same place 3.0 ± 0.6 Myr in the past. Considering the small size of the cluster that potentially hosted the birth place of both stars it is very likely that PSR J0826+2637 and HIP 13962 were ejected in the same supernova event in Stock 7.

E.8 PSR J0953+0755 – Search for Former Companion Candidates

After three million Monte Carlo runs, ten runaway stars with full 3D kinematics were found for which the smallest separation to PSR J0953+0755 was less than 1 pc. They are considered possible former companion candidates. 19 further stars with unknown v_r

Table E.6: Discussion on possible former companion candidates to PSR J0953+0755.

HIP	Properties and conclusion
5100	This star is a WN2 star without v_r measurement. The predicted supernova would have occurred inside one of the YLA. No Wolf-Rayet stars, i.e. very massive stars are expected to have formed in the YLA (section 2.1.2). Hence, HIP 5100 cannot be the former companion to PSR J0953+0755.
9362	This K0II/II star without v_r measurement is a carbon star[75], hence too old to be associated with a young NS.
12653	This F8V star has a low $v \sin i = 4.2 \pm 0.6$ km/s [7], hence is probably no BSS runaway star unless it is observed pole-on.
16566	This star is an O type star. From its position in the HR diagram it is an O type subdwarf, hence too old to be associated with a young NS (see footnote 48). Moreover, no O type stars (i.e. very massive stars) are expected to have formed in the YLA (section 2.1.2) where the predicted position of the supernova is situated.
28675	According to the Hipparcos catalogue, this star has a spectral type of K3II/III [231]. A more recent determination gives K3III [147]. Hence the star is too old to be associated with a young NS.
30444	In the Hipparcos catalogue this star has a spectral type of K1II/III whereas [147] list it as G6III star in a binary system. Furthermore, [146] classified it as old disk star. Hence, it cannot be associated with PSR J0953+0755.
33774	This star is a G8II-III star (Simbad).
37017	This O9 star without v_r measurement is a hot subdwarf [183], hence old.
40929	This A6/A7II/III star has no v_r measurement yet (Simbad).
47904	This F2Ib star is a variable star of δ Scuti type (Simbad).
53557	This astrometric binary [331] with spectral type F9II/III has no v_r measured yet.
60134	This A4II λ Bootes star [e.g. 191] has no v_r measurement yet.
66057	This F5II/III star without v_r measurement is a binary system [448].
75769	This K0 PMS star is a double or multiple system. It is a foreground star to the Sco-Cen associations [386].
93015	This F5Ib-II single star is a variable star of W Virginis type[76], hence too old to be associated with a young NS.
94899	This B2V star is in a double system (Simbad).

were found for which the smallest d_{min} value found was less than 2 pc assuming reasonable space velocities for these stars. Two of these 29 encounters are significant, 14 further could have occurred inside one of the possible birth associations (Table 4.13). In total, these are 16 possible former companion candidates. The distributions of separations d_{min} are very broad. This is probably due to the broad velocity distribution for PSR J0953+0755 because there is only minor restriction on v_r from the small transverse velocity of 37^{+1}_{-1} km/s. For that reason, for any case no clear conclusion could be drawn from adapting equations 3.2 and 3.3 to the d_{min} distribution. For all 16 cases, it could be possible that both stars were at the same place at the same time in the past. The properties of these 16 runaway stars are summarised in Table E.6. Eight stars remain former companion candidates considering their properties: HIP 33774, HIP 40929, HIP 47904, HIP 53557, HIP 60134, HIP 66057, HIP 75769 and HIP 94899.

E.9 PSR J1136+1551 – Search for Former Companion Candidates

Since it was found that the radial velocity of PSR J1136+1551 is most probably low (also supported by the evidence of a bow shock [559], see also section 4.4.4), for the following analysis $v_r = 0 \pm 100$ km/s was adopted.
After three million Monte Carlo runs, five runaway stars with complete 3D kinematics were found for which the smallest separation to the NS was less than 1 pc. They are regarded as possible former companion candidates. Further ten stars with unknown v_r were found for which the smallest d_{min} did not exceed 2 pc assuming reasonable space velocities for the runaway stars. Three possible encounters are significant (HIP 61766, HIP 63049, HIP 63449). No further possible encounter could have occurred inside one of the possible birth associations/clusters of PSR J1136+1551 (Table 4.27).

E.10 PSR J1239+2453 – Search for Former Companion Candidates

After three million Monte Carlo runs, three runaway stars with full 3D kinematics were found for which the smallest separation to PSR J2330−2005 was less than 1 pc. 15 further stars with unknown v_r were identified for which the smallest separation to the NS did not exceed 3 pc assuming reasonable space velocities for these stars (see appendix D.2 for justification of the d_{min} thresholds). Neither of these encounters is significant nor could have occurred inside one of the possible birth associations (section 4.4.5). Hence, no former companion candidate was found for PSR J1239+2453.

E.11 PSR J1509+5531 – Search for Former Companion Candidates

Three runaway stars with known radial velocity were found, for which close encounters with PSR J1509+5531 are possible, HIP 44676, HIP 103141 and HIP 105669. Only one of these stars, HIP 103141, could have been at the same place in the past as the NS. However, for a close encounter with this star, PSR J1509+5531 would need an extraordinary high peculiar space velocity of 1730^{+60}_{-360} km/s, hence this association is unlikely. Among those runaway stars with unknown radial velocity, only one could have come close to PSR J1509+5531 assuming a plausible runaway star space velocity, HIP 112250. For this case, however,

[75] Carbon stars are old evolved late-type giant stars on the asymptotic giant branch. Their spectra show enhanced carbon [352]. Related to the carbon stars are barium and s stars (see also footnotes 45, 71).
[76] These type II cepheids are old low-mass stars [161, 504].

equation 3.2 predicts a rather large fly-by distance of ≈ 200 pc.
Hence, no former companion candidate was found for PSR J1509+5531.

E.12 RX J1605.3+3249 – Search for Former Companion Candidates

After 10^6 Monte Carlo runs, 24 runaway stars with full 3D kinematics were found for which the smallest separation to RX J1605.3+3249 was less than 1 pc. 26 further stars without v_r measurements were found with a smallest separation to the NS of less than 2 pc and a reasonable runaway space velocity (see appendix D.2 for justification of the d_{min} thresholds). No significant encounter was found. Seven encounters were found to have possibly occurred inside one of the possible birth associations of RX J1605.3+3249 (Table 4.6), all of them inside the Octans association. This is mainly due to the large size of the association.[77]
For four stars it was found that they could have been at the same place at the same time in the past as RX J1605.3+3249 (from equation 3.3, $\mu = 0$ possible). Those four former companion candidates to RX J1605.3+3249 are discussed in Table E.7. One former companion candidate remains: HIP 89394.

E.13 PSR B1929+10 – Search for Former Companion Candidates

After three million Monte Carlo runs, 11 runaway stars with full 3D kinematics and five stars with unknown radial velocity were found for which the smallest separation to PSR J2330−2005 was less than 1 pc (assuming reasonable space velocities for those stars with unknown v_r). Four of these encounters are significant, seven could have occurred in the vicinity of US (85 ± 50 pc). In total, these are nine possible former companion candidates (four significant encounters, seven inside US, two included in both).
One of them, HIP 78681, was already identified as barium star in section 4.1.1 and is excluded immediately. For the others the distributions of separations d_{min} are compared with the theoretically expected curve for a common origin, equation 3.3. For three cases (HIP 71096, HIP 77471, HIP 85015), the runaway star and the NS could have been at the same place in the past ($\mu = 0$ from equation 3.3). For one further case (HIP 78171), no conclusion can be drawn from the d_{min} distribution since it is very broad, probably due to the unknown v_r of both objects as well as the uncertain parallax of the runaway star (almost 50 % uncertainty). These four former companion candidates are discussed in

[77] Although [498] question whether the Octans association is expanding, it could well be that it was smaller in the past, i.e. at the time of the supernova. However, the expansion of associations is neglected here in order to not miss candidate stars. The chance of finding former companion candidates is naturally higher for large associations, however each association of a NS with a runaway star is regarded individually. Every companion star candidate is discussed in detail (see e.g. for this section Table E.7). Further observation of the runaway stars might be necessary to confirm or reject a particular supernova scenario. This comment applies to all results presented in this work.

Table E.7: Discussion on possible former companion candidates to RX J1605.3+3249.

HIP	Properties and conclusion
81969	This O6.5V star is a double star. An encounter of the system with RX J1605.3+3249 could have occurred inside the Octans association if the present distance of the runaway star candidate was 36^{+98}_{-14} pc. However, distance estimates from Ca-II column densities indicate a distance of the system of ≈ 1 kpc. Also, the Hipparcos parallax of 17.95 ± 16.68 mas [518] that was used in the Monte Carlo simulations is very uncertain. A distance of 1 kpc, thus, seems more plausible. Due to the large distance of HIP 81696 that is inconsistent with the predicted one, it is excluded as a companion candidate of RX J1605.3+3249.
83003	This star is listed as an O type Cepheid variable (Simbad). However, its large V band magnitude $V = 10.62$ mag suggests that the star might be much more distant than its parallactic distance of 163^{+68}_{-37} pc (infers absolute magnitude of $M_V = 4.6$ mag; for an O type star, $M_V \approx 0$ to -5 mag, hence its distance is $\approx 1 - 13$ kpc). Therefore, it is excluded as former companion candidate to RX J1605.3+3249.
89394	This star was classified as F0II star by [232], and revised by [395] to be Am, i.e. it is metal-rich. Also, the radial velocity of that star has not yet been published.
93015	This star is an F5Ib-II W Virginis star (see footnote 76). Therefore, it cannot be a former companion to the young NS.

Table E.8: Discussion on possible former companion candidates to PSR B1929+10.

HIP	Properties and conclusion
71096	This star is a hot O type subdwarf, hence too old to be associated with a young NS (see also footnote 48).
77471	This star is a A8/A9II eclipsing binary of Algol type (Simbad). [474] give a spectral type of A5+F5 for this binary system (see also [63]).
78171	This K0II/III binary system (Simbad, [154]) has no measured radial velocity.
85015	This A3II/III star (Simbad) has no known radial velocity.

detail in Table E.8. Concluding from that table, three former companion candidates to PSR B1929+10 remain: HIP 77471, HIP 78171 and HIP 85015.

E.14 PSR J2048−1616 – Search for Former Companion Candidates

One runaway star with full 3D kinematic data was found for which the smallest separation to PSR J0454+5543 after three million Monte Carlo runs was smaller than 1 pc. Further five stars with unknown radial velocity were found for which the smallest separation to PSR J0454+5543 did not exceed 2 pc assuming plausible space velocities of the runaway stars (see appendix D.2 for justification of the d_{min} thresholds). None of these encounters

Table E.9: Discussion on possible former companion candidates to PSR J2313+4253.

HIP	Properties and conclusion
70574	This star is a single B2IV variable star of β Cephei type (Simbad, [147]).
70586	For this M2II: star (Simbad) no radial velocity measurements is available.
88981	This star is a K1II supergiant (Simbad).
90804	This B2V binary star [147] has a low rotational velocity of 25 km/s [3], hence is probably not a BSS runaway star unless it is observed pole-on.
92845	This K1Ib/II Ba star [359] is a member of a double system with a white dwarf companion [147] (see also footnote 45), hence too old to be a former companion to PSR J2313+4253.
93051	This B8IIIe mercury (Hg) star [147] is a single star with a high rotational velocity of 182 ± 12 km/s [169].

is significant. Also, none of them could have occurred inside one of the possible birth associations/clusters (Ser OB1, Ser OB2, NGC 6604) of PSR J0454+5543. Hence, no convincing former companion candidate was found.

E.15 PSR J2313+4253 – Search for Former Companion Candidates

After three million Monte Carlo runs, 32 runaway stars with full 3D kinematics were found for which the smallest separation to PSR J2330−2005 was less than 1 pc. Further 59 runaway stars with unknown v_r were identified for which the smallest d_{min} did not exceed 3 pc assuming reasonable space velocities for these stars. Six of these 91 possible encounters are significant. No further encounter could have occurred inside Ser OB1, the possible birth association (section 4.3.5). For all six cases, the d_{min} distribution is broad and no clear conclusion can be drawn using equations 3.2 and 3.3. The six former companion candidates are discussed in detail in Table E.9. Considering their properties, four former companion candidates to PSR J2313+4253 remain: HIP 70574, HIP 70586, HIP 88981 and HIP 93051.

E.16 PSR J2330−2005 – Search for Former Companion Candidates

After three million Monte Carlo runs, 34 runaway stars with full 3D kinematics were found for which the smallest separation to PSR J2330−2005 was less than 1 pc. Further 26 stars with unknown v_r were identified for which the smallest separation to the NS did not exceed 3 pc assuming reasonable space velocities for the runaway stars. Four of these 60 possible encounters are significant, seven further could have occurred inside one of the possible birth associations of the NS (section 4.3.6). Altogether, these are 11 possible former companion candidates. Since the distributions of separations d_{min} are very broad (due to the small

Table E.10: Discussion on possible former companion candidates to PSR J2330−2005.

HIP	Properties and conclusion
66690	This G8II-III star (Simbad, [554], in Hipparcos catalogue G5II:) has near-zero $v \sin i$ [124, 297]. [321] give an age for this star of 316 Myr that was determined from T_{eff} and $\log g$ and evolutionary models from [88]. Using T_{eff} and luminosity yield 360 ± 35 Myr, in good agreement with the determination by [321] (section 2.3). If the star is an evolved low-mass star, it is too old to be a former companion to PSR J2330−2005. It's spectral type should be improved. Due to its near-zero $v \sin i$ it is probably no BSS runaway.
76605	This G8II/III suspected binary (Simbad, [255]) is a barium star [255, 359], hence too old to be a former companion to PSR J2330−2005 (see footnote 45).
76768	This K3/K4V double or multiple system (Simbad) is listed as a member of the AB Dor moving group [563]. Its motion is consistent with that of AB Dor within 1σ in U and V and 2.5σ in W. Hence, it is possibly not a runaway star (although identified by its slightly larger-than-average transverse velocity, section 2.3).
78131	This star is a B6V star in a double system (Simbad).
78846	This star is a A0 main sequence star (Hipparcos, Simbad gives spectral type G). Since it is slightly below the ZAMS of the evolutionary models used to determine its age (section 2.3), it was treated as ZAMS stars by most models. Using the model by [88] yields an age of ≈ 400 Myr, hence probably too old to be a former companion to PSR J2330−2005.
81007	This star is a single B9.5III mercury-manganese (HgMn) star [147, 543]. According to [234] more than two thirds of HgMn stars are spectroscopic binaries. The fact that HIP 81007 is a single star might indicate that it was ejected from a former binary system. However, the low rotational velocity of $v \sin i = 14 \pm 1$ km/s [3] (typical for HgMn stars) does not support a BSS origin. Searching for supernova debris in its spectrum is needed.
82475	This star is a A0 main sequence star similar to HIP 78846. Using the model by [88] yields an age of ≈ 380 Myr, hence probably too old to be a former companion to PSR J2330−2005.
89828	This star is a F5II giant with $v \sin i = 70.1 \pm 7.0$ km/s [124].
94391	This star is a A0 double or multiple star (Simbad, Hipparcos catalogue B4). [470] already listed this star as early type high velocity star.
101608	This star is a A5II/III giant with $v \sin i = 93$ km/s [7, 434].
113562	This star is a K0IICN star (Simbad, Hipparcos catalogue K0IICNIII). [147] give a spectral type of K0III. Hence, the star is probably too old to be a former companion to PSR J2330−2005.

transverse velocity of the NS of 4^{+5}_{-1} km/s the v_r distribution is broad), it was found for all cases that both stars could have been at the same place at the same time in the past ($\mu = 0$, equation 3.3). These eleven stars are discussed in Table E.10. Considering their properties, five former companion candidates to PSR J2330−2005 remain: HIP 78131, HIP 81007, HIP 89828, HIP 94391 and HIP 101608.

F Preliminary Results For 85 Further Neutron Stars

Table F.1: Preliminary results for 85 further NSs.

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0014+4746	Cyg OB7, Tr37, Cep OB2, Cep OB1, NGC 7380, Cep OB3, NGC 7128, NGC 7235, NGC 7160, NGC 7261, IC 1442, NGC 7419, Cep OB5	$\gtrsim 1.1$	34.8	31	91
J0139+5814	Per OB1, Cas OB6, IC 1805, Cep OB1, NGC 7380, Cep OB3, NGC 7128, NGC 7235, NGC 7160, NGC 7261, IC 1442, NGC 7419, Cep OB5	0.5 − 1.1	0.403	1	10
J0152−1637	Tuc-Hor, β Pic-Cap, AB Dor, Her-Lyr, Cep OB4, α Per, Cas-Tau, Pleiades, NGC 7129, ColA, Argus, NGC 7419, Cep OB5	$\gtrsim 0.3$	10.2	110	532
J0206−4028	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB1, Col 359, IC 4665, Cyg OB7, α Per, Per OB2, Cas-Tau, Pleiades, Mon OB1, Ori OB1, λ Ori, Col 121, NGC 2476, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, Car OB1, Col 228, IC 2602, Car OB2, NGC 3766, Cru OB1, IC 2944, ChaT, Cen OB1, Stock 16, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, NGC 6383, M6, NGC 2422, Col 132, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, NGC 7129, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, NGC 3590, Ruprecht 107, Basel 18, Col 272, NGC 6250, ColA, CarA, Octans, Argus, Pleiades B1	no restriction	8.33	175	541
J0304+1932	TWA, Tuc-Hor, β Pic-Cap, HD 141569, AB Dor, Her-Lyr, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cep OB4, Cas OB14, Per OB1, Cas OB6, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Stephenson 1, NGC 7160, Stock 7, NGC 7129, Tr 3, NGC 1513, ColA, Argus, Pleiades B1, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, Car OB1, Col 228, IC 2602, Car OB2, NGC 3766, Cru OB1, IC 2944, ChaT, Cen OB1, Stock 16, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, NGC 6383, M6, NGC 2422, Col 132, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, NGC 7129, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, NGC 3590, Ruprecht 107, Basel 18, Col 272, NGC 6250, ColA, CarA, Octans, Argus, Pleiades B1	no restriction	17.0	228	525
J0332+5434	β Pic-Cap, Ext. R CrA, AB Dor, Cyg OB4, Cyg OB7, Lac OB1, Cas OB1, NGC 457, Cas OB8, Per OB1, h Per, χ Per, Cas OB6, Cam OB1, Cas-Tau, NGC 6067, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6322, Pismis 24, M6, NGC 6531, IC 4725, NGC 6716, NGC 433, NGC 581, NGC 659, NGC 957, Harvard 10, NGC 6167, Nor OB1, R103, NGC 7129, Czernik 2, NGC 654, Basel 10, Hogg 22, NGC 6250, Lynga 14, Argus, Cen OB1, Stock 16, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, NGC 6383, M6, NGC 2422, Col 132, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, NGC 7129, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, NGC 3590, Ruprecht 107, Basel 18, Col 272, NGC 6250, ColA, CarA, Octans, Argus, Pleiades B1	$\gtrsim 0.2$	5.53	139	348
J0358+5413	Tuc-Hor, β Pic-Cap, AB Dor, Cam OB1, Per OB2, Cas-Tau, ChaT, NGC 1444, NGC 6087, NGC 7129, NGC 1513, ColA, CarA, Octans, Argus, NGC 6067, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6322, Pismis 24, M6, NGC 6531, IC 4725, NGC 6716, NGC 433, NGC 581, NGC 659, NGC 957, Harvard 10, NGC 6167, Nor OB1, R103, NGC 7129, Czernik 2, NGC 654, Basel 10, Hogg 22, NGC 6250, Lynga 14, Argus, Cen OB1, Stock 16, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, NGC 6383, M6, NGC 2422, Col 132, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, NGC 7129, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, NGC 3590, Ruprecht 107, Basel 18, Col 272, NGC 6250, ColA, CarA, Octans, Argus, Pleiades B1	$\gtrsim 0.2$	0.564	38	223

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0452−1759	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB1, Sgr OB7, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Col 359, IC 4665, ChaT, Pismis 24, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6664, NGC 6683, ColA, CarA, Octans, Argus, Pleiades B1, Hogg 22, NGC 6250, Lynga 14, Argus, Cen OB1, Stock 16, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, NGC 6383, M6, NGC 2422, Col 132, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, NGC 7129, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, NGC 3590, Ruprecht 107, Basel 18, Col 272, NGC 6250, ColA, CarA, Octans, Argus, Pleiades B1	no restriction	1.51	136	587
J0502+4654	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Cas-Tau, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, Col 121, Col 140, Col 135, NGC 2546, Vel OB2, Tr 10, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Cen OB1, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, Pismis 24, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, NGC 1981, NGC 1980, NGC 2422, Col 132, NGC 2547, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 4609, NGC 5281, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Nor OB1, R103, NGC 7129, NGC 2343, Bochum 5, Pismis 8, Pismis 16, Ruprecht 107, Hogg 22, NGC 6250, ColA, CarA, Octans, Argus, Pleiades B1, Octans, Argus, Pleiades B1	no restriction	1.81	237	433
J0528+2200	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, Sct OB2, Col 359, Vul OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, Cru OB1, IC 2944, ChaT, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6716, NGC 6683, Stock 7, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, Stock 13, NGC 4463, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 2186, SigmaOri, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Hogg 22, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	no restriction	1.48	72	410

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0538+2817	Mon OB1, Mon OB2, Ori OB1, Mon R2, NGC 2287, Col 121, Pup OB1, Col 135, Pup OB3, Vel OB2, Car OB1, Cru OB1, Cen OB1, Hogg 16, Ara OB1B, Col 132, Nor OB1, R103, Waterloo 7, Pismis 8, Melotte101, Ser OB2, Sct OB2, Col 359, Vul OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, Cru OB1, IC 2944, ChaT, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6716, NGC 6683, Stock 7, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, Stock 13, NGC 4463, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 2186, SigmaOri, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Hogg 22, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	$\gtrsim 0.6$	0.618	5	78
J0543+2329	UCL, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, Ext. R CrA, AB Dor, Sgr OB1, Sgr OB7, Sgr OB4, Ser OB1, Cyg OB7, Lac OB1, Cam OB1, α Per, Per OB2, Cas-Tau, Aur OB2, Gem OB1, Mon OB2, Ori OB1, λ Ori, Mon R2, Col 121, ChaT, Ara OB1A, Pismis 24, Col 367, Blanco1, NGC 1746, NGC 7129, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, Cru OB1, IC 2944, ChaT, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6716, NGC 6683, Stock 7, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, Stock 13, NGC 4463, NGC 5316, NGC 5617, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 2186, SigmaOri, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Hogg 22, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	no restriction	0.253	18	176
J0614+2229	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Col 359, IC 4665, Vul OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cep OB4, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, NGC 2367, Col 121, Pup OB1, NGC 2476, Col 140, Col 135, Pup OB3, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Ara OB1A, NGC 6204, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6683, Stephenson 1, Stock 7, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, Col 132, NGC 2516, NGC 3532, NGC 6025, NGC 6087, Harvard 10, NGC 6178, Tr 24, NGC 7129, NGC 2186, NGC 2343, NGC 2345, Waterloo 7, Bochum 5, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, NGC 2186, SigmaOri, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Hogg 22, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	no restriction	0.0893	29	546

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0629+2415	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB4, Cyg OB1, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cep OB4, Cas OB14, Cas OB7, Per OB1, Cas OB6, IC 1805, Cam OB1, NGC 1502, Cam OB3, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6683, Stephenson 1, NGC 7160, Stock 7, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	no restriction	3.78	181	494
J0653+8051	Tuc-Hor, β Pic-Cap, ϵ Cha, AB Dor, Lac OB1, Cas OB2, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas OB7, IC 1590, Cas OB1, NGC 457, Cas OB8, Per OB1, h Per, χ Per, Cas OB6, IC 1805, Cam OB1, α Per, Per OB2, Cas-Tau, Pleiades, ChaT, Blanco1, NGC 7510, Stock 17, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 7129, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Czernik 6, Basel 10, IC 1848, NGC 1513, ColA, CarA, Octans, Argus, Cep OB5, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6683, Stephenson 1, NGC 7160, Stock 7, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	$\gtrsim 0.2$	5.07	312	477
J0737−3039B	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Col 359, IC 4665, Vul OB1, Vul OB4, Col 121, Pup OB1, Col 140, Col 135, Vel OB2, Tr 10, ChaT, NGC 2571, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 7129, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Czernik 6, Basel 10, IC 1848, NGC 1513, ColA, CarA, Octans, Argus, Cep OB5, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6683, Stephenson 1, NGC 7160, Stock 7, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	$\gtrsim 1.1$	49.2	102	530

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0742−2822	Pup OB1, NGC 2571, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Col 359, IC 4665, Vul OB1, Vul OB4, Col 121, Pup OB1, Col 140, Col 135, Vel OB2, Tr 10, ChaT, NGC 2571, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 7129, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Czernik 6, Basel 10, IC 1848, NGC 1513, ColA, CarA, Octans, Argus, Cep OB5, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6683, Stephenson 1, NGC 7160, Stock 7, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	$0.1-0.9$	0.157	1	18
J0754+3231	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Per OB2, Cas-Tau, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, Col 121, NGC 2476, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Ara OB1A, NGC 6204, Sco OB1, Sco OB4, Pismis 24, M6, Blanco1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, Col 132, NGC 2547, NGC 2516, NGC 3532, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 2343, Waterloo 7, Bochum 5, Pismis 8, Pismis 16, NGC 6250, Lynga 14, ColA, CarA, Octans, Argus, Pleiades B1, Tr 10, Vel OB1, IC 2395, IC 2391, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6683, Stephenson 1, NGC 7160, Stock 7, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	$\gtrsim 0.2$	21.2	156	549
J0758−1528	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB1, Sgr OB7, Ser OB1, Sct OB3, IC 4665, Vul OB1, Vul OB4, Cyg OB9, Cyg OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Ara OB1A, Sco OB4, Pismis 24, M6, NGC 6531, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, Col 419, NGC 1746, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 6025, NGC 6087, Bica 1, NGC 7129, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, ColA, CarA, Octans, Argus, Pleiades B1, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	$\gtrsim 1.3$	6.68	118	280

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0821−4300	Tuc-Hor, Tr 10, Vel OB1, ColA, CarA, Octans, Argus, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB1, Sgr OB7, Ser OB1, Sct OB3, IC 4665, Vul OB1, Vul OB4, Cyg OB9, Cyg OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Ara OB1A, Sco OB4, Pismis 24, M6, NGC 6531, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, Col 419, NGC 1746, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 6025, NGC 6087, Bica 1, NGC 7129, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, ColA, CarA, Octans, Argus, Pleiades B1, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	$\lesssim 0.5$	1.49	2	8
J0837+0610	Tuc-Hor, ϵ Cha, η Cha, NGC 2367, Col 121, Pup OB1, NGC 2476, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, NGC 2384, NGC 2547, NGC 2516, NGC 2571, ColA, CarA, Octans, Cep OB6, Cep OB3, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Ara OB1A, Sco OB4, Pismis 24, M6, NGC 6531, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, Col 419, NGC 1746, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 6025, NGC 6087, Bica 1, NGC 7129, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, ColA, CarA, Octans, Argus, Pleiades B1, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	$\gtrsim 0.4$	2.97	66	237

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0837−4135	Tuc-Hor, β Pic-Cap, AB Dor, Her-Lyr, Cyg OB3, Byurakan 1, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Cep OB6, Cas-Tau, IC 1848, Pup OB1, Pup OB3, NGC 2546, Tr 10, NGC 6913, Col 419, NGC 6910, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Czernik 2, NGC 2571, Haffner 26, ColA, CarA, Octans, Argus, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Ara OB1A, Sco OB4, Pismis 24, M6, NGC 6531, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, Col 419, NGC 1746, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 6025, NGC 6087, Bica 1, NGC 7129, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, ColA, CarA, Octans, Argus, Pleiades B1, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 7129, NGC 1513, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, Ruprecht 107, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1	no restriction	3.36	36	548
J0846−3533	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB1, Sgr OB7, Sgr OB6, Ser OB1, Sct OB3, Sct OB2, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas OB7, IC 1590, Cas OB1, NGC 457, Cas OB8, Per OB1, h Per, χ Per, Cas OB6, IC 1805, Cam OB1, NGC 1502, Cam OB3, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, Col 228, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, Ara OB1A, Sco OB1, Sco OB4, Pismis 24, Col 367, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	11.0	247	573

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0908−1739	Tuc-Hor, β Pic-Cap, AB Dor, Cyg OB3, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB14, Per OB1, Cas OB6, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, Ori OB1, λ Ori, Mon R2, IC 1848, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, NGC 433, Stock 5, Stock 7, NGC 1027, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, Col 89, NGC 2169, Col 97, Col 106, NGC 2422, Berkeley 86, NGC 7039, NGC 7129, NGC 7419, NGC 7654, Mayer 1, Czernik 2, Tr 3, NGC 1513, IC 348, Ruprecht 26, ColA, Octans, Argus, Cep OB5, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, Col 228, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, Ara OB1A, Sco OB1, Sco OB4, Pismis 24, Col 367, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.2$	9.5	306	399
J0922+0638	Pup OB3, Vel OB2, Haffner 26, Cyg OB3, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB14, Per OB1, Cas OB6, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, Ori OB1, λ Ori, Mon R2, IC 1848, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, NGC 433, Stock 5, Stock 7, NGC 1027, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, Col 89, NGC 2169, Col 97, Col 106, NGC 2422, Berkeley 86, NGC 7039, NGC 7129, NGC 7419, NGC 7654, Mayer 1, Czernik 2, Tr 3, NGC 1513, IC 348, Ruprecht 26, ColA, Octans, Argus, Cep OB5, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, Col 228, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, Ara OB1A, Sco OB1, Sco OB4, Pismis 24, Col 367, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	0.7 − 3.4	0.501	7	51

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J0946+0951	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB1, Sgr OB7, Sgr OB6, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB1, Cyg OB9, Cyg OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cam OB1, α Per, Per OB2, Cas-Tau, Pleiades, Mon OB1, Ori OB1, ChaT, Pismis 24, NGC 6531, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, Col 419, NGC 6885, Bica 1, NGC 7129, ColA, CarA, Octans, Argus, Pleiades B1, Czernik 2, Tr 3, NGC 1513, IC 348, Ruprecht 26, ColA, Octans, Argus, Cep OB5, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, Col 228, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, Ara OB1A, Sco OB1, Sco OB4, Pismis 24, Col 367, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	4.98	270	558
J1041−1942	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, Ext. R CrA, AB Dor, Cas-Tau, Ori OB1, Col 121, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB1, Cyg OB9, Cyg OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cam OB1, α Per, Per OB2, Cas-Tau, Pleiades, Mon OB1, Ori OB1, ChaT, Pismis 24, NGC 6531, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, Col 419, NGC 6885, Bica 1, NGC 7129, ColA, CarA, Octans, Argus, Pleiades B1, Czernik 2, Tr 3, NGC 1513, IC 348, Ruprecht 26, ColA, Octans, Argus, Cep OB5, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, Col 228, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, Ara OB1A, Sco OB1, Sco OB4, Pismis 24, Col 367, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.3$	23.2	116	503

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1057−5226	TWA, Tuc-Hor, β Pic-Cap, AB Dor, Lac OB1, Per OB1, Cam OB1, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, NGC 1746, Col 89, Col 97, Col 106, NGC 1981, NGC 1980, NGC 2353, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 7129, Czernik 2, NGC 1513, IC 348, SigmaOri, NGC 2343, NGC 2345, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, ColA, CarA, Octans, Argus, Cep OB5, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, Col 228, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, Ara OB1A, Sco OB1, Sco OB4, Pismis 24, Col 367, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	0.535	97	554
J1115+5030	Tuc-Hor, β Pic-Cap, AB Dor, Cam OB1, NGC 1502, α Per, Cas-Tau, Blanco1, Stock 7, NGC 7129, ColA, Argus, Gem OB1, Mon OB1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, NGC 1746, Col 89, Col 97, Col 106, NGC 1981, NGC 1980, NGC 2353, NGC 2384, Col 132, NGC 2547, NGC 2670, NGC 7129, Czernik 2, NGC 1513, IC 348, SigmaOri, NGC 2343, NGC 2345, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, ColA, CarA, Octans, Argus, Cep OB5, NGC 2232, CMa OB1, NGC 2287, NGC 2414, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, Col 228, IC 2602, Car OB2, ChaT, Cen OB1, Hogg 16, Ara OB1A, Sco OB1, Sco OB4, Pismis 24, Col 367, IC 4725, Blanco1, NGC 6716, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, IC 5146, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.4$	10.5	85	321

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1116−4122	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Vul OB4, Cyg OB1, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, α Per, Per OB2, Cas-Tau, Pleiades, Mon OB1, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, Col 121, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, Car OB1, IC 2581, NGC 3293, NGC 3324, Tr 14, Tr 15, Tr 16, Col 228, IC 2602, Car OB2, Tr 18, NGC 3766, Cru OB1, IC 2944, ChaT, Cen OB1, Stock 16, Hogg 16, Ara OB1A, Pismis 24, IC 4725, Blanco1, Stephenson 1, Col 419, NGC 7031, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, Stock 7, Col 89, Col 97, NGC 1981, NGC 2422, Col 132, NGC 2547, NGC 2670, NGC 2516, Col 232, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 5168, NGC 5281, NGC 5617, NGC 6025, NGC 6087, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, Czernik 2, Tr 3, Bochum 9, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	1.88	180	543
J1308+2127[a]	US, Tuc-Hor, β Pic-Cap, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Pismis 24, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6683, NGC 6396, ColA, Argus, Pleiades B1, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, Car OB1, IC 2581, NGC 3293, NGC 3324, Tr 14, Tr 15, Tr 16, Col 228, IC 2602, Car OB2, Tr 18, NGC 3766, Cru OB1, IC 2944, ChaT, Cen OB1, Stock 16, Hogg 16, Ara OB1A, Pismis 24, IC 4725, Blanco1, Stephenson 1, Col 419, NGC 7031, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, Stock 7, Col 89, Col 97, NGC 1981, NGC 2422, Col 132, NGC 2547, NGC 2670, NGC 2516, Col 232, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 5168, NGC 5281, NGC 5617, NGC 6025, NGC 6087, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, Czernik 2, Tr 3, Bochum 9, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\lesssim 3.2$	1.5	76	497

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1321+8323	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB4, Cas-Tau, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, Ara OB1A, NGC 6204, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6709, Stephenson 1, NGC 6025, NGC 6087, Lynga 14, ColA, CarA, Octans, Argus, Pleiades B1, Blanco1, Stephenson 1, Col 419, NGC 7031, NGC 7128, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, Stock 7, Col 89, Col 97, NGC 1981, NGC 2422, Col 132, NGC 2547, NGC 2670, NGC 2516, Col 232, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 5168, NGC 5281, NGC 5617, NGC 6025, NGC 6087, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, Czernik 2, Tr 3, Bochum 9, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.5$	18.7	226	466
J1328−4357	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Cyg OB7, Lac OB1, Cep OB2, Cas OB14, Cam OB1, α Per, Per OB2, Cas-Tau, Pleiades, Mon OB1, Ori OB1, λ Ori, NGC 1976, Mon R2, Col 121, Col 140, Col 135, Pup OB3, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, Car OB1, IC 2581, NGC 3324, Tr 16, Col 228, IC 2602, Car OB2, NGC 3766, Cru OB1, IC 2944, ChaT, Cen OB1, Stock 16, Hogg 16, Stock 7, Col 232, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 6087, R80, NGC 7129, Bochum 9, Pismis 8, Pismis 16, Loden153, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Col 232, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 5168, NGC 5281, NGC 5617, NGC 6025, NGC 6087, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, Czernik 2, Tr 3, Bochum 9, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	2.8	37	330

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1430−6623	US, UCL, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 2, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Tr 37, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas-Tau, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, Markarian 50, Stock 17, Stock 18, Pismis 20, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, IC 4996, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	4.49	**159**	**475**
J1453−6413	R 105, Ara OB1A, Ara OB1B, Pismis 24, Pismis 20, Nor OB1, R103, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 2, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Tr 37, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas-Tau, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, Markarian 50, Stock 17, Stock 18, Pismis 20, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, IC 4996, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 1.6$	1.04	**9**	**78**

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1456−6843	Tuc-Hor, β Pic-Cap, Ext. R CrA, AB Dor, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Cep OB2, Cep OB6, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas OB1, Ara OB1A, Pismis 24, NGC 7031, NGC 7160, NGC 7510, Stock 17, Stock 18, Bica 1, NGC 7039, NGC 7129, NGC 7654, Mayer 1, Czernik 2, Octans, Argus, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Tr 37, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas-Tau, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, Markarian 50, Stock 17, Stock 18, Pismis 20, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, IC 4996, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.4$	42.5	106	543
J1543−0620	US, Tuc-Hor, β Pic-Cap, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Col 359, IC 4665, Cas-Tau, ChaT, IC 4725, NGC 7129, ColA, Argus, Pleiades B1, Cas OB1, Ara OB1A, Pismis 24, NGC 7031, NGC 7160, NGC 7510, Stock 17, Stock 18, Bica 1, NGC 7039, NGC 7129, NGC 7654, Mayer 1, Czernik 2, Octans, Argus, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Tr 37, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas-Tau, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, Markarian 50, Stock 17, Stock 18, Pismis 20, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, IC 4996, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\lesssim 4.5$	12.8	148	550

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1559−4438	Ori OB1, Hogg 16, Nor OB1, R103, Octans, AB Dor, Her-Lyr, Col 359, IC 4665, Cas-Tau, ChaT, IC 4725, NGC 7129, ColA, Argus, Pleiades B1, Cas OB1, Ara OB1A, Pismis 24, NGC 7031, NGC 7160, NGC 7510, Stock 17, Stock 18, Bica 1, NGC 7039, NGC 7129, NGC 7654, Mayer 1, Czernik 2, Octans, Argus, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Tr 37, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas-Tau, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, Markarian 50, Stock 17, Stock 18, Pismis 20, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, IC 4996, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	1.0 − 4.6	4.0	2	68
J1604−4909	Sgr OB5, Sgr OB1, Ara OB1A, Ara OB1B, R103, AB Dor, Her-Lyr, Col 359, IC 4665, Cas-Tau, ChaT, IC 4725, NGC 7129, ColA, Argus, Pleiades B1, Cas OB1, Ara OB1A, Pismis 24, NGC 7031, NGC 7160, NGC 7510, Stock 17, Stock 18, Bica 1, NGC 7039, NGC 7129, NGC 7654, Mayer 1, Czernik 2, Octans, Argus, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Tr 37, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas-Tau, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, Markarian 50, Stock 17, Stock 18, Pismis 20, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, IC 4996, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	0.2 − 4.9	5.09	130	29

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1607−0032	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Col 359, IC 4665, Cyg OB7, Lac OB1, Cep OB6, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, Col 121, Col 140, Vel OB2, Tr 10, IC 2391, IC 2602, ChaT, Blanco1, Stephenson 1, NGC 1746, Col 89, NGC 2169, Col 97, NGC 1981, NGC 1980, NGC 2422, NGC 7129, IC 348, SigmaOri, ColA, CarA, Octans, Argus, Pleiades B1, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, Markarian 50, Stock 17, Stock 18, Pismis 20, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, IC 4996, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.4$	21.8	380	596
J1645−0317	US, UCL, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, Ext. R CrA, AB Dor, Sgr OB5, Cas-Tau, Ori OB1, ChaT, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, NGC 6322, Bochum 13, Sco OB4, Pismis 24, NGC 6087, Harvard 10, Tr 24, NGC 6242, Nor OB1, R103, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Blanco1, Stephenson 1, NGC 1746, Col 89, NGC 2169, Col 97, NGC 1981, NGC 1980, NGC 2422, NGC 7129, IC 348, SigmaOri, ColA, CarA, Octans, Argus, Pleiades B1, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, Markarian 50, Stock 17, Stock 18, Pismis 20, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, IC 4996, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Col 272, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 146, NGC 433, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.1$	3.45	76	523

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	# former comp. cand. $v_{r,run}$ unknown
J1709−1640	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, NGC 6611, Sct OB3, Ser OB2, Col 359, IC 4665, Vul OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cep OB4, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, NGC 2287, Col 121, Col 140, Col 135, Pup OB3, Vel OB2, Tr 10, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Ara OB1A, NGC 6193, Ara OB1B, Sco OB1, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, NGC 6531, IC 4725, Blanco1, Stephenson 1, Stock 7, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, Col 132, NGC 2547, NGC 2516, NGC 3532, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Bica 1, NGC 7129, Tr 3, NGC 1513, IC 348, NGC 2186, SigmaOri, NGC 2343, Bochum 5, Pismis 8, Pismis 16, Hogg 22, NGC 6250, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	1.64	502	591
J1722−3207	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cep OB4, Cas OB14, Cas OB6, IC 1805, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Mon OB1, Mon OB2, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, ChaT, Hogg 16, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6664, NGC 6683, NGC 6709, Stephenson 1, NGC 7160, Stock 7, NGC 1444, NGC 1746, Col 89, Col 97, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Nor OB1, R103, Bica 2, NGC 7129, Czernik 2, NGC 1513, Hogg 22, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	11.7	1	194

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1735−0724	TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, Ext. R CrA, AB Dor, Sgr OB5, Sgr OB1, Ori OB1, NGC 1976, Mon R2, ChaT, Ara OB1A, Bochum 13, Pismis 24, Tr 27, NGC 6383, M6, NGC 1981, NGC 1980, SigmaOri, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Vul OB4, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cep OB4, Cas OB14, Cas OB6, IC 1805, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Mon OB1, Mon OB2, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, ChaT, Hogg 16, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6664, NGC 6683, NGC 6709, Stephenson 1, NGC 7160, Stock 7, NGC 1444, NGC 1746, Col 89, Col 97, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Nor OB1, R103, Bica 2, NGC 7129, Czernik 2, NGC 1513, Hogg 22, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$0.2 - 3.1$	5.47	7	333
J1740+1311	Tuc-Hor, β Pic-Cap, AB Dor, Her-Lyr, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 1, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Lac OB1, Per OB2, Cas-Tau, Ori OB1, Mon R2, NGC 6834, NGC 6913, Col 419, NGC 6910, IC 5146, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, Czernik 2, ColA, Octans, Argus, Cep OB4, Cas OB14, Cas OB6, IC 1805, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Mon OB1, Mon OB2, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, ChaT, Hogg 16, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6664, NGC 6683, NGC 6709, Stephenson 1, NGC 7160, Stock 7, NGC 1444, NGC 1746, Col 89, Col 97, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Nor OB1, R103, Bica 2, NGC 7129, Czernik 2, NGC 1513, Hogg 22, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.1$	8.77	29	529

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1741−3927	TWA, AB Dor, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Vul OB1, Cam OB1, Cas-Tau, Mon OB1, Col 121, Pup OB3, Vel OB2, Tr 10, Vel OB1, IC 2395, Car OB1, IC 2581, NGC 3293, NGC 3324, Tr 14, Tr 15, Col 228, Car OB2, Cru OB1, IC 2944, ChaT, Cen OB1, Stock 16, Hogg 16, NGC 5606, Ara OB1A, Ara OB1B, Sco OB1, Bochum 13, Sco OB4, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4463, NGC 4755, NGC 5168, NGC 5316, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, R80, Nor OB1, R103, NGC 7129, Bochum 9, Haffner 26, Pismis 8, BH 92, Loden153, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, BH 217, NGC 6396, CarA, Octans, Argus, Pleiades B1, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6664, NGC 6683, NGC 6709, Stephenson 1, NGC 7160, Stock 7, NGC 1444, NGC 1746, Col 89, Col 97, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Nor OB1, R103, Bica 2, NGC 7129, Czernik 2, NGC 1513, Hogg 22, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	4.2	75	48
J1745−3040	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, Sgr OB1, Col 359, IC 4665, Cam OB1, Per OB2, Cas-Tau, Pleiades, Aur OB2, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, Mon R2, NGC 2232, CMa OB1, NGC 2287, Col 121, NGC 2362, NGC 2476, Col 140, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, IC 2602, ChaT, Hogg 16, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, NGC 6531, Stephenson 1, NGC 1960, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, Col 132, NGC 2547, NGC 2516, NGC 3532, Feinstein 1, NGC 4463, NGC 4609, NGC 5316, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, Nor OB1, R103, NGC 7129, NGC 2186, NGC 2343, Waterloo 7, Bochum 5, Pismis 8, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.4$	0.546	93	450

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1752−2806	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Col 359, IC 4665, Vul OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB4, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, Ori OB1, λ Ori, NGC 1976, Mon R2, Col 121, Col 140, Vel OB2, Tr 10, IC 2391, IC 2602, ChaT, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6683, Stephenson 1, Stock 7, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, NGC 1981, NGC 1980, NGC 2422, Bica 1, NGC 7129, Tr 3, IC 348, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 2343, Waterloo 7, Bochum 5, Pismis 8, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	1.1	548	580
J1801−2451	Sgr OB5, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Vul OB1, Cen OB1, Ara OB1A, Ara OB1B, Sco OB1, Bochum 13, NGC 6683, NGC 6087, Nor OB1, R103, Hogg 22, BH 217, NGC 6396, Col 359, IC 4665, Vul OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cep OB4, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, Ori OB1, λ Ori, NGC 1976, Mon R2, Col 121, Col 140, Vel OB2, Tr 10, IC 2391, IC 2602, ChaT, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6683, Stephenson 1, Stock 7, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, NGC 1981, NGC 1980, NGC 2422, Bica 1, NGC 7129, Tr 3, IC 348, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 2343, Waterloo 7, Bochum 5, Pismis 8, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 1.7$	0.0155	2	24

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1803−2137	UCL, LCC, Sgr OB5, Sgr OB1, Mon OB1, Mon OB2, CMa OB1, NGC 2367, Col 121, Pup OB1, NGC 2476, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, vdB-Hagen 99, Car OB1, IC 2581, NGC 3293, Tr 16, Col 228, Car OB2, Tr 18, NGC 3766, Cru OB1, IC 2944, ChaT, Cen OB1, Stock 16, Hogg 16, NGC 5606, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, NGC 6514, Col 106, NGC 2353, NGC 2384, NGC 2670, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.2$	0.0158	**1**	**91**
J1809−1943	Sgr OB4, M17, Ser OB1, Sct OB3, Ser OB2, Sct OB2, Tr 35, Vul OB1, NGC 6823, Vul OB4, Cyg OB1, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB3, Cas OB14, Cam OB1, Aur OB1, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6913, Col 419, NGC 6910, NGC 7031, Stock 7, NGC 1027, Bica 1, Bica 2, NGC 7039, NGC 7654, Czernik 2, NGC 1513, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, NGC 6514, Col 106, NGC 2353, NGC 2384, NGC 2670, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.3$	0.0113	**7**	**73**

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1824−1945	TWA, Tuc-Hor, β Pic-Cap, Ext. R CrA, AB Dor, Her-Lyr, Tr 35, α Per, Cas-Tau, Pleiades, λ Ori, ChaT, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6709, Stephenson 1, Col 89, NGC 7129, ColA, CarA, Argus, NGC 6755, NGC 6913, Col 419, NGC 6910, NGC 7031, Stock 7, NGC 1027, Bica 1, Bica 2, NGC 7039, NGC 7654, Czernik 2, NGC 1513, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, NGC 6514, Col 106, NGC 2353, NGC 2384, NGC 2670, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 2.7$	0.573	76	274
J1824−2452A	TWA, Tuc-Hor, β Pic-Cap, Ext. R CrA, AB Dor, Her-Lyr, Tr 35, α Per, Cas-Tau, Pleiades, λ Ori, ChaT, Markarian 38, IC 4725, NGC 6613, NGC 6664, NGC 6683, NGC 6709, Stephenson 1, Col 89, NGC 7129, ColA, CarA, Argus, NGC 6755, NGC 6913, Col 419, NGC 6910, NGC 7031, Stock 7, NGC 1027, Bica 1, Bica 2, NGC 7039, NGC 7654, Czernik 2, NGC 1513, NGC 6204, Ara OB1B, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, NGC 6514, Col 106, NGC 2353, NGC 2384, NGC 2670, NGC 3532, Feinstein 1, Stock 13, NGC 3572, Stock 14, NGC 4103, NGC 4463, NGC 4609, NGC 4755, NGC 5168, NGC 5281, NGC 5316, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 2.7$	29.9	10	2

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1825−0935	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Ser OB1, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB4, Cyg OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.3$	0.232	412	587
J1829−1751	Ara OB1B, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Ser OB1, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB4, Cyg OB4, Cyg OB7, Lac OB1, Cep OB2, Cep OB6, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, NGC 2129, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	3.1 − 4.8	0.877	0	2

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1832−0827	Tuc-Hor, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Vul OB1, Cyg OB9, Cyg OB7, Lac OB1, Ori OB1, Vel OB2, Ara OB1A, Ara OB1B, Sco OB1, Sco OB4, Pismis 24, Col 367, Markarian 38, NGC 6613, NGC 6694, NGC 6683, Hogg 22, BH 217, NGC 6396, ColA, Octans, Pleiades B1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	0.161	0	46
J1835−1106	AB Dor, Sgr OB5, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Ser OB2, Sct OB2, Vul OB1, Cyg OB3, Cyg OB1, Cyg OB9, Cep OB1, Cru OB1, IC 2944, Stock 16, Hogg 16, R 105, Ara OB1A, Ara OB1B, Sco OB1, Bochum 13, Pismis 24, NGC 6531, NGC 3572, Harvard 10, R80, Nor OB1, R103, IC 4996, Hogg 22, BH 217, NGC 6396, Pleiades B1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.4$	0.128	1	33

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1836−1008	AB Dor, Sgr OB5, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Ser OB2, Sct OB2, Vul OB1, Cyg OB3, Cyg OB1, Cyg OB9, Cep OB1, Cru OB1, IC 2944, Stock 16, Hogg 16, R 105, Ara OB1A, Ara OB1B, Sco OB1, Bochum 13, Pismis 24, NGC 6531, NGC 3572, Harvard 10, R80, Nor OB1, R103, IC 4996, Hogg 22, BH 217, NGC 6396, Pleiades B1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.4$	0.756	0	4
J1840+5640	Tr 37, Cep OB2, Cep OB1, NGC 7380, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB14, Cam OB1, NGC 7128, NGC 7235, NGC 7160, NGC 7510, IC 1442, NGC 7419, NGC 7654, Czernik 2, Cep OB5, R 105, Ara OB1A, Ara OB1B, Sco OB1, Bochum 13, Pismis 24, NGC 6531, NGC 3572, Harvard 10, R80, Nor OB1, R103, IC 4996, Hogg 22, BH 217, NGC 6396, Pleiades B1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.9$	17.5	40	89

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1844+1454	Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Car OB1, Col 228, Car OB2, Cru OB1, IC 2944, Cen OB1, NGC 6067, Ara OB1A, Ara OB1B, Sco OB1, Bochum 13, Pismis 24, Tr 27, Col 367, Markarian 38, NGC 6613, NGC 6694, NGC 6683, NGC 6755, NGC 5168, NGC 6087, Harvard 10, NGC 6167, Nor OB1, Ruprecht 107, Hogg 22, BH 217, NGC 6396, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.5$	3.18	3	91
J1900−2600	β Pic-Cap, AB Dor, Vul OB1, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB4, Cyg OB7, Tr 37, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas OB6, Cam OB1, NGC 1502, Cas-Tau, NGC 7031, NGC 7128, NGC 7235, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 6885, Berkeley 86, NGC 7039, NGC 7129, NGC 7654, Mayer 1, Czernik 2, Argus, BH 217, NGC 6396, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.4$	47.4	76	257

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1907+4002	US, UCL, LCC, Ext. R CrA, NGC 6611, Col 359, IC 4665, Pup OB3, Vel OB2, Vel OB1, IC 2395, vdB-Hagen 99, ChaT, Pismis 24, M6, NGC 6514, NGC 6531, IC 4725, NGC 6716, NGC 6709, NGC 2670, NGC 3532, Feinstein 1, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, CarA, Octans, Pleiades B1, Berkeley 86, NGC 7039, NGC 7129, NGC 7654, Mayer 1, Czernik 2, Argus, BH 217, NGC 6396, NGC 1976, Mon R2, ChaT, NGC 6694, NGC 6664, NGC 6683, Stephenson 1, Stock 7, Stock 8, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 107, Bica 1, NGC 7129, IC 348, ColA, CarA, Octans, Argus, Pleiades B1, NGC 5617, Pismis 20, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6242, R80, Nor OB1, R103, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 92, Bochum 12, Melotte101, NGC 3590, Ruprecht 107, Basel 18, Col 272, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, CarA, Pleiades B1, Pismis 16, Hogg 22, NGC 6250, Lynga 14, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 1.1$	36.2	96	303
J1913−0440	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 2, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cas OB5, Cep OB4, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, Mon OB2, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, Col 121, Pup OB1, Col 140, Col 135, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, IC 2602, ChaT, Hogg 16, NGC 6067, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, NGC 6834, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7160, Stock 7, Col 89, Col 97, NGC 1981, Col 132, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.3$	3.22	1	258

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1917+1353	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, Ext. R CrA, AB Dor, Sgr OB5, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Col 359, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, Byurakan 1, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB1, Cep OB6, NGC 7380, Cep OB3, Cas OB2, Cas OB4, Cas OB14, Cas OB7, Cas OB1, Per OB1, Cam OB1, Per OB2, Cas-Tau, Gem OB1, Mon OB1, Ori OB1, Tr 10, ChaT, Ara OB1A, NGC 6193, Sco OB1, Bochum 13, Sco OB4, Pismis 24, NGC 6383, NGC 6531, Markarian 38, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6709, NGC 6834, Stephenson 1, Col 419, NGC 6910, NGC 7128, NGC 7235, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, NGC 146, NGC 433, NGC 637, NGC 6087, Harvard 10, NGC 6167, NGC 6885, IC 4996, Berkeley 86, Bica 2, NGC 7129, NGC 7419, NGC 7654, Mayer 1, Czernik 2, NGC 6396, ColA, CarA, Argus, Pleiades B1, Cep OB5, NGC 6910, NGC 7160, Stock 7, Col 89, Col 97, NGC 1981, Col 132, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 1.6$	0.428	26	76
J1919+0021	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, Byurakan 2, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB14, Per OB1, Cam OB1, α Per, Per OB2, Cas-Tau, Aur OB1, Gem OB1, Mon OB1, Mon OB2, Ori OB1, Mon R2, Col 121, Vel OB2, Tr 10, IC 2395, ChaT, Cen OB1, NGC 5606, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, NGC 6231, Bochum 13, Sco OB4, Pismis 24, Tr 27, NGC 6383, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6913, Col 419, Stock 7, Col 89, Col 106, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.8$	2.63	2	113

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1921+2153	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, Ext. R CrA, AB Dor, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, Car OB1, IC 2602, Car OB2, Tr 18, NGC 3766, ChaT, Hogg 16, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, NGC 6231, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Col 132, NGC 2547, NGC 2670, NGC 3532, Feinstein 1, NGC 4463, NGC 4609, NGC 5281, NGC 5316, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.2$	15.7	253	554
J1935+1616	Vul OB1, NGC 7129, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, Ext. R CrA, AB Dor, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, NGC 2439, Col 135, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, Car OB1, IC 2602, Car OB2, Tr 18, NGC 3766, ChaT, Hogg 16, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, NGC 6231, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Col 132, NGC 2547, NGC 2670, NGC 3532, Feinstein 1, NGC 4463, NGC 4609, NGC 5281, NGC 5316, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$1.1 - 3.0$	0.947	3	45

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1941−2602	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, NGC 6611, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Pismis 24, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, ColA, CarA, Octans, Argus, Pleiades B1, NGC 3766, ChaT, Hogg 16, R 105, Ara OB1A, NGC 6193, NGC 6204, Sco OB1, NGC 6231, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Col 132, NGC 2547, NGC 2670, NGC 3532, Feinstein 1, NGC 4463, NGC 4609, NGC 5281, NGC 5316, NGC 6025, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	6.68	8	533
J1946−2913	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, Vul OB4, Cyg OB3, Byurakan 2, Cyg OB1, Cyg OB9, Cyg OB7, Cep OB2, Cam OB1, Cas-Tau, Mon OB1, Vel OB2, IC 2395, IC 2391, ChaT, Ara OB1A, NGC 6193, Ara OB1B, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6087, Harvard 10, NGC 6167, Tr 24, IC 4996, NGC 7129, Hogg 22, NGC 6250, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	10.2	110	531

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J1952+3252	Cyg OB1, Cyg OB4, Lac OB1, Cas-Tau, Ori OB1, Mon R2, ColA, Argus, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, Vul OB4, Cyg OB3, Byurakan 2, Cyg OB1, Cyg OB9, Cyg OB7, Cep OB2, Cam OB1, Cas-Tau, Mon OB1, Vel OB2, IC 2395, IC 2391, ChaT, Ara OB1A, NGC 6193, Ara OB1B, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6087, Harvard 10, NGC 6167, Tr 24, IC 4996, NGC 7129, Hogg 22, NGC 6250, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$0.5 - 3.9$	0.107	**3**	**30**
J1955+5059	Tuc-Hor, β Pic-Cap, AB Dor, Vul OB1, Cyg OB3, NGC 6871, Byurakan 1, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Vel OB2, ChaT, NGC 6913, Col 419, NGC 6910, NGC 6885, IC 4996, Berkeley 86, ColA, CarA, Octans, Argus, Vul OB1, Vul OB4, Cyg OB3, Byurakan 2, Cyg OB1, Cyg OB9, Cyg OB7, Cep OB2, Cam OB1, Cas-Tau, Mon OB1, Vel OB2, IC 2395, IC 2391, ChaT, Ara OB1A, NGC 6193, Ara OB1B, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6087, Harvard 10, NGC 6167, Tr 24, IC 4996, NGC 7129, Hogg 22, NGC 6250, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.2$	5.99	**56**	443

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J2022+2854	Byurakan 1, Cyg OB2, Cep OB2, NGC 6913, NGC 6910, Berkeley 86, Bica 1, Bica 2, NGC 7129, Czernik 2, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Vel OB2, ChaT, NGC 6913, Col 419, NGC 6910, NGC 6885, IC 4996, Berkeley 86, ColA, CarA, Octans, Argus, Vul OB1, Vul OB4, Cyg OB3, Byurakan 2, Cyg OB1, Cyg OB9, Cyg OB7, Cep OB2, Cam OB1, Cas-Tau, Mon OB1, Vel OB2, IC 2395, IC 2391, ChaT, Ara OB1A, NGC 6193, Ara OB1B, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6087, Harvard 10, NGC 6167, Tr 24, IC 4996, NGC 7129, Hogg 22, NGC 6250, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.8$	2.87	17	85
J2022+5154	Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Berkeley 86, Bica 2, NGC 7129, Czernik 2, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, Vel OB2, ChaT, NGC 6913, Col 419, NGC 6910, NGC 6885, IC 4996, Berkeley 86, ColA, CarA, Octans, Argus, Vul OB1, Vul OB4, Cyg OB3, Byurakan 2, Cyg OB1, Cyg OB9, Cyg OB7, Cep OB2, Cam OB1, Cas-Tau, Mon OB1, Vel OB2, IC 2395, IC 2391, ChaT, Ara OB1A, NGC 6193, Ara OB1B, Sco OB1, Sco OB4, Pismis 24, Tr 27, NGC 6383, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, Stephenson 1, NGC 6087, Harvard 10, NGC 6167, Tr 24, IC 4996, NGC 7129, Hogg 22, NGC 6250, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6087, Harvard 10, NGC 6167, NGC 6178, Tr 24, Waterloo 7, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, NGC 6250, Lynga 14, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 7129, Czernik 2, NGC 1513, Pismis 8, Hogg 22, BH 205, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, NGC 6178, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$0.9 - 3.0$	2.74	17	87

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J2046−0421	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 2, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cep OB4, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, IC 1848, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, Ara OB1A, Sco OB1, Sco OB4, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, NGC 6834, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7160, Stock 7, NGC 1444, NGC 1960, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2422, Col 132, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	16.7	129	538
J2055+3630	Cyg OB3, NGC 6871, Byurakan 1, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB7, NGC 6913, Col 419, NGC 6910, IC 4996, Berkeley 86, Bica 2, NGC 7129, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Col 359, IC 4665, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 2, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB6, Cep OB3, Cep OB4, Cas OB14, Cam OB1, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, IC 1848, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, Ara OB1A, Sco OB1, Sco OB4, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, NGC 6834, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7160, Stock 7, NGC 1444, NGC 1960, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2422, Col 132, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 2.6$	9.51	88	30

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J2113+2754	AB Dor, Cyg OB7, Lac OB1, Cep OB2, Cep OB1, Cep OB6, NGC 7380, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas OB7, Cas OB1, Cas OB8, Per OB1, Cas OB6, IC 1805, Cam OB1, NGC 1502, Cas-Tau, IC 5146, NGC 7128, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 146, NGC 637, Stock 5, IC 1442, NGC 7129, NGC 7419, NGC 7654, Czernik 43, King 12, Mayer 1, Czernik 2, IC 1848, ColA, Argus, Cep OB5, NGC 1502, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, IC 1848, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, Ara OB1A, Sco OB1, Sco OB4, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, NGC 6834, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7160, Stock 7, NGC 1444, NGC 1960, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2422, Col 132, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.4$	7.27	29	113
J2116+1414	Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 1, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Tr 37, Lac OB1, Cep OB2, NGC 7380, Cep OB3, Cas OB2, Cas OB5, Cas OB4, Cas OB14, Cas OB7, IC 1590, Cas OB1, Per OB1, IC 1805, Cam OB1, Aur OB1, NGC 6834, NGC 6913, NGC 6910, NGC 7128, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 6885, IC 4996, Berkeley 86, Bica 2, NGC 7419, NGC 7654, Mayer 1, Czernik 2, NGC 1513, Cep OB5, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, IC 1848, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, Ara OB1A, Sco OB1, Sco OB4, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, NGC 6834, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7160, Stock 7, NGC 1444, NGC 1960, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2422, Col 132, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 2.3$	24.1	1	56

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J2157+4017	Col 359, Vul OB1, NGC 6823, Vul OB4, NGC 6871, Byurakan 1, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Tr 37, Lac OB1, Cep OB2, NGC 7380, Cep OB3, Cas OB2, Cas OB5, Cas OB4, Cas OB14, Cas OB7, IC 1590, Cas OB1, Per OB1, IC 1805, Cam OB1, Aur OB1, NGC 6834, NGC 6913, NGC 6910, NGC 7128, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 6885, IC 4996, Berkeley 86, Bica 2, NGC 7419, NGC 7654, Mayer 1, Czernik 2, NGC 1513, Cep OB5, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB1, Gem OB1, Mon OB1, NGC 2264, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, IC 1848, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, Ara OB1A, Sco OB1, Sco OB4, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, NGC 6834, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7160, Stock 7, NGC 1444, NGC 1960, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2422, Col 132, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$1.9-3.5$	7.04	2	36
J2219+4754	Cep OB1, NGC 7380, Cas OB2, Cas OB5, Cas OB4, Cas OB14, Cas OB7, IC 1590, Cas OB1, NGC 457, Cas OB8, Per OB1, h Per, χ Per, Cas OB6, IC 1805, Cam OB1, Cam OB3, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, Mon OB2, IC 1848, NGC 7128, NGC 7235, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, NGC 663, Stock 5, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, Col 107, IC 1442, NGC 7419, NGC 7654, Czernik 43, King 12, Mayer 1, Czernik 2, Basel 10, IC 1848, NGC 1513, Cep OB5, IC 1848, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, Ara OB1A, Sco OB1, Sco OB4, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, NGC 6834, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7160, Stock 7, NGC 1444, NGC 1960, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2422, Col 132, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.5$	3.09	5	133

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J2305+3100	Cep OB1, NGC 7380, Cas OB2, Cas OB5, Cas OB4, NGC 7128, NGC 7235, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, Stock 18, IC 1442, NGC 7419, Czernik 43, King 12, Czernik 2, Cep OB5, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, Mon OB2, IC 1848, NGC 7128, NGC 7235, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, NGC 663, Stock 5, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, Col 107, IC 1442, NGC 7419, NGC 7654, Czernik 43, King 12, Mayer 1, Czernik 2, Basel 10, IC 1848, NGC 1513, Cep OB5, IC 1848, Col 121, Col 140, Col 135, Vel OB2, Tr 10, IC 2395, IC 2391, IC 2602, ChaT, Ara OB1A, Sco OB1, Sco OB4, M6, NGC 6514, Col 367, NGC 6531, Markarian 38, IC 4725, Blanco1, NGC 6613, NGC 6716, NGC 6694, NGC 6664, NGC 6683, NGC 6755, NGC 6709, NGC 6834, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7160, Stock 7, NGC 1444, NGC 1960, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2422, Col 132, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7129, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, NGC 7129, Mayer 1, Czernik 2, NGC 1513, Pismis 8, Pismis 16, Hogg 22, BH 217, NGC 6396, ColA, CarA, Octans, Argus, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$2.1 - 4.8$	8.63	2	45
J2308+5547	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB1, Cep OB6, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas OB7, IC 1590, Cas OB1, Cas OB8, Per OB1, h Per, χ Per, Cas OB6, IC 1805, Cam OB1, NGC 1502, Cam OB3, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, NGC 2232, CMa OB1, IC 1848, NGC 2287, NGC 2367, Col 121, NGC 2362, Pup OB1, NGC 2476, Col 140, Col 135, Pup OB3, Vel OB2, Tr 10, Vel OB1, IC 2395, ChaT, NGC 7160, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2670, NGC 7129, NGC 7419, NGC 7654, Czernik 43, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, NGC 1513, NGC 2343, Waterloo 7, Bochum 5, Tr 7, Ruprecht 18, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, Pleiades B1, Col 89, NGC 2169, Col 97, Col 106, Col 107, NGC 1981, NGC 1980, NGC 2353, NGC 2422, NGC 2384, Col 132, NGC 2453, NGC 2670, NGC 2516, NGC 3532, NGC 6087, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, NGC 7129, NGC 7419, NGC 7654, King 12, Mayer 1, Czernik 2, NGC 654, Basel 10, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	37.7	18	257

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J2321+6024	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, η Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB1, Sgr OB7, Sct OB3, Ser OB2, Sct OB2, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB1, Cep OB6, NGC 7380, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas OB7, IC 1590, Cas OB1, NGC 457, Cas OB8, Per OB1, h Per, χ Per, Cas OB6, IC 1805, Cam OB1, NGC 1502, Cam OB3, α Per, Per OB2, Cas-Tau, Pleiades, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, IC 1848, NGC 2367, Col 121, Pup OB1, NGC 2476, Col 140, Pup OB3, NGC 2546, Vel OB2, Tr 10, Vel OB1, IC 2395, IC 2391, vdB-Hagen 99, Col 228, Car OB2, IC 2944, ChaT, Cen OB1, Hogg 16, Sco OB4, Pismis 24, IC 4725, NGC 6716, Stephenson 1, Col 419, NGC 7031, NGC 7128, NGC 7235, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, Col 97, Col 106, Col 107, NGC 2353, NGC 2422, NGC 2384, NGC 3532, Feinstein 1, Bica 1, Bica 2, NGC 7039, IC 1442, NGC 7129, NGC 7419, NGC 7654, Czernik 43, King 12, Mayer 1, Czernik 2, NGC 654, Czernik 6, Basel 10, IC 1848, NGC 1513, NGC 2343, Waterloo 7, Bochum 5, Ruprecht 18, Haffner 26, NGC 2645, Pismis 8, Col 205, Pismis 16, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	5.08	4	306
J2337+6151	US, UCL, LCC, TWA, Tuc-Hor, β Pic-Cap, ϵ Cha, HD 141569, Ext. R CrA, AB Dor, Her-Lyr, Sgr OB1, Sgr OB4, Ser OB1, Sct OB3, Ser OB2, Sct OB2, Col 359, Vul OB1, NGC 6823, Vul OB4, Cyg OB3, NGC 6871, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB9, Cyg OB2, Cyg OB4, Cyg OB7, Tr 37, Lac OB1, Cep OB2, Cep OB1, Cep OB6, NGC 7380, Cep OB3, Cas OB2, Cas OB5, Cep OB4, Cas OB4, Cas OB14, Cas OB7, IC 1590, Cas OB1, NGC 457, Cas OB8, Per OB1, h Per, χ Per, Cas OB6, IC 1805, Cam OB1, NGC 1502, Cam OB3, α Per, Per OB2, Cas-Tau, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, Col 121, Pup OB1, NGC 2476, Pup OB3, Vel OB2, Tr 10, Vel OB1, IC 2395, ChaT, Cen OB1, Ara OB1A, Sco OB4, Pismis 24, NGC 6514, IC 4725, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7128, NGC 7235, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, Col 97, Col 106, Col 107, NGC 1980, NGC 2353, NGC 2422, Col 132, NGC 6087, Harvard 10, NGC 6167, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, IC 1442, NGC 7129, NGC 7419, NGC 7654, Czernik 43, King 12, Mayer 1, Czernik 2, NGC 654, Czernik 6, Basel 10, IC 1848, NGC 1513, NGC 2343, Waterloo 7, Tr 7, NGC 2645, Pismis 8, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	no restriction	0.0406	400	277

Table F.1: – Continued. –

PSR	possible parents	τ_{kin} [Myr]	τ_{char} [Myr]	# former comp. cand. $v_{r,run}$ known	$v_{r,run}$ unknown
J2354+6155	Sgr OB5, NGC 6530, Sgr OB1, Sgr OB7, Sgr OB4, Sgr OB6, M17, Ser OB1, Sct OB3, Ser OB2, NGC 6604, Sct OB2, Tr 35, Vul OB1, NGC 6823, Cyg OB3, NGC 6871, Byurakan 1, Byurakan 2, NGC 6883, Cyg OB1, Cyg OB8, Cyg OB2, Cep OB1, NGC 7380, Sco OB1, Bochum 13, Pismis 24, Col 367, Markarian 38, NGC 6613, NGC 6694, NGC 6683, NGC 6755, NGC 6834, NGC 6910, NGC 7128, NGC 7235, NGC 7261, NGC 6885, IC 4996, Berkeley 86, Bica 2, IC 1442, Czernik 43, Hogg 22, BH 217, NGC 6396, Per OB1, h Per, χ Per, Cas OB6, IC 1805, Cam OB1, NGC 1502, Cam OB3, α Per, Per OB2, Cas-Tau, Aur OB2, NGC 1893, Aur OB1, NGC 2129, Gem OB1, Mon OB1, Mon OB2, NGC 2244, Ori OB1, λ Ori, NGC 1976, Mon R2, CMa OB1, Col 121, Pup OB1, NGC 2476, Pup OB3, Vel OB2, Tr 10, Vel OB1, IC 2395, ChaT, Cen OB1, Ara OB1A, Sco OB4, Pismis 24, NGC 6514, IC 4725, NGC 6683, Stephenson 1, NGC 6913, Col 419, NGC 6910, NGC 7031, NGC 7128, NGC 7235, NGC 7160, NGC 7261, NGC 7510, Markarian 50, Stock 17, NGC 7788, NGC 7790, Stock 18, NGC 103, NGC 129, NGC 146, NGC 433, NGC 436, NGC 581, NGC 637, NGC 659, NGC 663, Stock 5, Stock 7, NGC 1027, NGC 957, NGC 1444, NGC 1912, Stock 8, NGC 1960, NGC 1746, NGC 2168, Col 89, Col 97, Col 106, Col 107, NGC 1980, NGC 2353, NGC 2422, Col 132, NGC 6087, Harvard 10, NGC 6167, Tr 24, NGC 6885, IC 4996, Berkeley 86, Bica 1, Bica 2, NGC 7039, IC 1442, NGC 7129, NGC 7419, NGC 7654, Czernik 43, King 12, Mayer 1, Czernik 2, NGC 654, Czernik 6, Basel 10, IC 1848, NGC 1513, NGC 2343, Waterloo 7, Tr 7, NGC 2645, Pismis 8, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5, IC 1848, Tr 3, NGC 1513, IC 348, NGC 2186, Dolidze 25, NGC 2343, NGC 2345, Waterloo 7, Ruprecht 26, Bochum 5, Tr 7, Ruprecht 18, Ruprecht 32, Haffner 19, NGC 2571, Haffner 26, NGC 2645, Pismis 8, Col 205, NGC 2669, Pismis 16, BH 217, ColA, CarA, Octans, Argus, Pleiades B1, Cep OB5	$\gtrsim 0.3$	0.92	**13**	**68**

[a] RBS 1223

Publications

Publications Related to Neutron Stars

Trepl, L., V. V. Hambaryan, T. Pribulla, **N. Tetzlaff**, R. Chini, R. Neuhäuser, S. B. Popov, O. Stahl, F. M. Walter and M. M. Hohle. 'Is there a compact companion orbiting the late O-type binary star HD 164816?' In: MNRAS 427 (Dec. 2012), pp. 1014–1023. DOI: 10.1111/j.1365-2966.2012.22011.x. arXiv:1209.2592 [astro-ph.GA].

Tetzlaff, N., J. G. Schmidt, M. M. Hohle and R. Neuhäuser. 'Neutron Stars From Young Nearby Associations: The Origin of RX J1605.3+3249'. In: *Publications of the Astronomical Society of Australia* 29 (Mar. 2012), pp. 98–108. DOI: 10.1071/AS11057. arXiv:1202.1388 [astro-ph.GA].

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Boldin, P. A., S. B. Popov and **N. Tetzlaff**. 'A web-tool for population synthesis of near-by cooling neutron stars: An on-line test for cooling curves'. In: *Astronomische Nachrichten* 332 (Feb. 2011), pp. 122–+.

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Tetzlaff, N., R. Neuhäuser and M. M. Hohle. 'Young runaway stars within 3kpc (Tetzlaff+, 2011)'. In: *VizieR Online Data Catalog* 741 (Aug. 2010), S. 190ff.

Tetzlaff, N., R. Neuhäuser, M. M. Hohle and G. Maciejewski. 'Identifying birth places of young isolated neutron stars'. In: MNRAS 402 (Mar. 2010), pp. 2369–2387.

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Other Publications

Berndt, A., R. Errmann, G. Maciejewski, S. Raetz, C. Marka, C. Ginski, M. Mugrauer, T. O. B. Schmidt, R. Neuhäuser, M. Seeliger, M. Moualla, T. Pribulla, M. M. Hohle, **N. Tetzlaff**, C. Adam, T. Eisenbeiss and YETI Team. 'Observation of Young Stars at the University Observatory Jena'. In: *Astronomical Society of the Pacific Conference Series*. Ed. by C. Johns-Krull, M. K. Browning and A. A. West. Vol. 448. Astronomical Society of the Pacific Conference Series. Dec. 2011, p. 553.

Moualla, M., T. O. B. Schmidt, R. Neuhäuser, V. V. Hambaryan, R. Errmann, L. Trepl, C. Broeg, T. Eisenbeiss, M. Mugrauer, C. Marka, C. Adam, C. Ginski, T. Pribulla, S. Rätz, J. Schmidt, A. Berndt, G. Maciejewski, T. Röll, M. M. Hohle, **N. Tetzlaff**, S. Fiedler and S. Baar. 'A new flare star member candidate in the Pleiades cluster'. In: *Astronomische Nachrichten* 332 (Aug. 2011), p. 661. DOI: 10.1002/asna.201111580. arXiv:1108.6278 [astro-ph.SR].

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Teaching, Talks and Public Outreach

- 10/2005 – 02/2006: Supervising physics course "Mathematische Methoden der Physik I" (mathematical methods in physics I)
- 04/2008 – 12/2008: Construction of a web-tool for population synthesis in cooperation with Prof. Sergei B. Popov (Sternberg University Moscow)
- Sep 9th 2009: Support of a Slovakian school class
- Sep 16th 2009: Talk and organiser of a workshop at the Einsteintag on "Kinematics of neutron stars"
- since Oct 1st 2009: Science Coach for OPSIS (Optimization of Professional Support for International Students) at Friedrich-Schiller-Universität, Jena, Germany (scientific support for international students)
  Nov 6th 2009: certificate for training in intercultural work
- Nov 13th 2009: Public talk at the Lange Nacht der Wissenschaften in Jena
- Dec 7th 2009: Support of children of the NAJU (German Society for the Protection of Nature)
- Sep 16th 2010: Talk at the meeting of the Astronomische Gesellschaft (German Astronomical Society) on the "Identification of the neutron star which was born in the recent nearby supernova that placed ^{60}Fe onto the Earth"
- Mar 3rd 2011: Talk at the workshop "Astronomy with radioactivities VII" on "Neutron stars from young nearby associations – the origin of the two X-ray pulsars RX J1856.5−3754 and RX J0720.4−3125"
- 04/2011 – 07/2011: Development of an experiment for and supervising the practical course of astrophysics
- Sep 21st 2011: Support of a Slovakian school class with talk "Astropysikalisches Institut und Universitäts-Sternwarte Jena"
- 04/2012 – 07/2012: Supervising the practical course of astrophysics

Curriculum Vitae

Nina Ulrike Tetzlaff
born on June 9th 1984
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– 08/1991 – 06/1995:	Primary school at 4. Grundschule in Gera, Germany
– 08/1995 – 06/2003:	High school at Zabelgymnasium Gera, Germany, Abitur on Jun 27th 2003
– 10/2003 – 06/2009:	Physics studies at Friedrich-Schiller-Uni"-ver"-si"-tät Jena, Germany, Diploma in physics on Jun 23rd 2009 Title of diploma thesis: "Kinematische Untersuchungen zu jungen isolierten Neutronensternen: Die Suche nach den Orten potentieller Supernovae" (Investigating the kinematics of young isolated neutron stars: searching for possible supernova sites)
– Mar 25th 2006:	English language certificate "IELTS"
– 09/2006 – 07/2007:	Physics studies at the University of Liverpool, UK
– Aug 5th 2008:	English language certificate "Certificate of Proficiency in English" (level C2)
– since Jul 1st 2009:	PhD thesis at Friedrich-Schiller-Uni"-ver"-si"-tät Jena, Germany (Astrophysikalisches Insitut und Universitäts-Sternwarte) Title of PhD thesis: "Identifying Birth Places of Young Neutron Stars to Determine Their Kinematic Ages"
– 07/2010 – 12/2012:	scholarship holder of the Carl-Zeiss-Stiftung
– Jan 21st 2012:	Birth of son Darius

Declaration

Ich erkläre hiermit ehrenwörtlich, dass ich die vorliegende Arbeit selbständig, ohne unzulässige Hilfe Dritter und ohne Benutzung anderer als der angegebenen Hilfsmittel und Literatur angefertigt habe. Die aus anderen Quellen direkt oder indirekt übernommenen Daten und Konzepte sind unter Angabe der Quelle gekennzeichnet.

Bei der Auswahl und Auswertung folgenden Materials haben mir die nachstehend aufgeführten Personen in der jeweils beschriebenen Weise unentgeltlich geholfen:

1. Markus Hohle hat mir seine MATLAB-Programme zur Koordinatentransformation zur Verfügung gestellt. Diese wurden überarbeitet und weiterentwickelt.

Weitere Personen waren an der inhaltlich-materiellen Erstellung der vorliegenden Arbeit nicht beteiligt. Insbesondere habe ich hierfür nicht die entgeltliche Hilfe von Vermittlungs- bzw. Beratungsdiensten (Promotionsberater oder andere Personen) in Anspruch genommen. Niemand hat von mir unmittelbar oder mittelbar geldwerte Leistungen für Arbeiten erhalten, die im Zusammenhang mit dem Inhalt der vorgelegten Dissertation stehen.

Die Arbeit wurde bisher weder im In- noch im Ausland in gleicher oder ähnlicher Form einer anderen Prüfungsbehörde vorgelegt.

Die geltende Promotionsordnung der Physikalisch-Astronomischen Fakultät ist mir bekannt.

Ich versichere ehrenwörtlich, dass ich nach bestem Wissen die reine Wahrheit gesagt und nichts verschwiegen habe.

Ort, Datum Unterschrift des Verfassers