

Observations with the Peter van de Kamp Observatory



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Sproul refractor, 1912



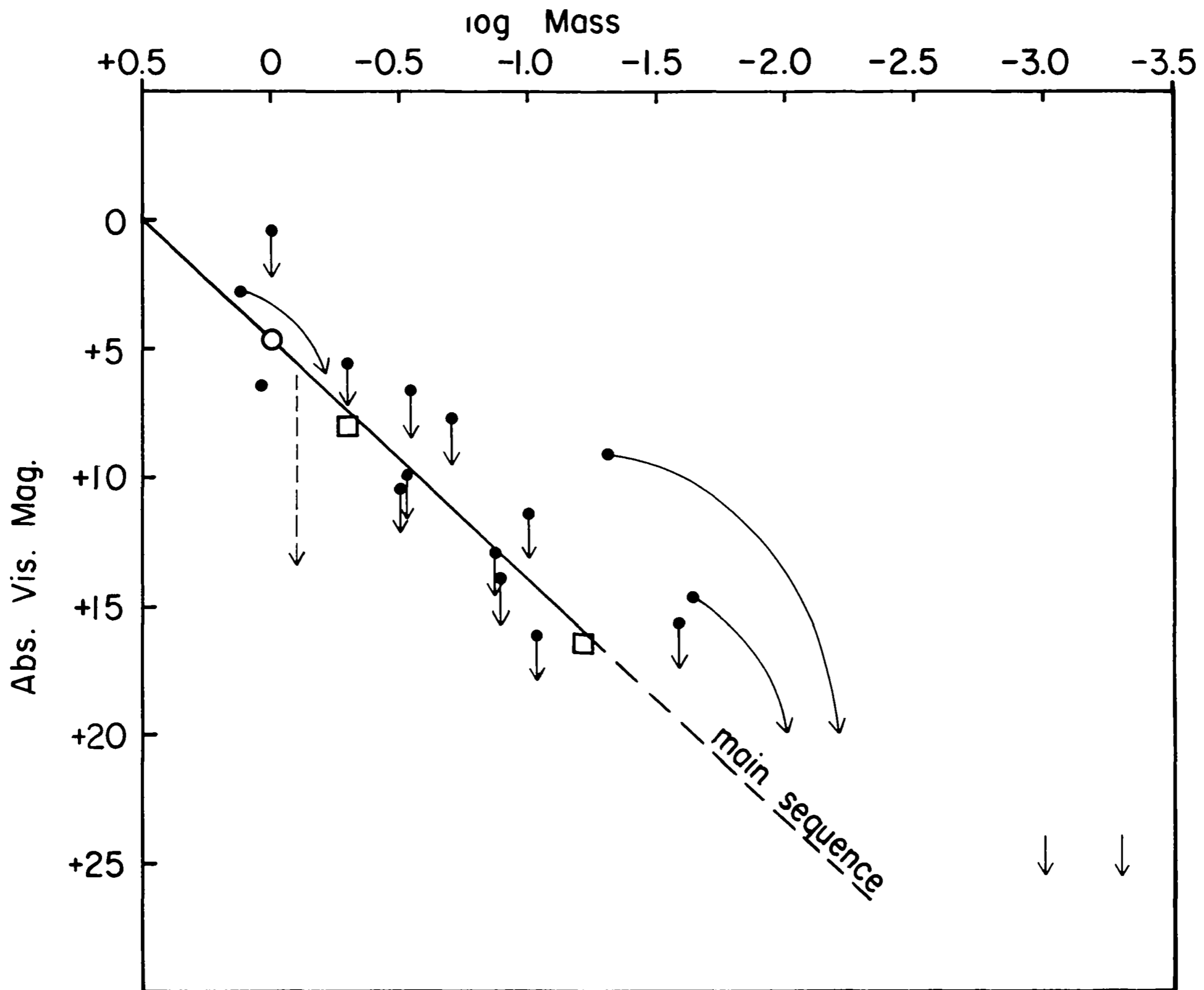
van de Kamp telescope,
2009

Peter van de Kamp (1901–1995)

Director of Sproul Observatory, 1937–1972

First US National Science Foundation Program Director
for Astronomy, 1954–1955





Low-mass star mass-luminosity relation
(van de Kamp 1975, ARAA)



August 2008









January 2009











- 0.6 m Ritchey-Chrétien
- $f/7.8$
- Typical seeing $\sim 3''$

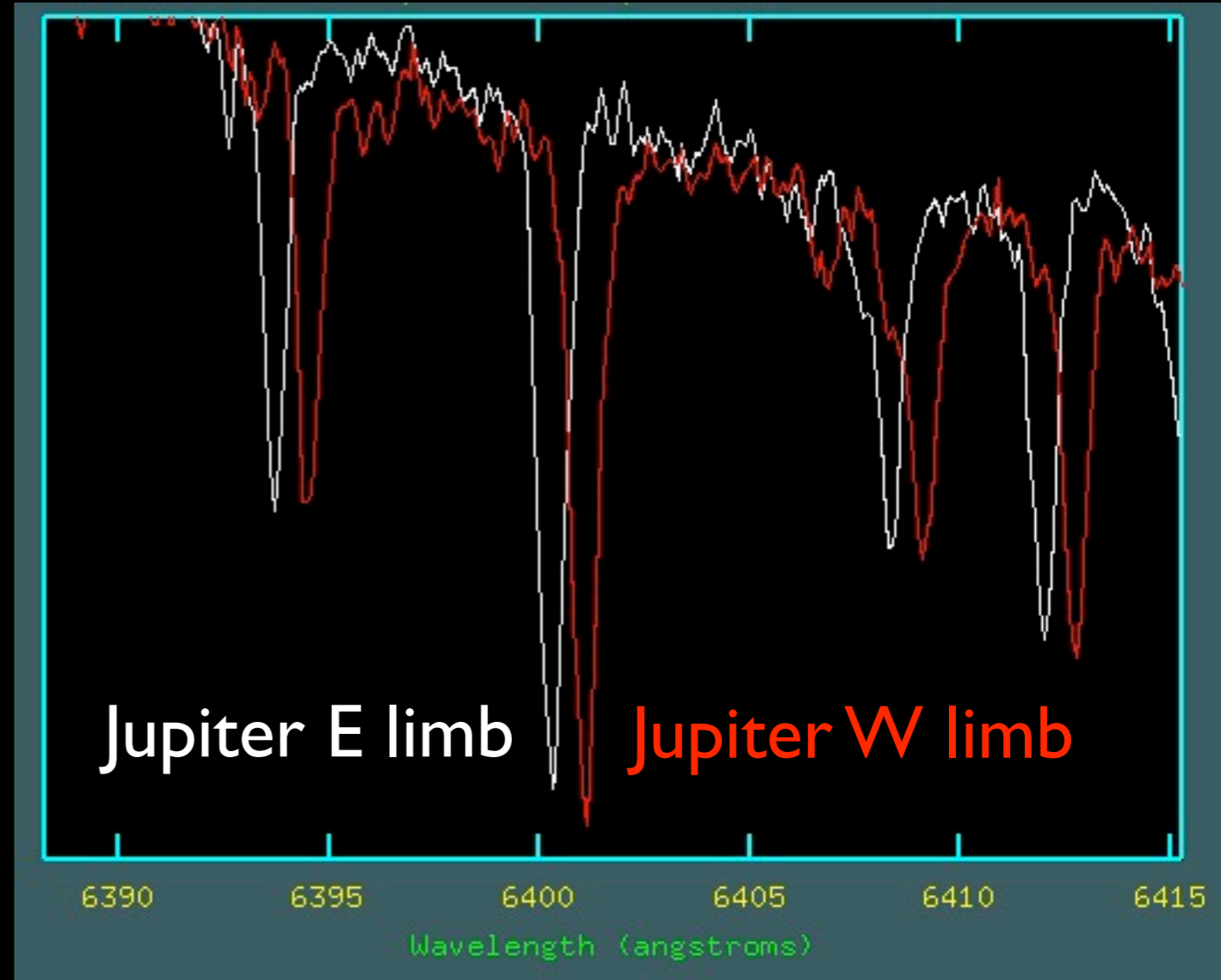
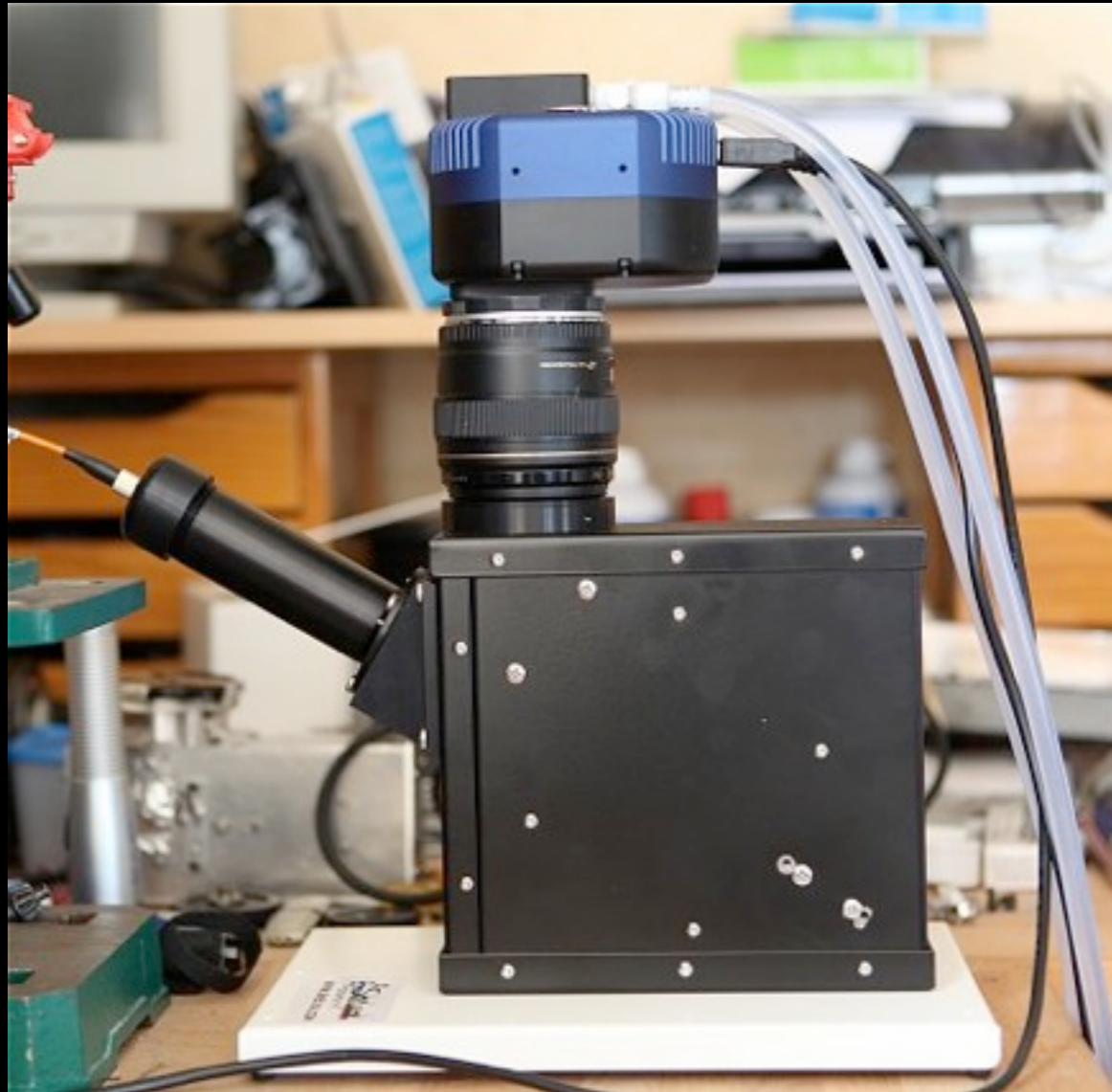
Instrumentation



4096x4096 CCD,
26' field of view

UBVRI and
SDSS u'g'r'i'z'
filters

Instrumentation, cont.



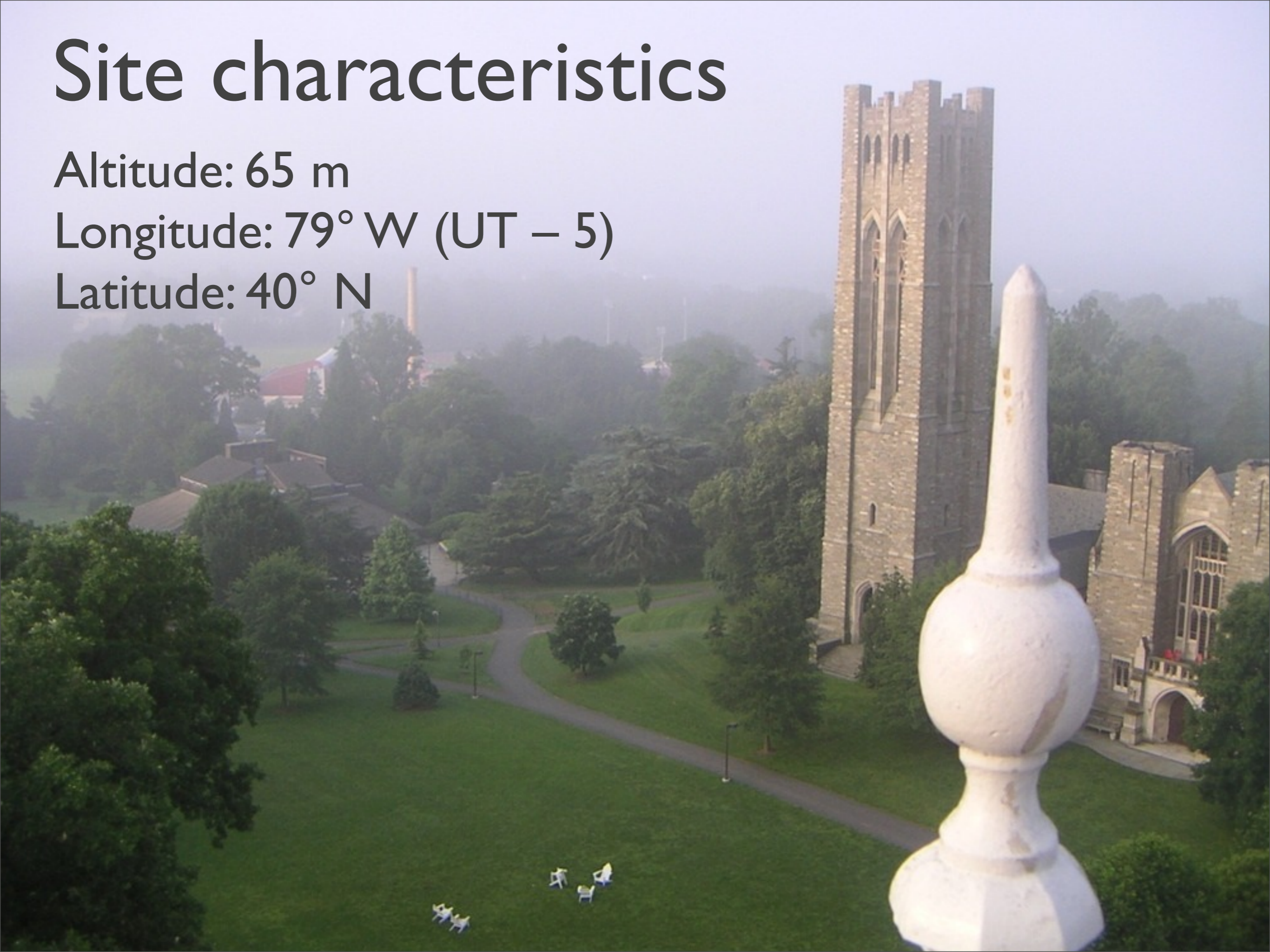
Fiber-fed echelle
spectrograph, $R \sim 12,000$

Site characteristics

Altitude: 65 m

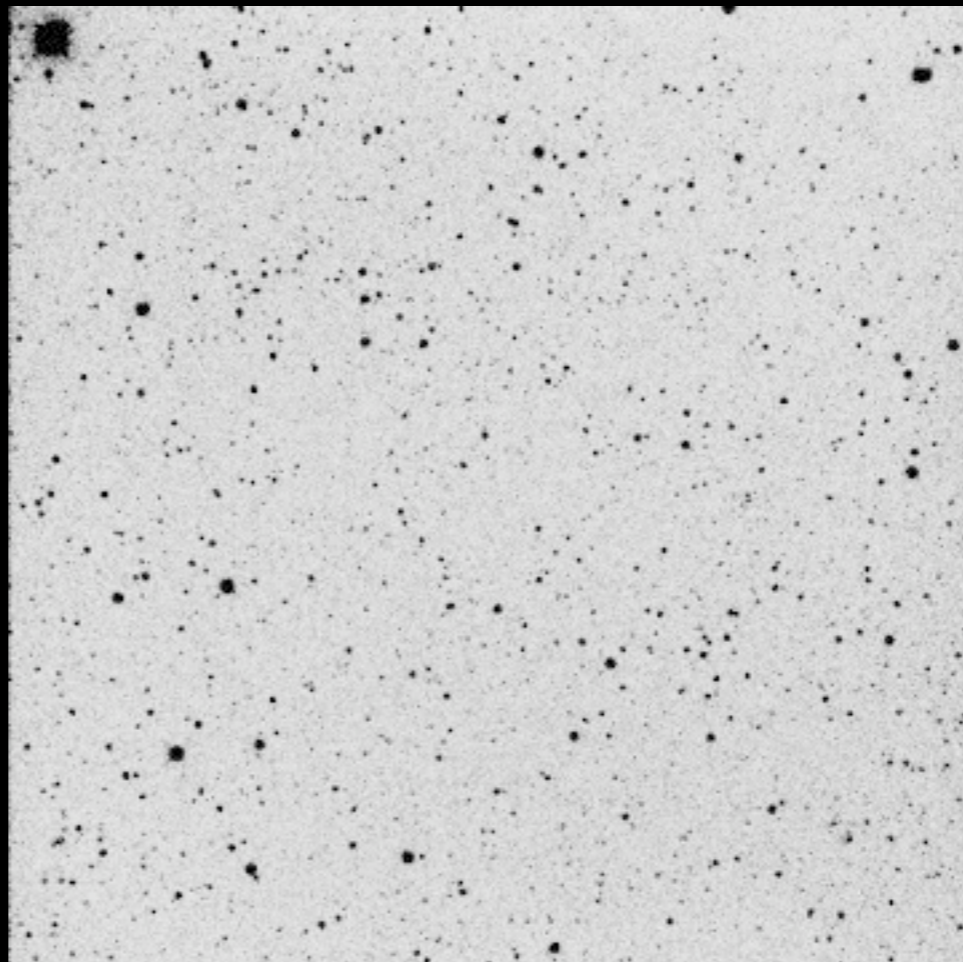
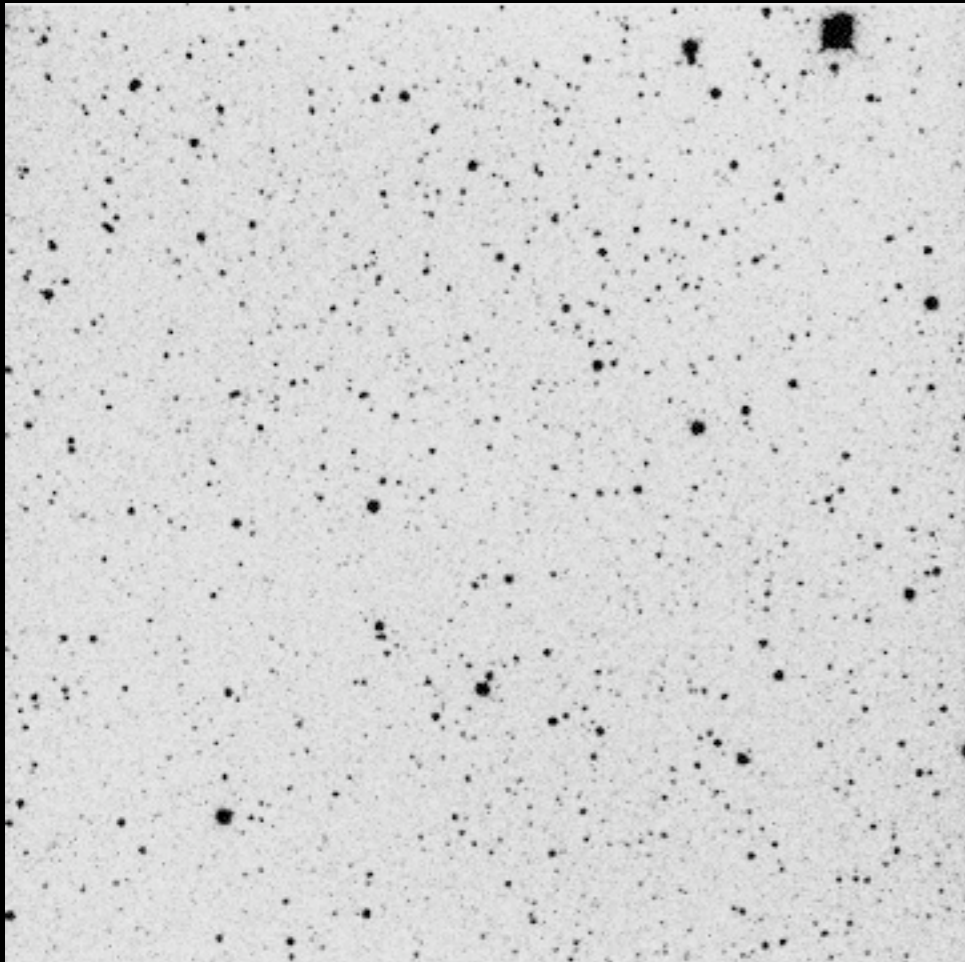
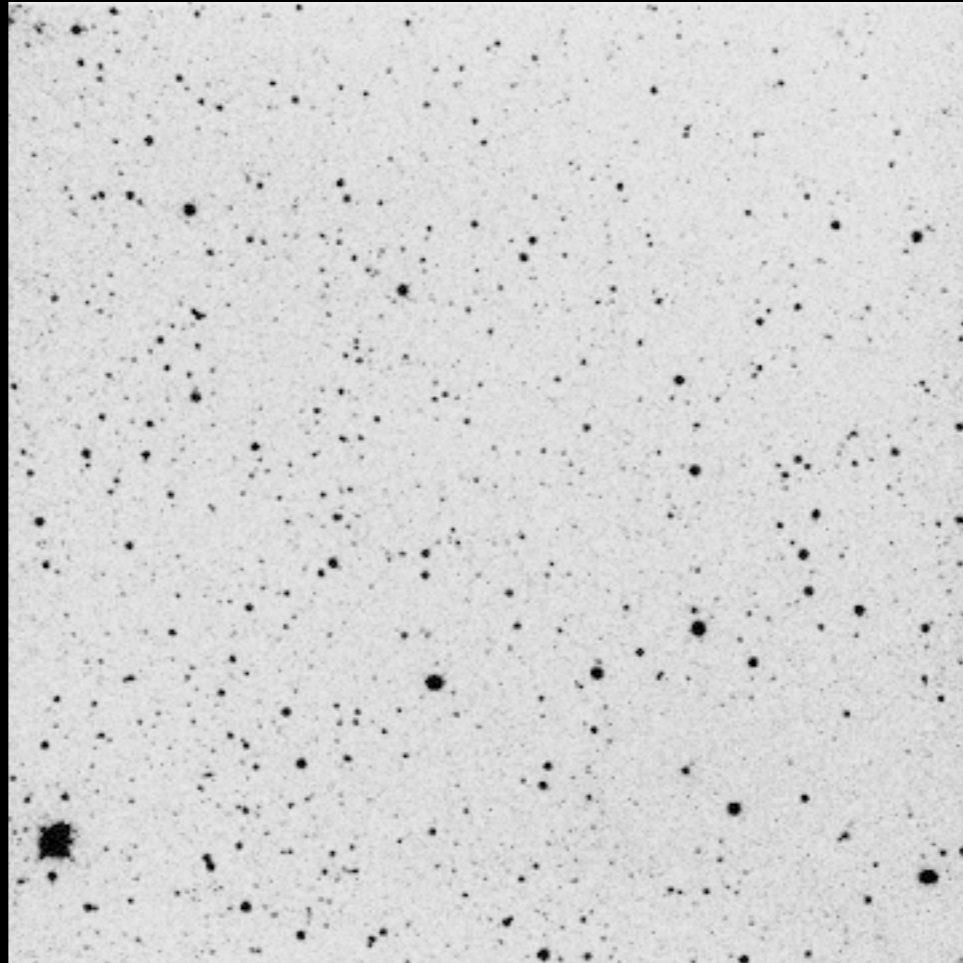
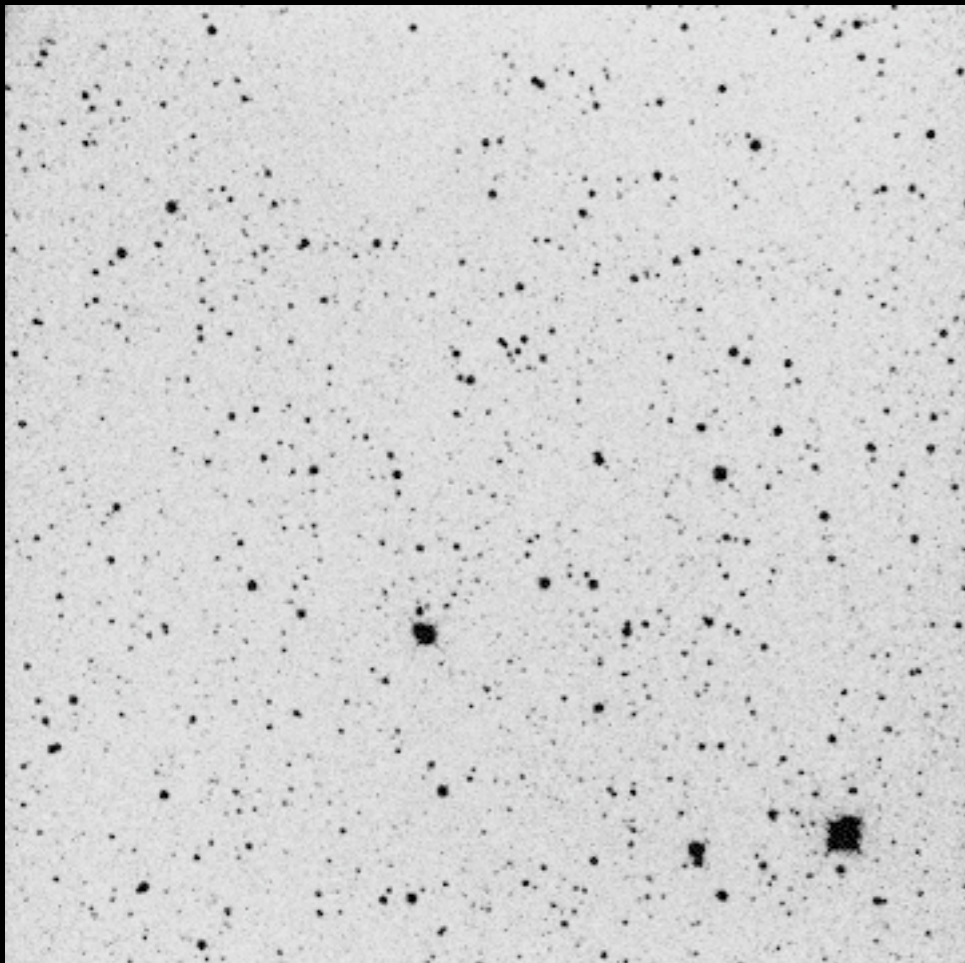
Longitude: 79° W (UT - 5)

Latitude: 40° N



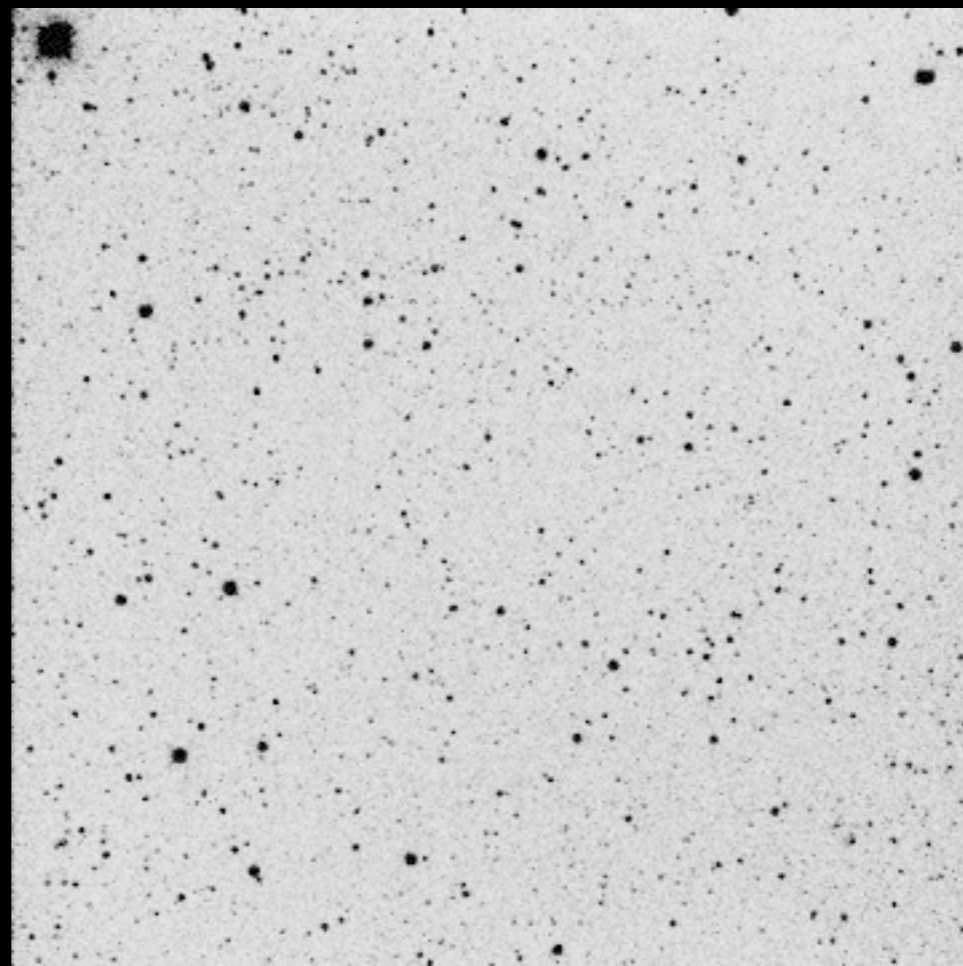
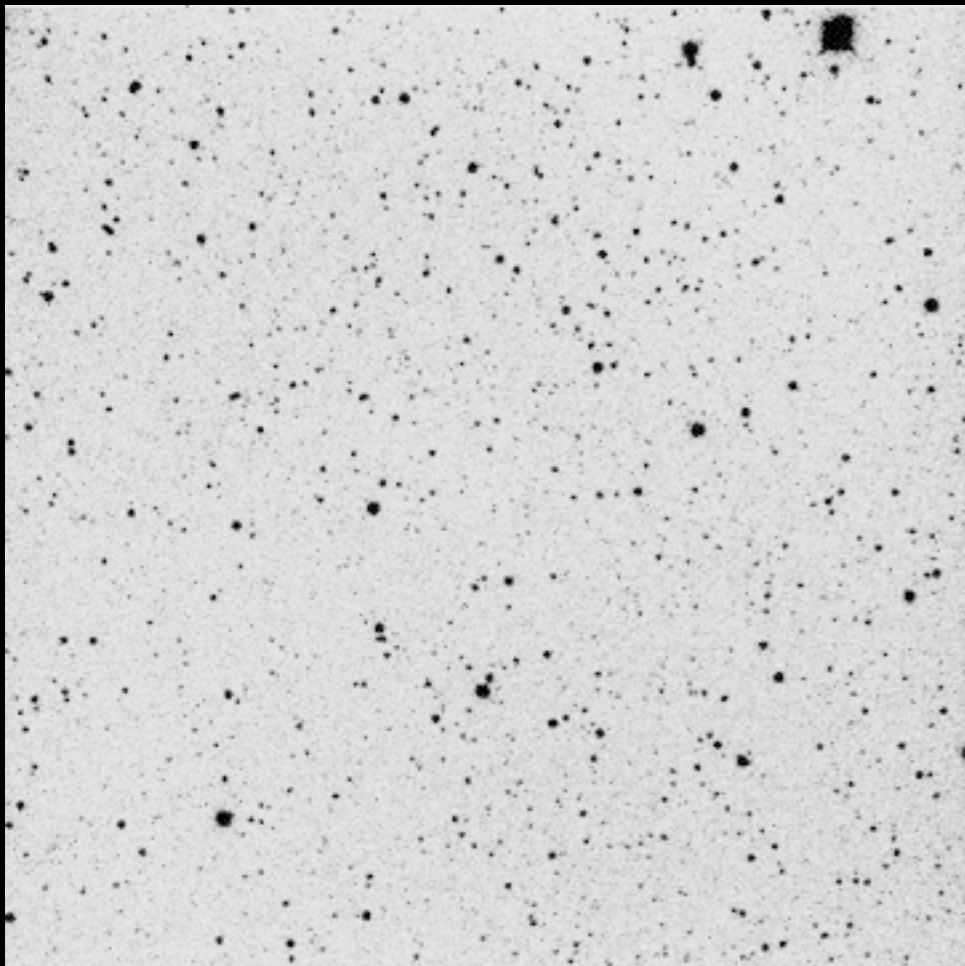
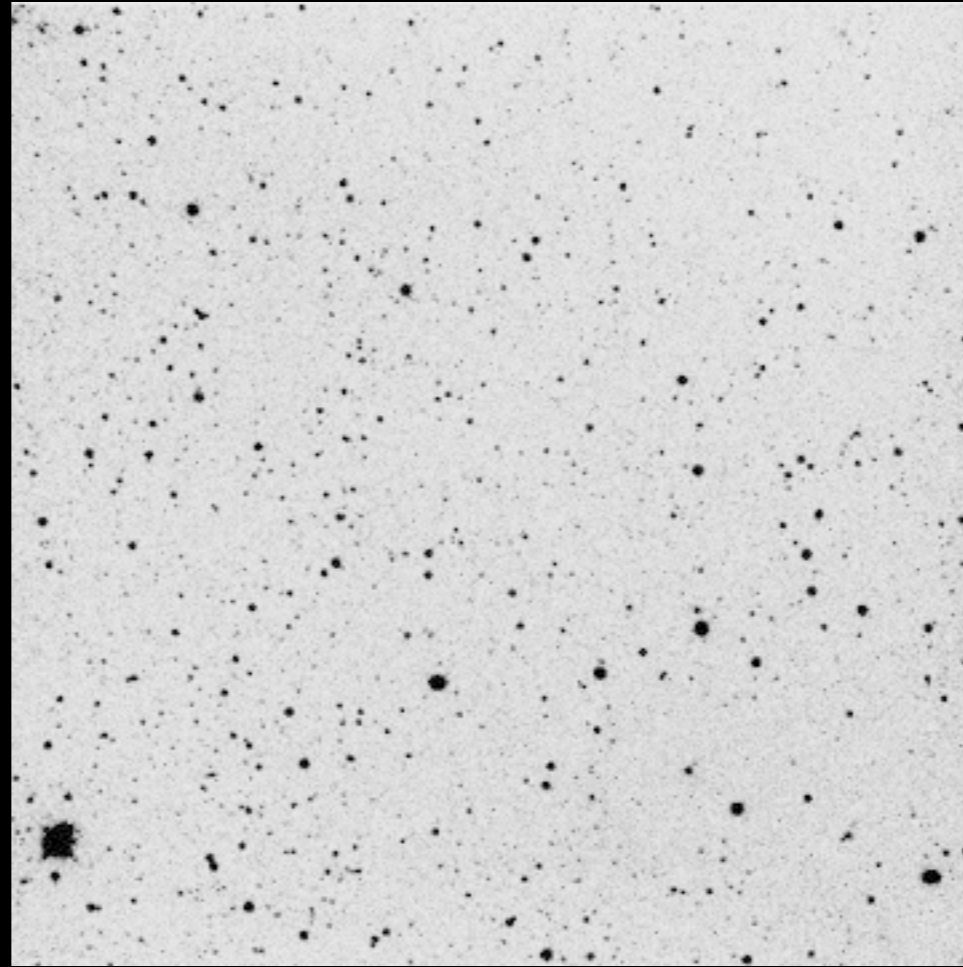
Science

- YETI cluster photometry
- Eclipsing binary M dwarfs
- Transiting planets - TTV
- Transiting planets - Search for long-period transits
- Spectroscopic monitoring of early-type stars



YETI

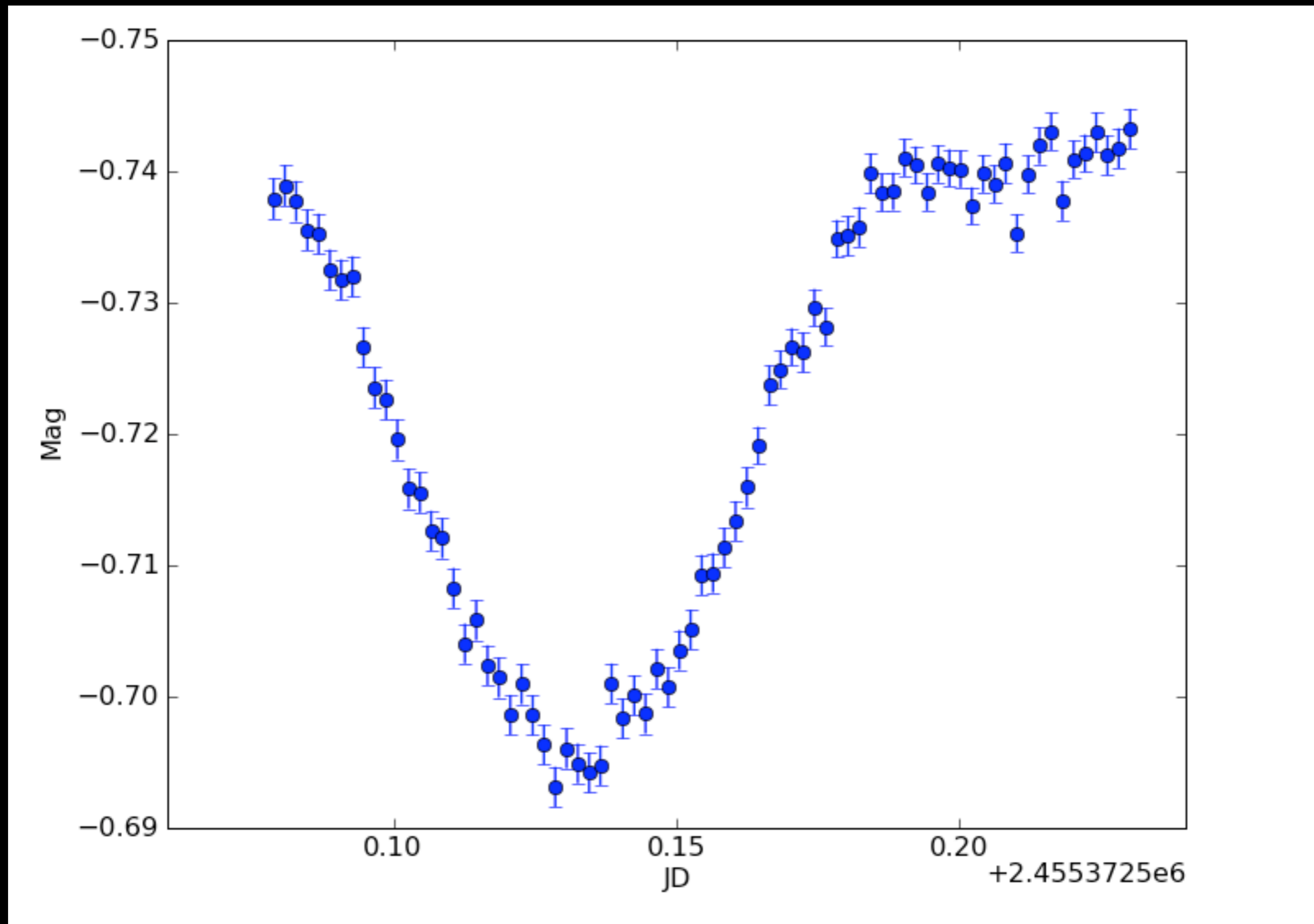
Trumpler 37
4-point
mosaic,
60s exposures



YETI

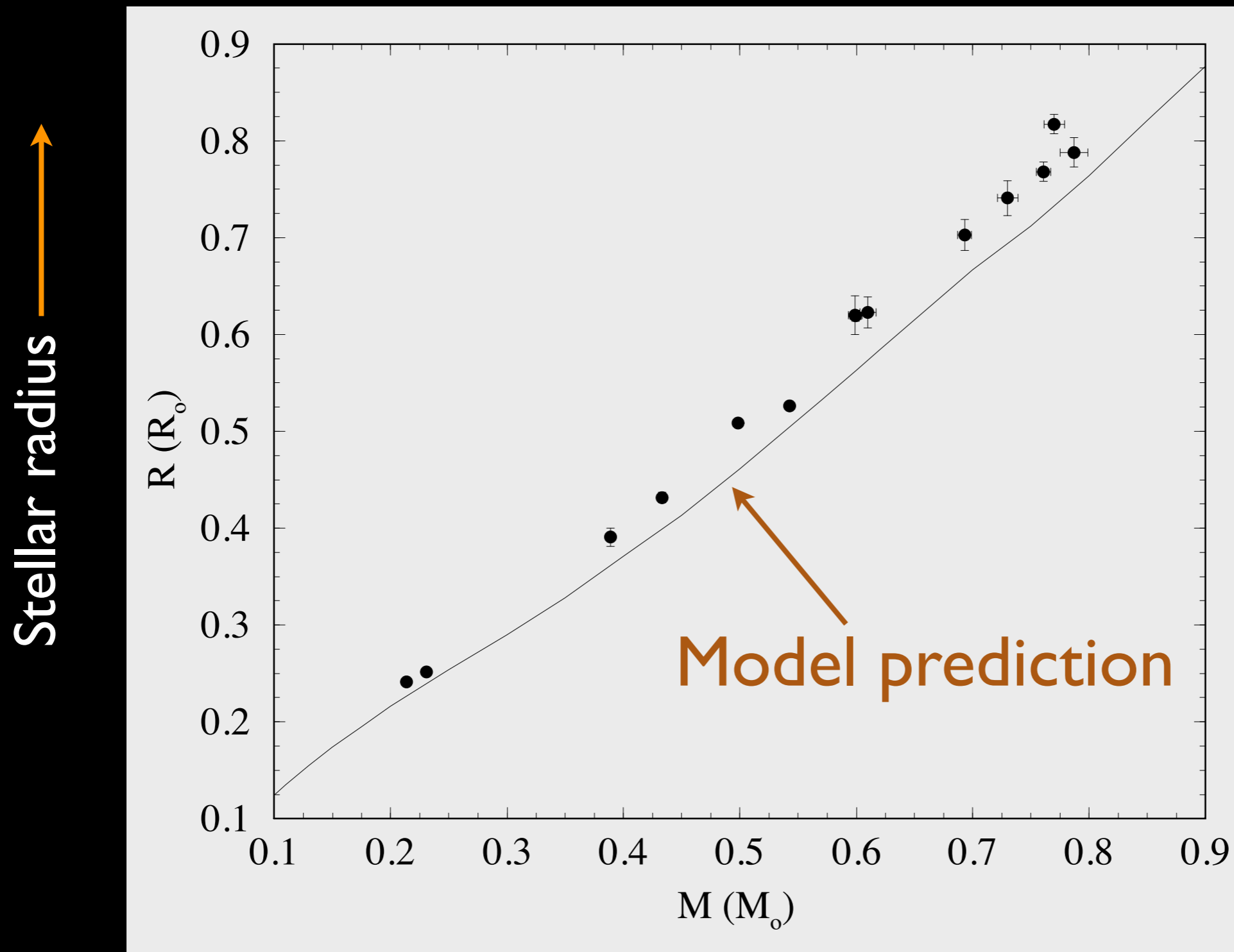
Trumpler 37
4-point
mosaic,
60s exposures

Eclipsing binary M dwarfs

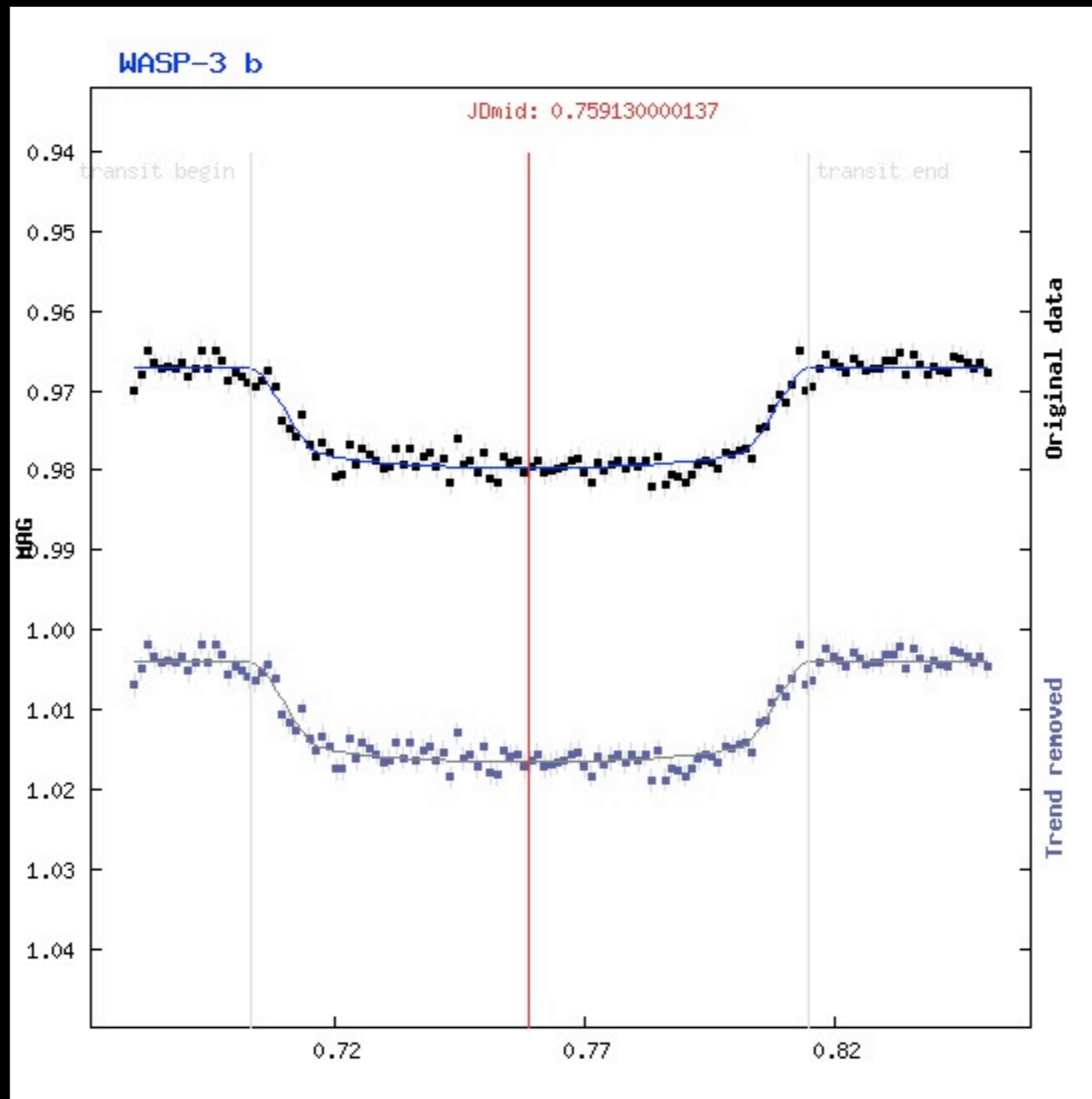


Collaboration with Leslie Hebb, Vanderbilt

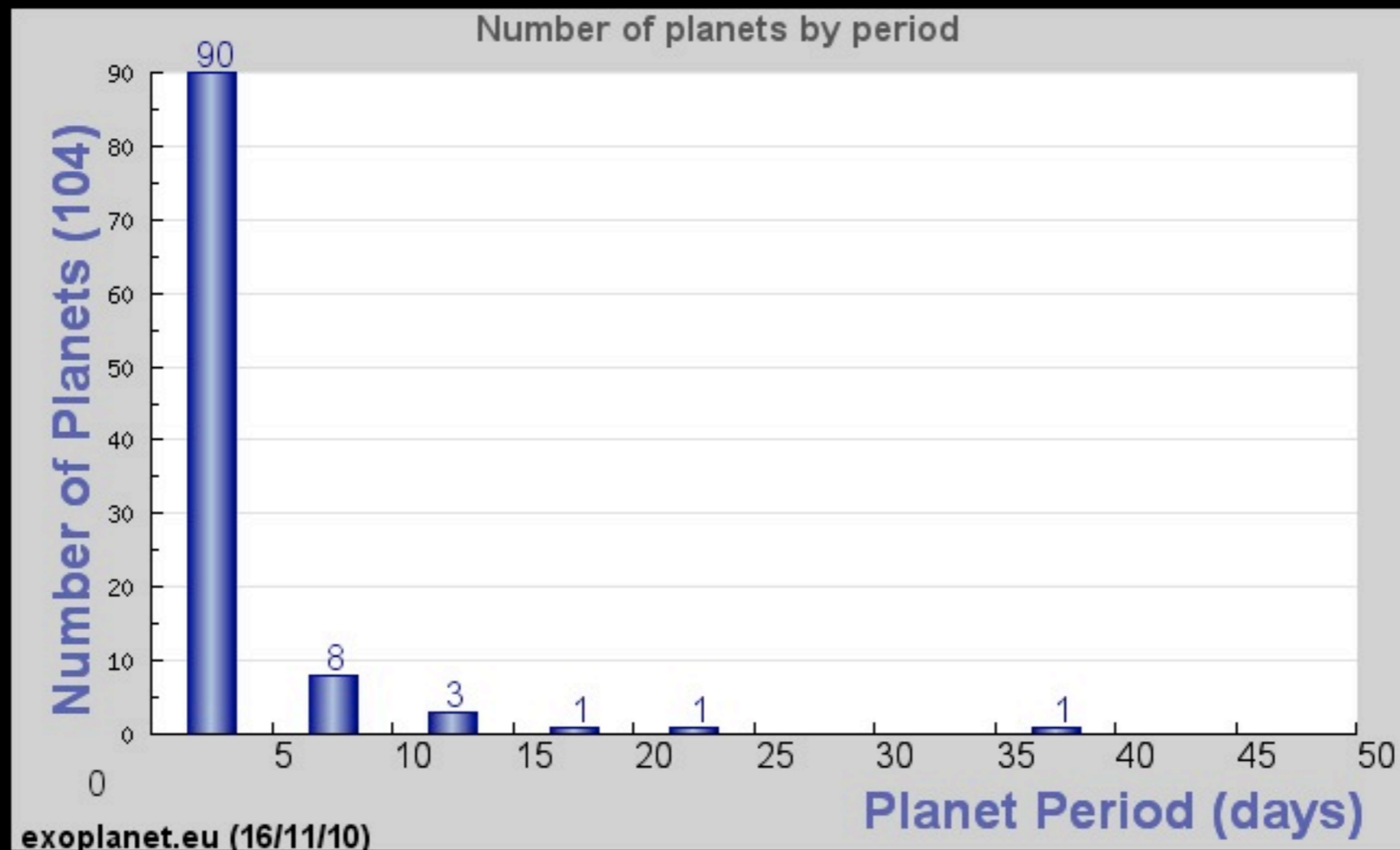
M dwarfs have larger measured radii than models predict



Transit timing variations

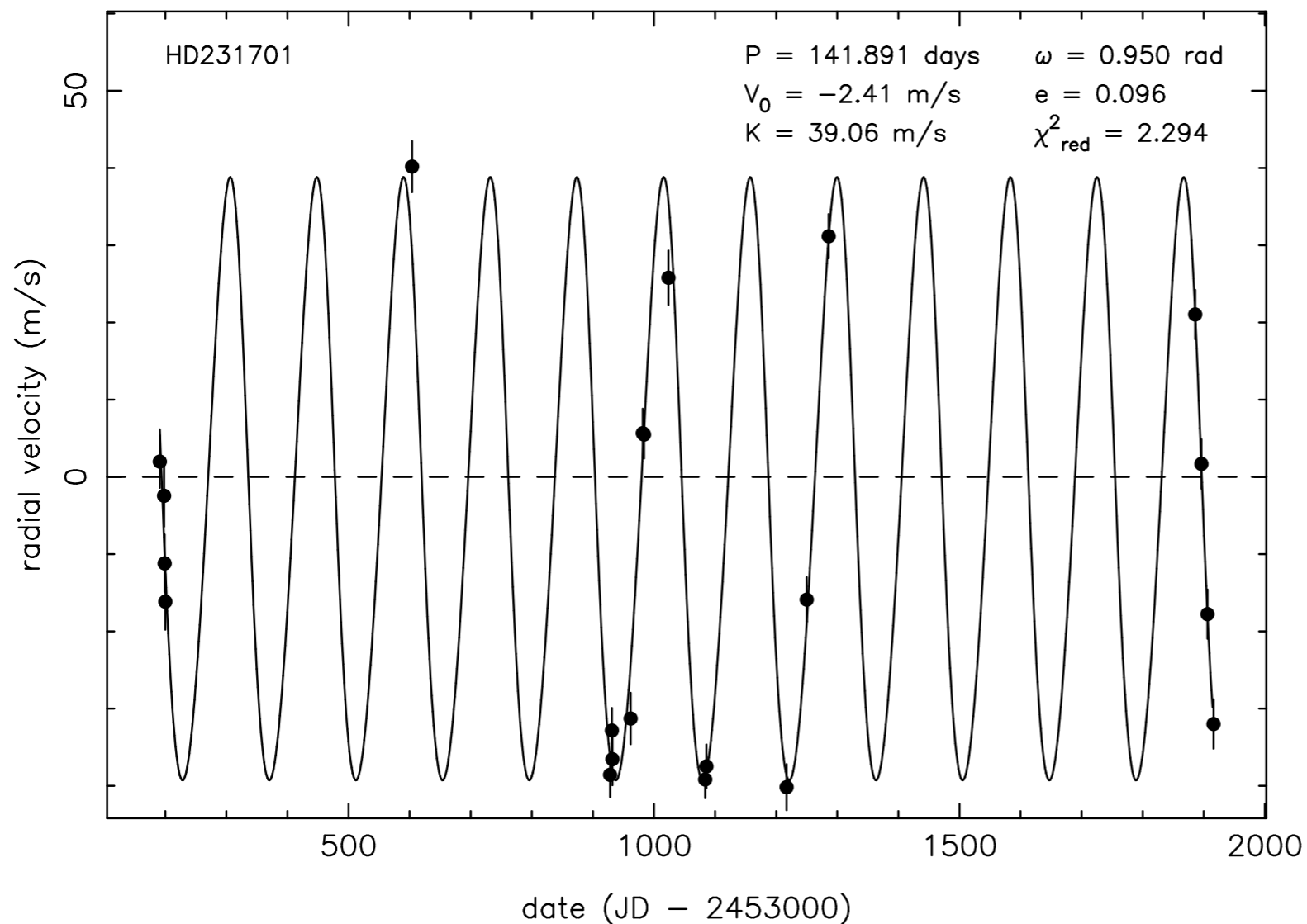


Search for new transits in long-period systems



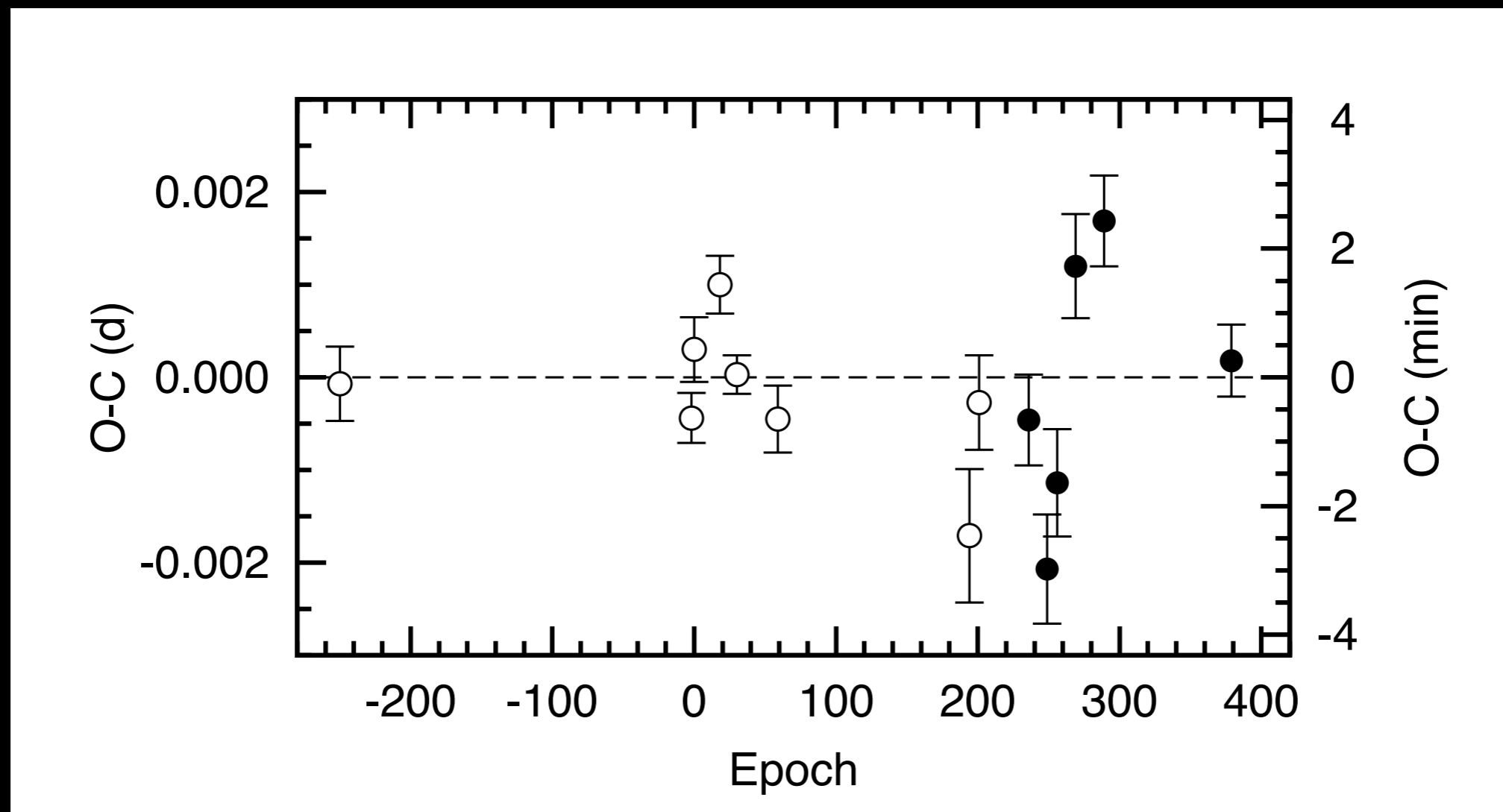
Collaboration with Stephen Kane, Caltech

Search for new transits in long-period systems



Refine
ephemeris
with new
RVs, then
search for
transits

Testing accuracy of transit-timing errorbars



WASP-3 TTVs, Maciejewski et al. 2010

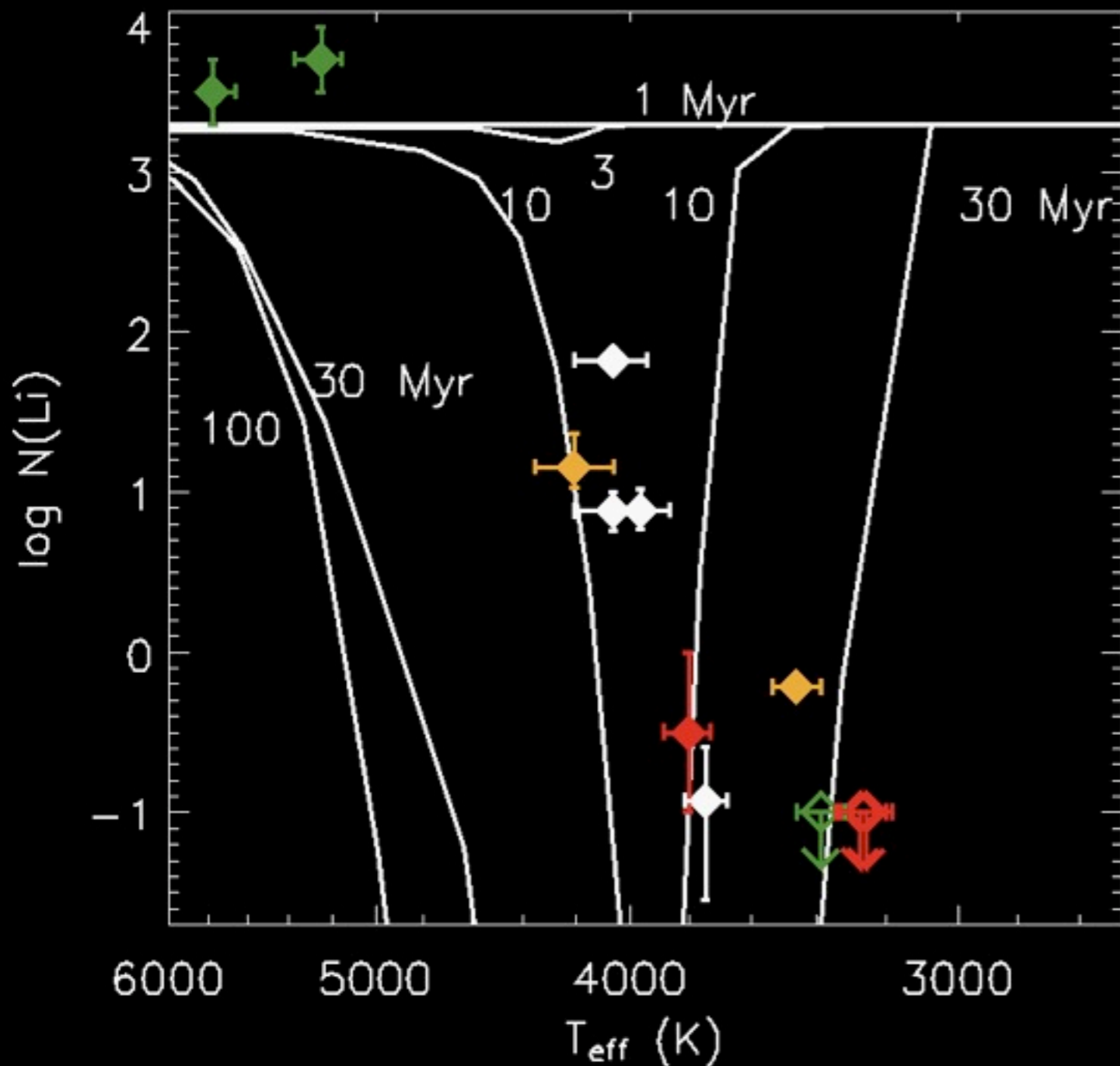
Testing TTVs with multiple observatories per transit



● = Swarthmore 0.6 m

● = other 0.4 - 1.0 m telescopes

Li depletion in young stars



Yee & Jensen 2010



Thanks to:

- Ralph Neuhauser
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