Robotic optical and infrared monitoring projects
in the
southern hemisphere

E-ELT

Cerro Armazones

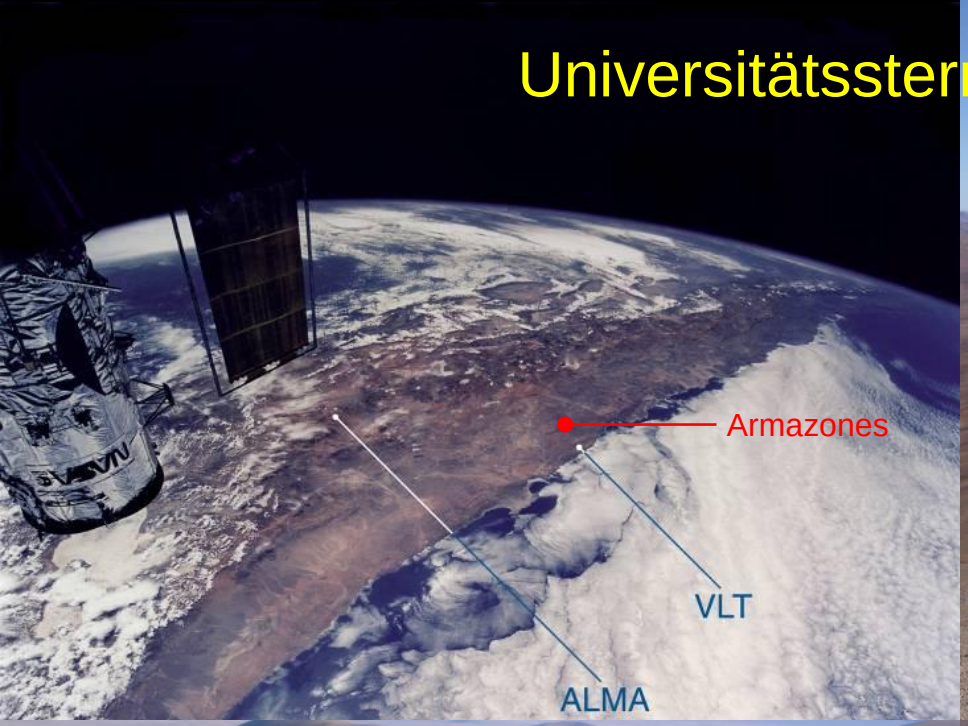
~350 clear nights

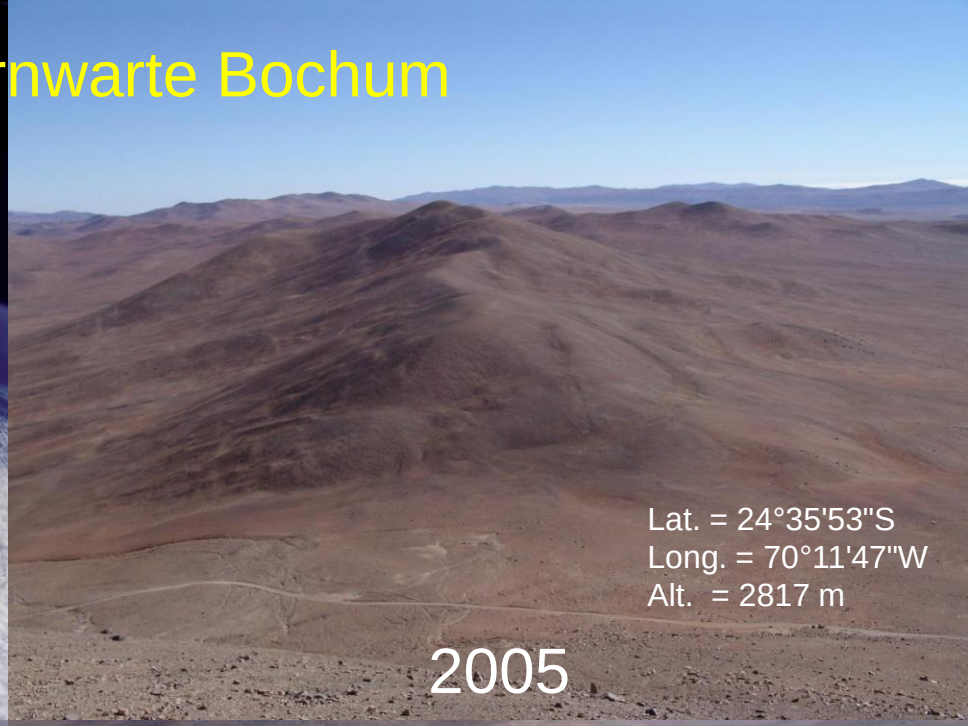
~50% seeing < 1”

Infrastructure
Telescopes
Science

Infrastructure

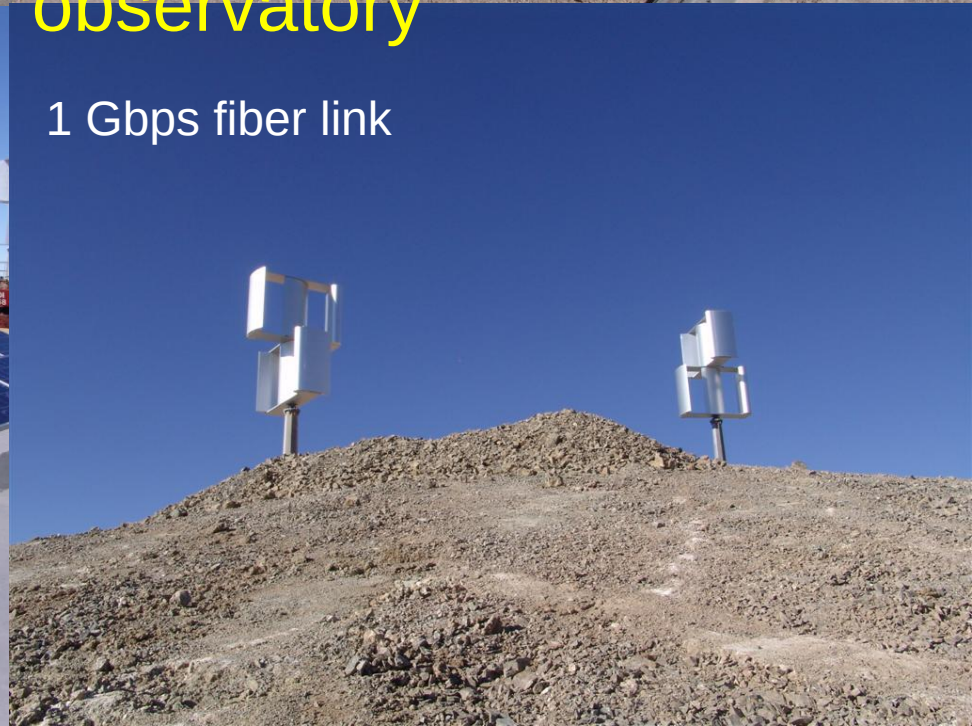
Universitätssternwarte Bochum





First „green“ observatory

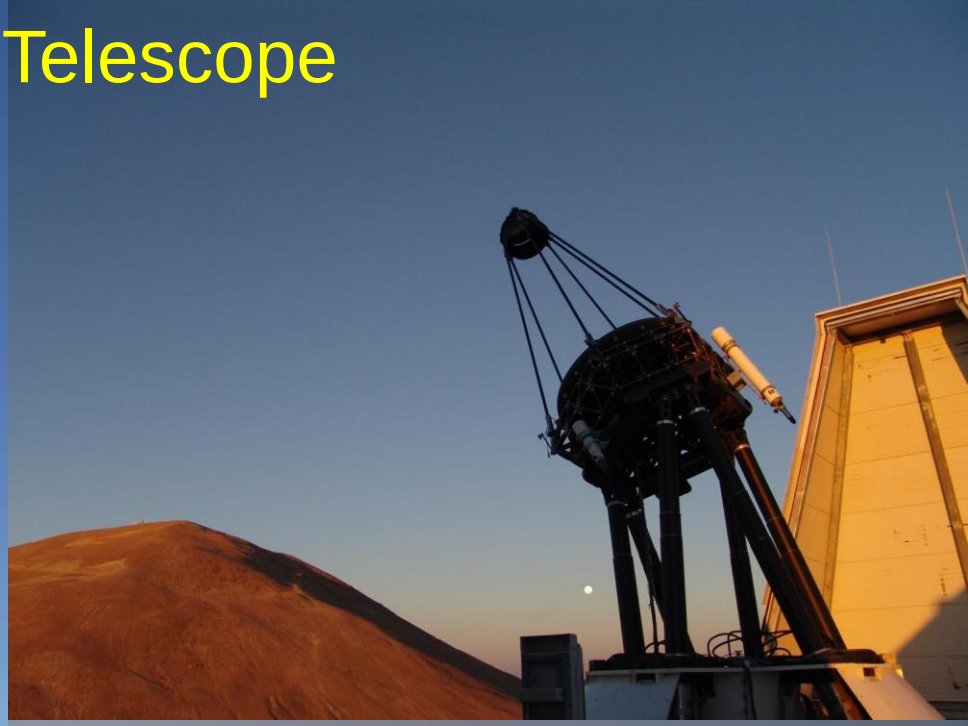
1 Gbps fiber link



Telescopes

Hexapod-Telescope

1.5 m active M1



Fiber- Echelle-Spectrograph
Δλ = 3700Å - 8600Å
resolution λ/Δλ ~ 50.000

VYSOS 6 A & B

V ariable
Y oung
S tellar
O bject
S urvey

two 15 cm refractors
(robotic)

two 4 x 4k cameras
(FoV ~ 2.5° x 2.5°)

2“/pix, *R* ~ 20^{m}

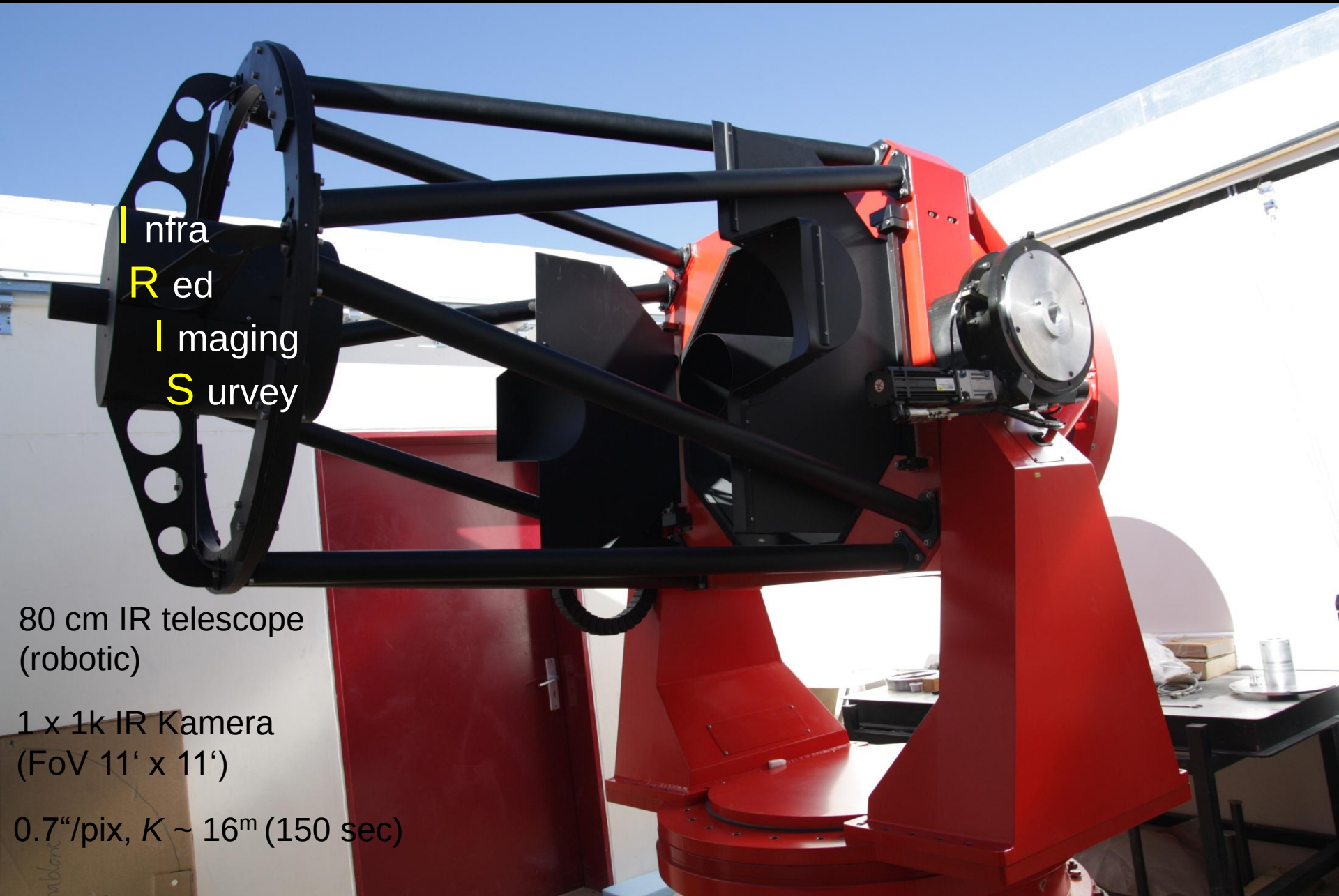
VYSOS 16

40 cm Newton
(robotic)

3 x 2k camera
(FoV ~ 41‘ x 27‘)

0.8“/pix

IRIS



80 cm IR telescope (robotic)

1 x 1k IR Kamera (FoV 11‘ x 11‘)

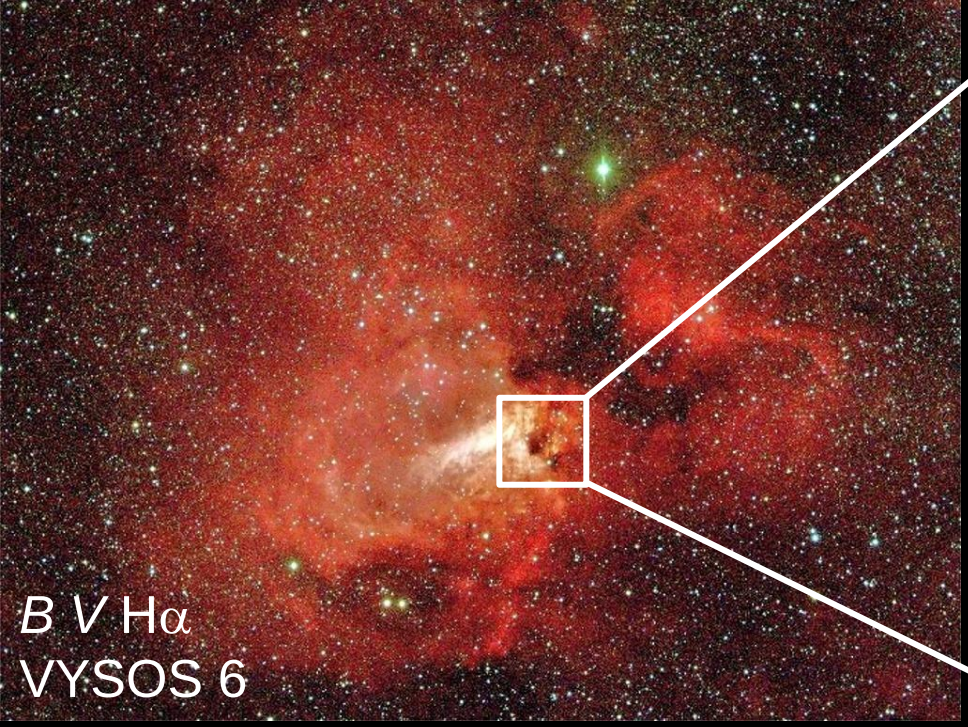
0.7“/pix, $K \sim 16^{m}$ (150 sec)

BEST II

B erlin
E xoplanet
S earch
T elescope

see talk by Anders Erickson

Science



IR variability in young clusters

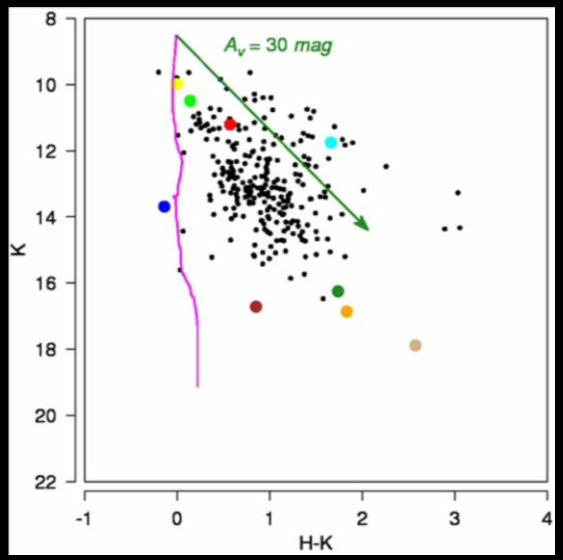
M 17

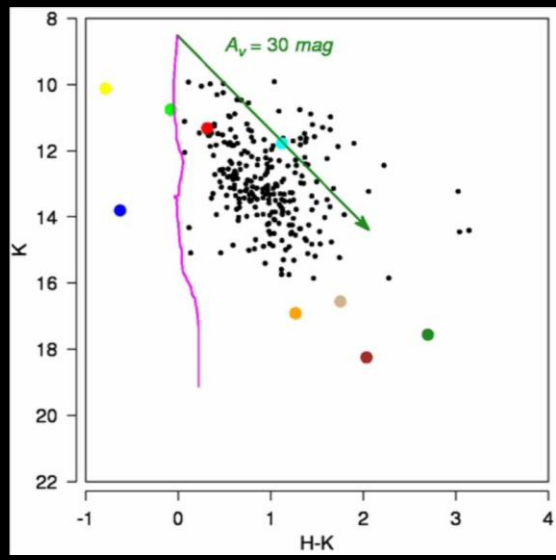
IR variability in young clusters

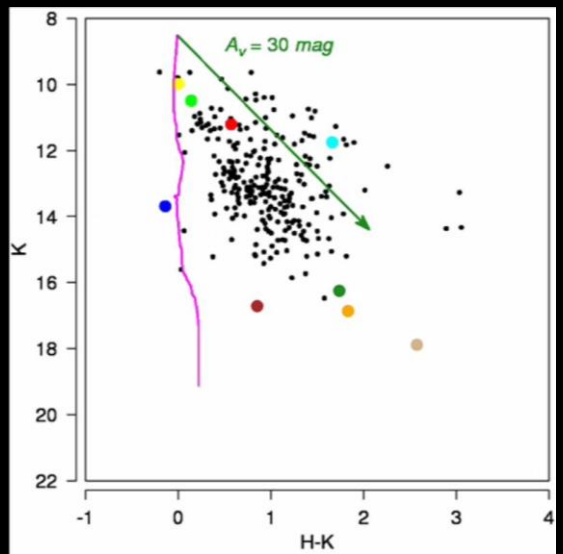
Multi-epoch *JHK* imaging of M 17

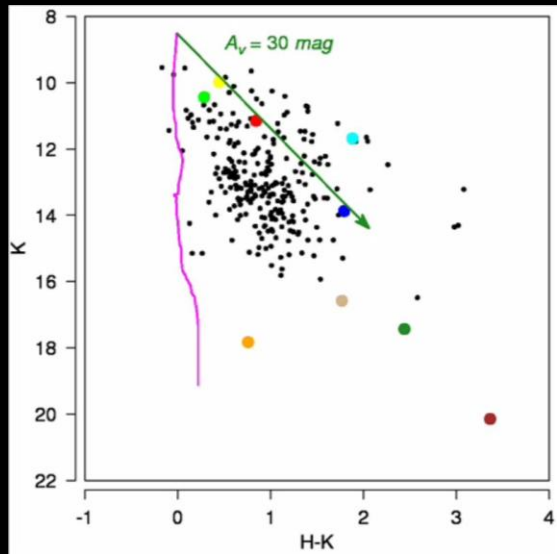
reveals high variability

of different origin







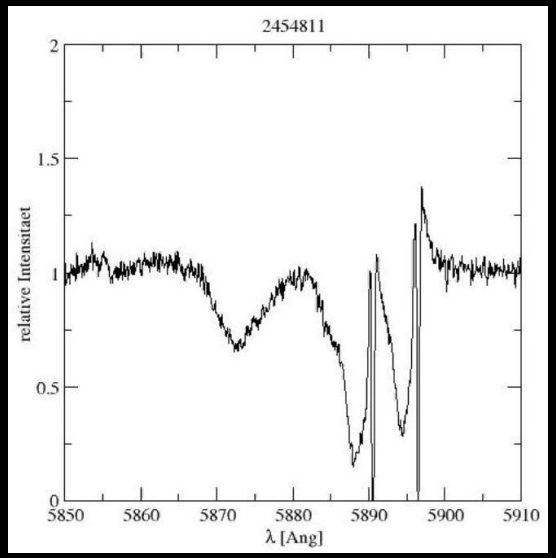


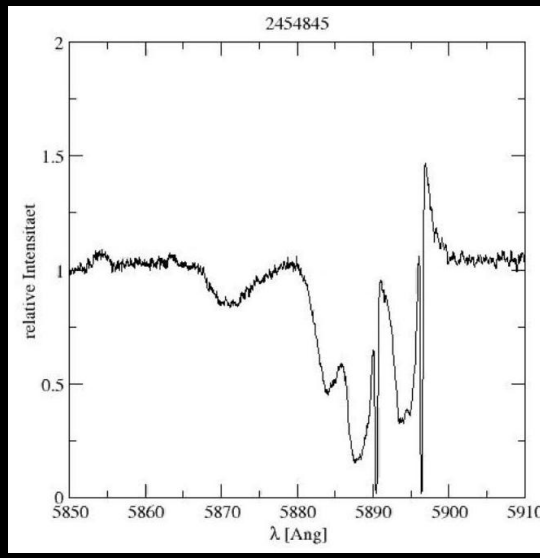
Spectral variability of Z CMa

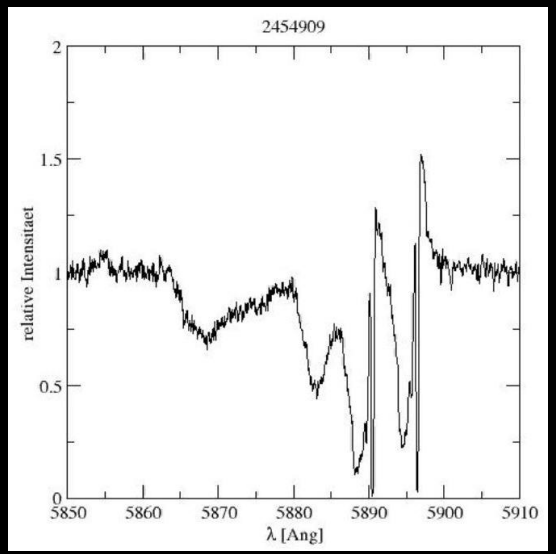
120 multi-epoch highly variable spectra

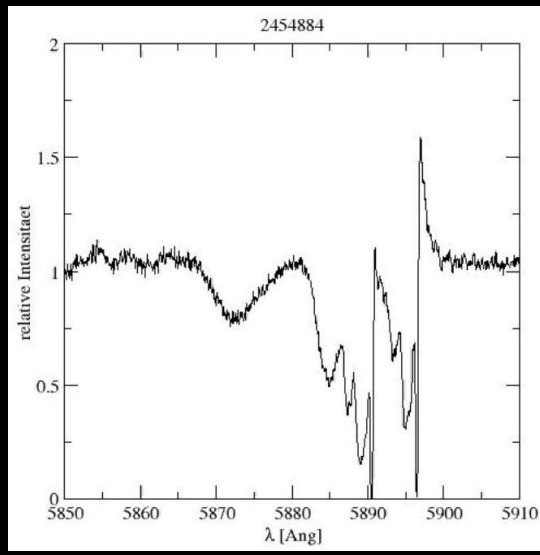
of Z CMa during 2009 outburst

and beyond



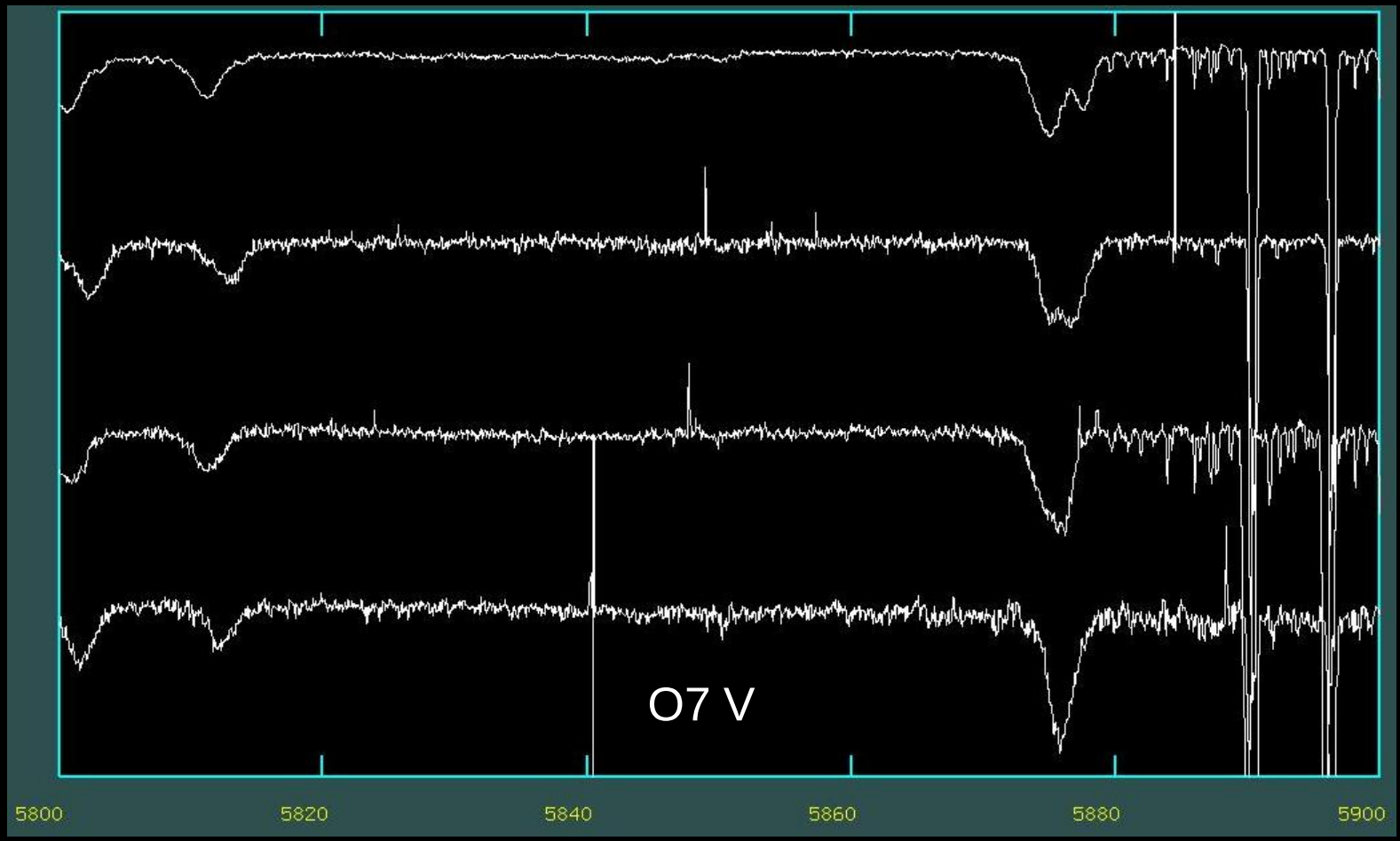






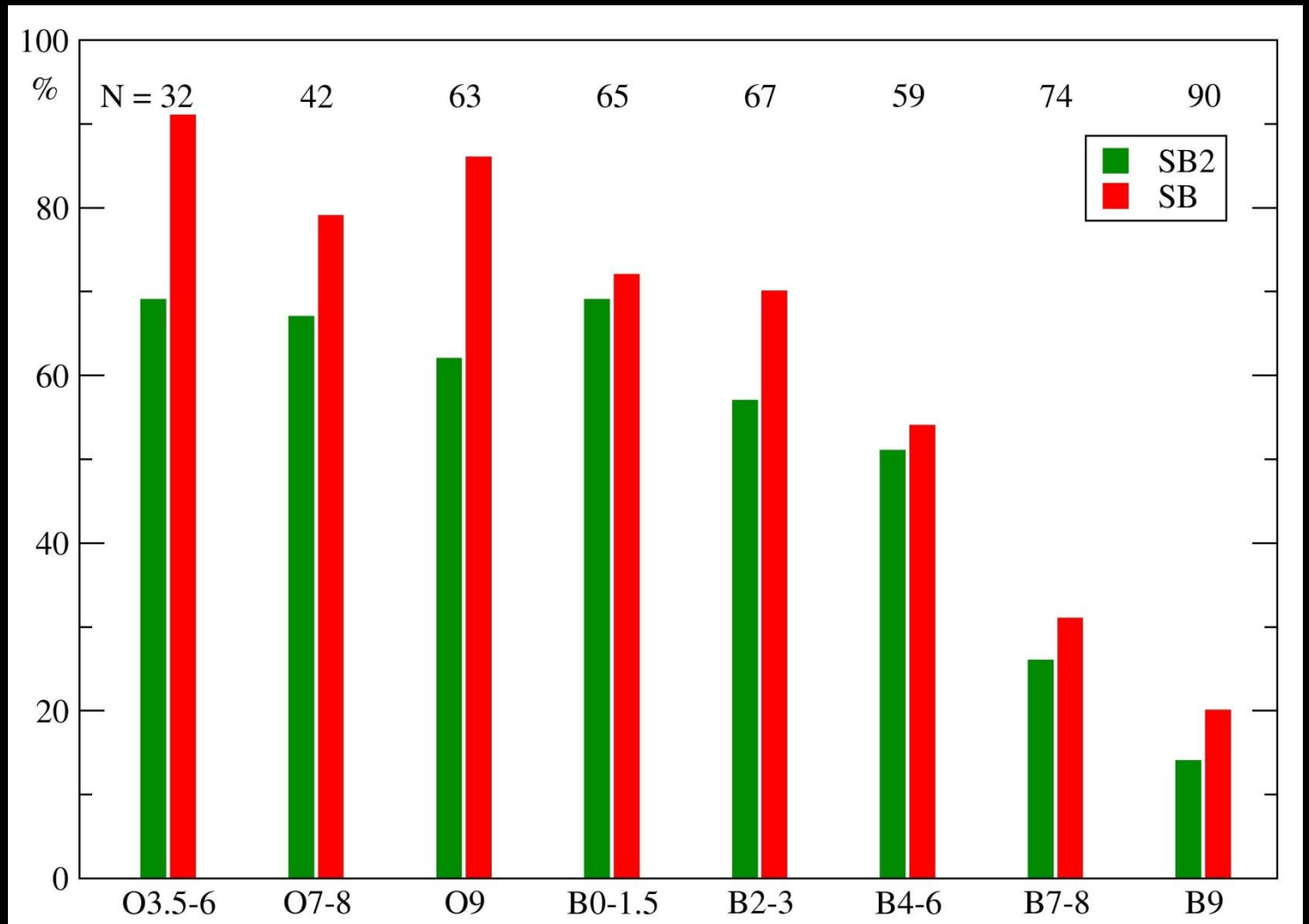
Stellar multiplicity as a function of mass

- 3200 multi-epoch spectra for 250 O and 350 B stars ($3 < M_{\odot} < 70$)



Stellar multiplicity as a function of mass

- the binary fraction decreases from 90% (early O) to 20% (late B)
- most high-mass stars are born as twins of similar mass




Welcome to join
at
Cerro Armazones