

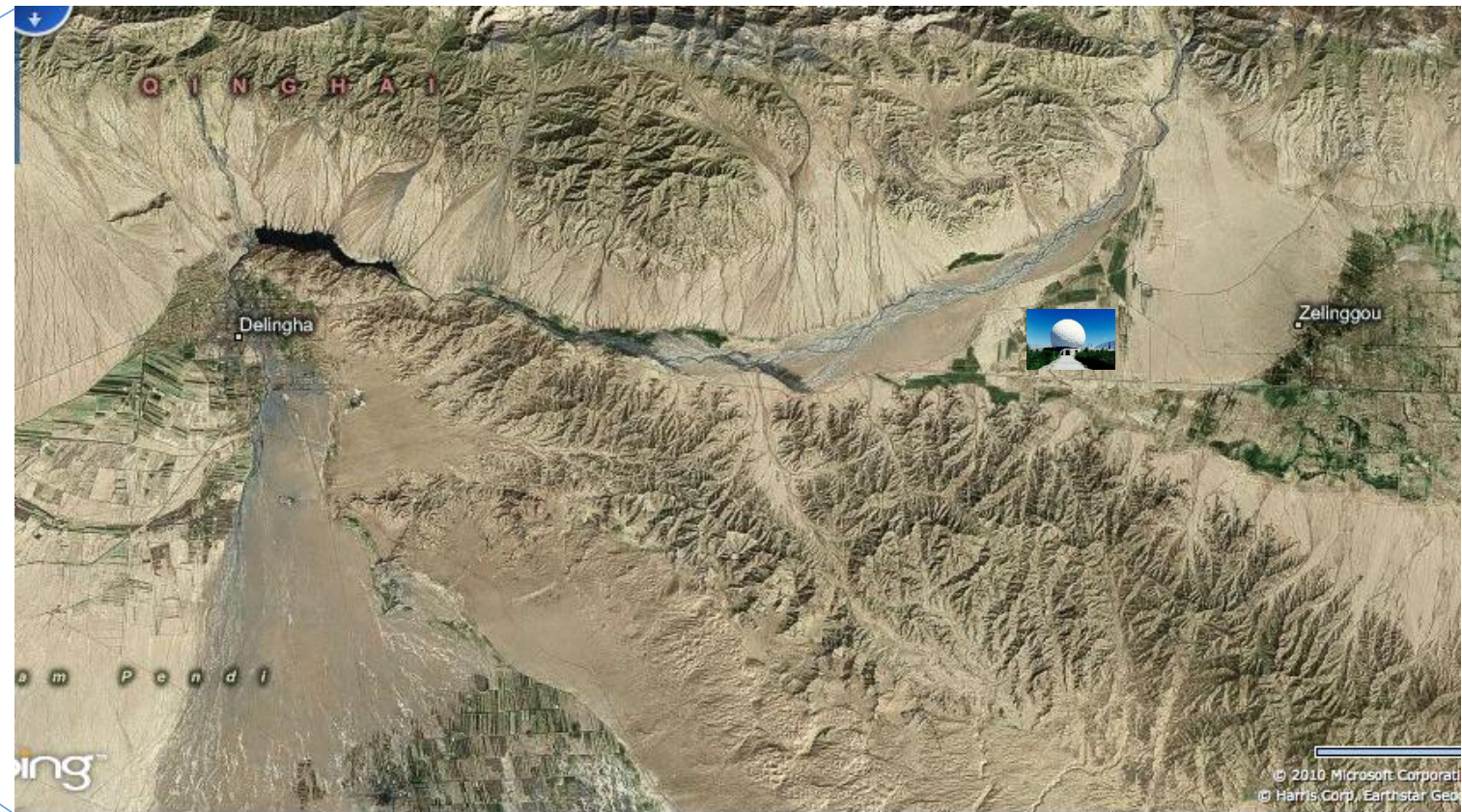
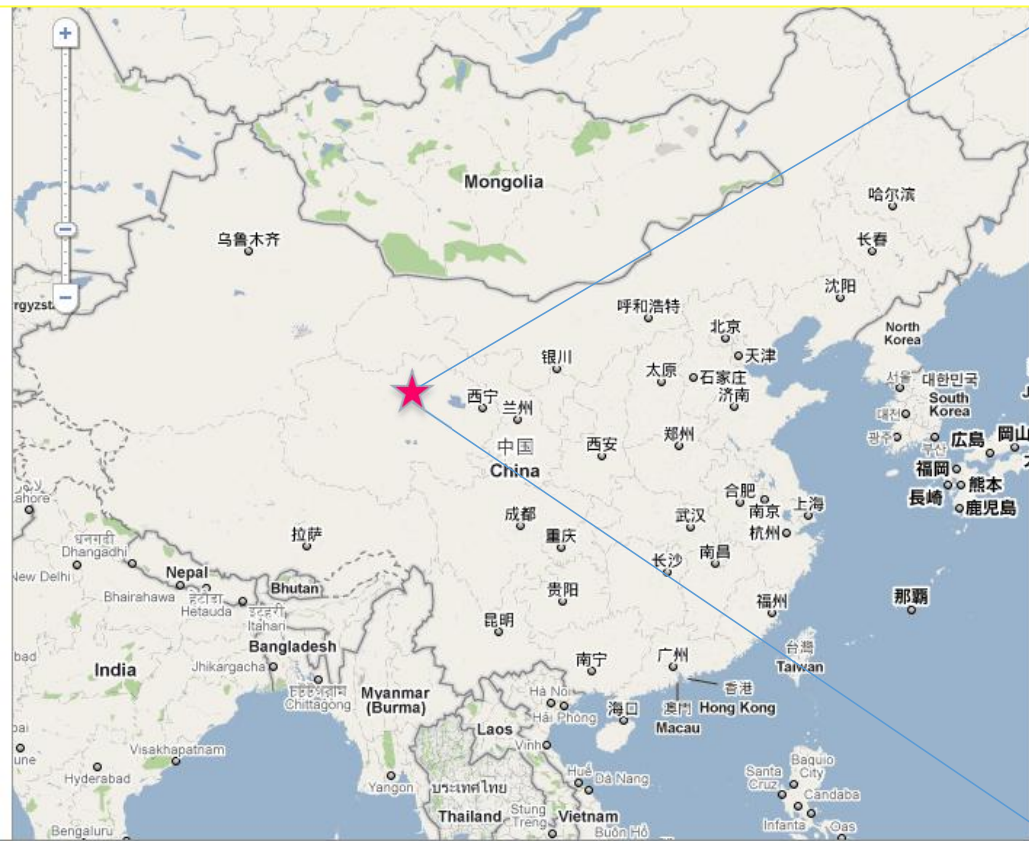
SONG observations at the Delingha site

Chunguang Zhang
National Astronomical Observatories,
Chinese Academy of Sciences

SONG2018

Delingha node

37° 22' .4 N, 97° 33' .6 E, Altitude: 3200 m



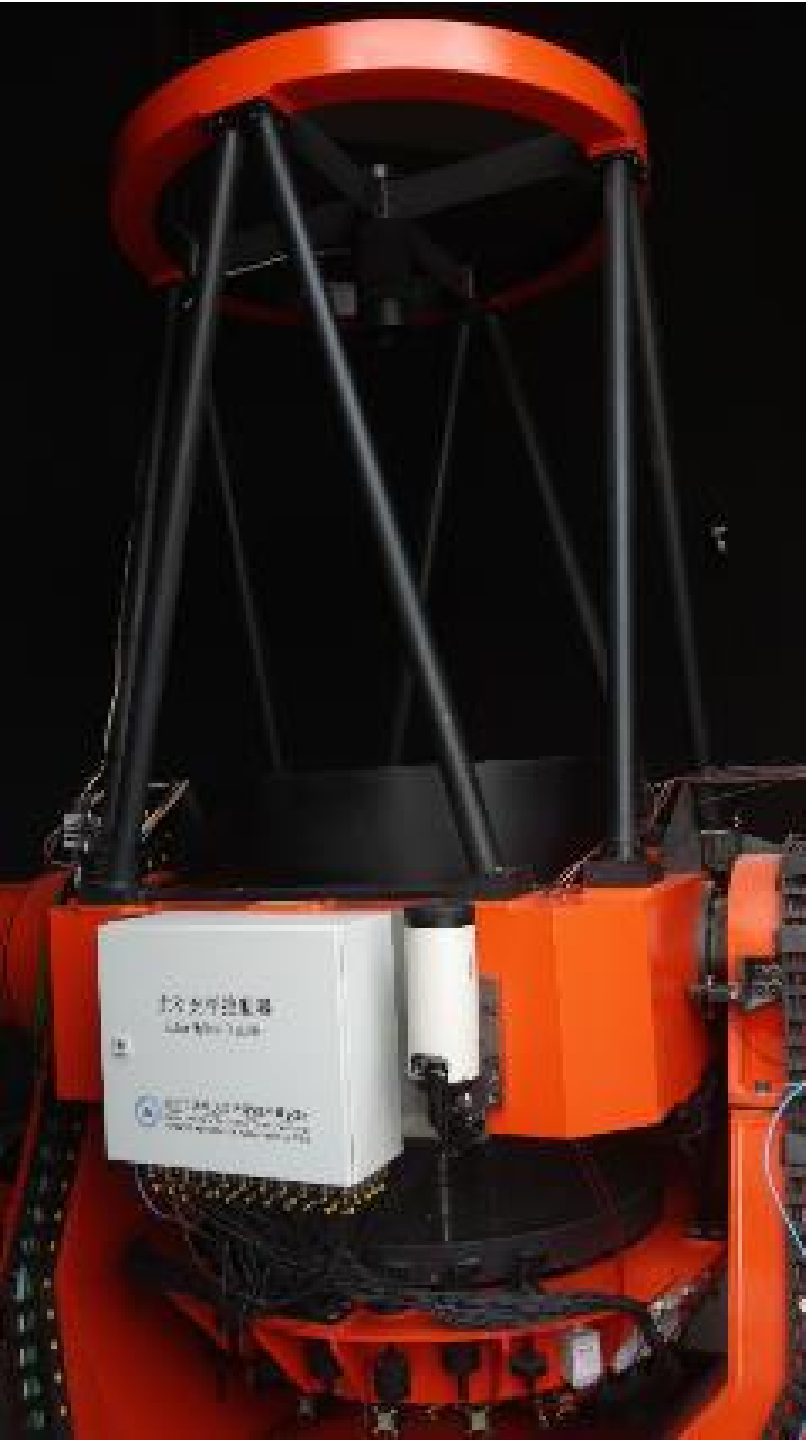
Chinese SONG telescopes

50BiN

SONG

DIMM

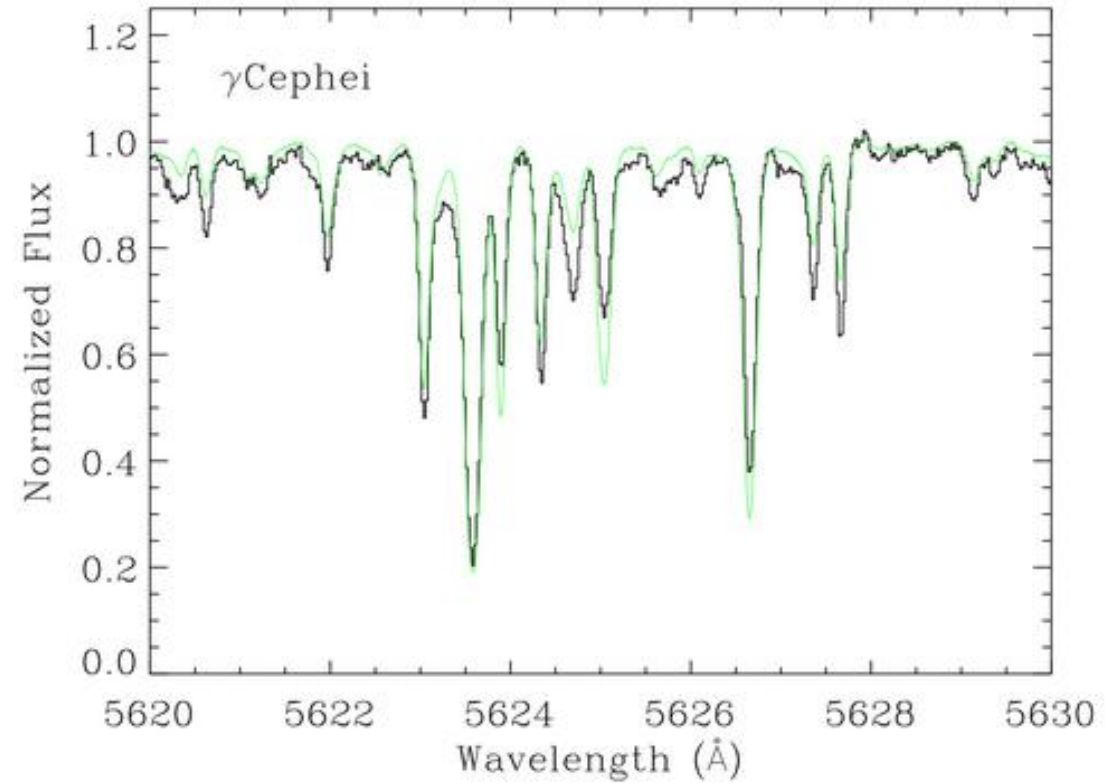




SONG telescope

- Timeline:
- 2009.09 Joining the international SONG project
- 2010.02 Starting site monitoring
- 2012.07 Site selection
- 2012.10 Starting site construction
- 2014.07 Telescope installed
- 2014.08 Spectrograph installed
- 2015.08 First light

First light - Aug 30, 2015



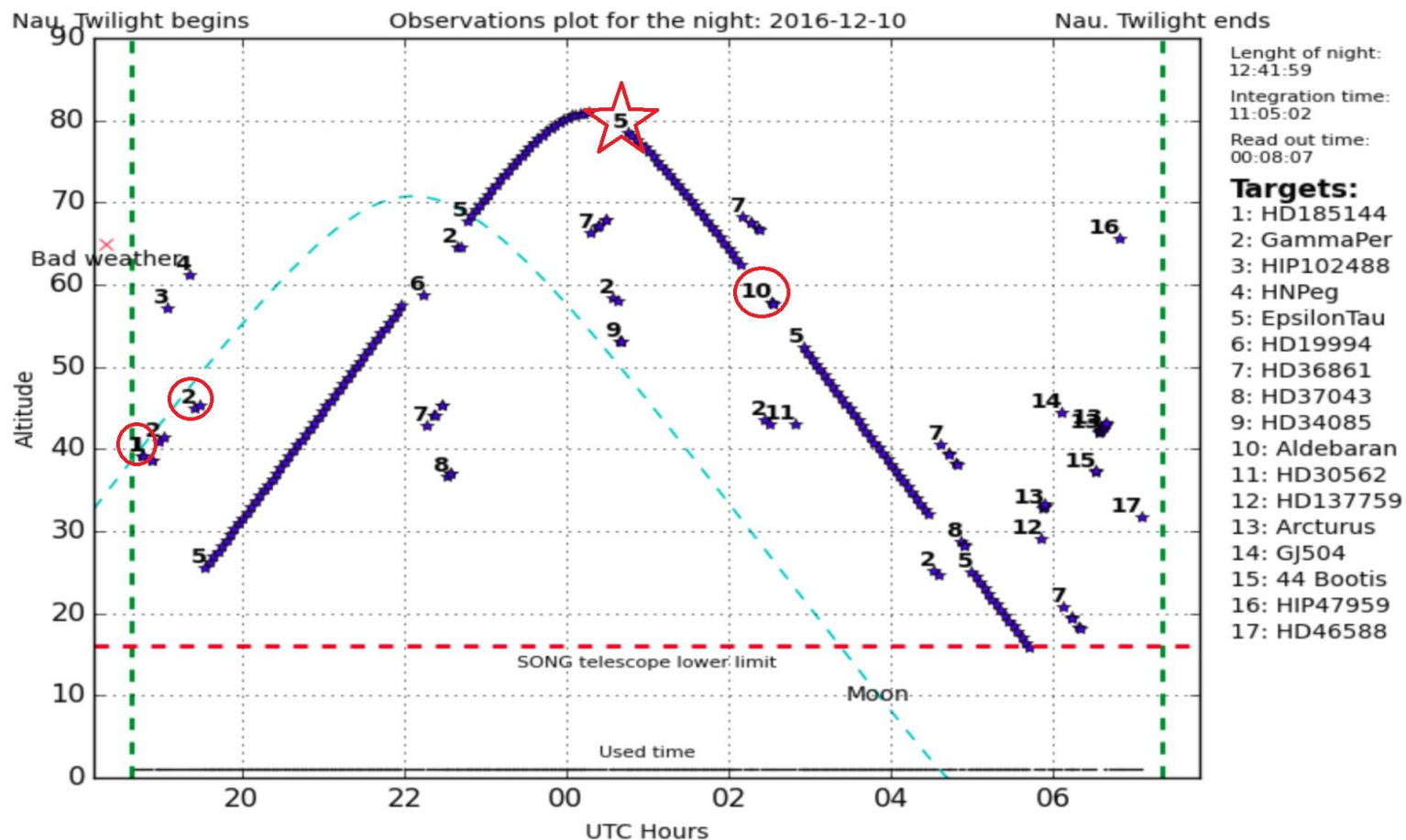
Observations - manual operations

- Calibrations
 - Bias
 - Flat
- Stellar spectra
 - Initializing the telescope
 - pointing and tracking
 - adjusting pointing during observations
 - changing targets
 - ending observations



Slit view of γ Per

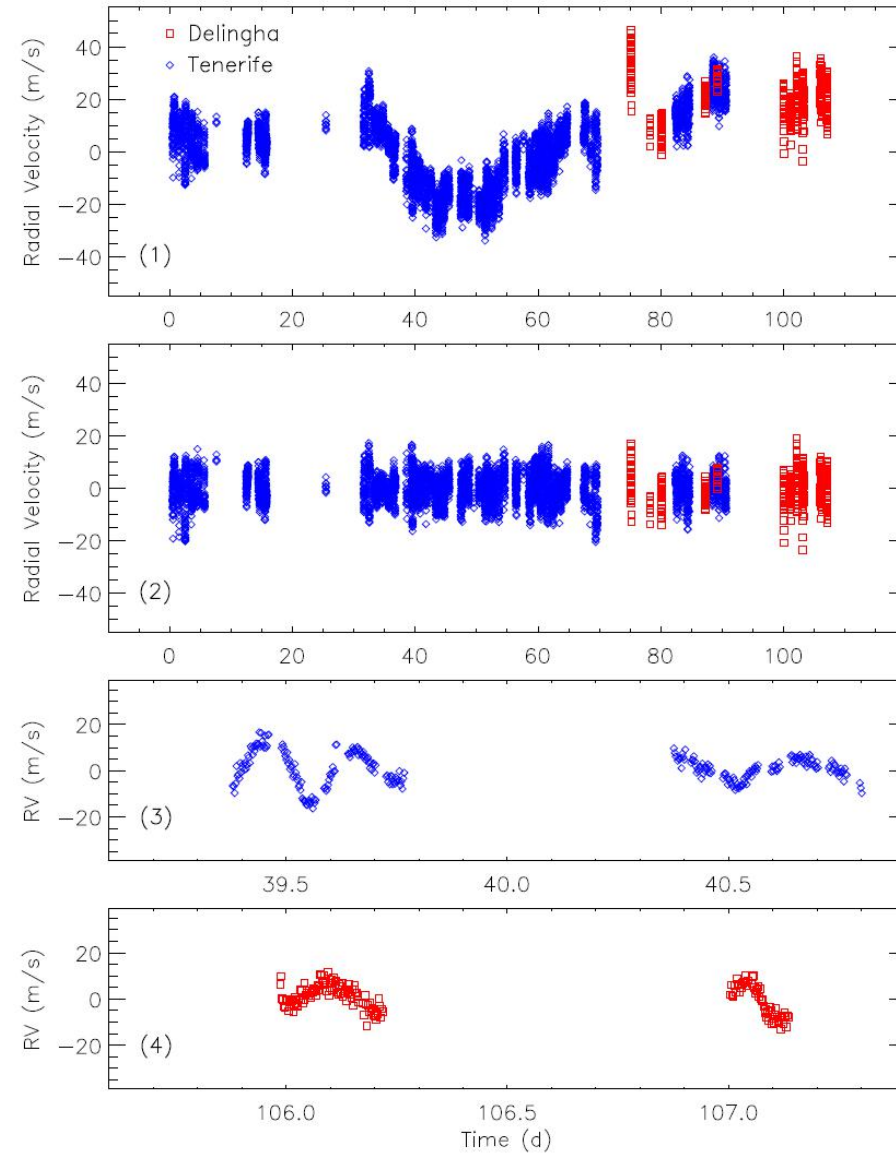
Observations - targets



Targets
 Mode
 Slit
 Exp. time
 Exposures
 Peak flux

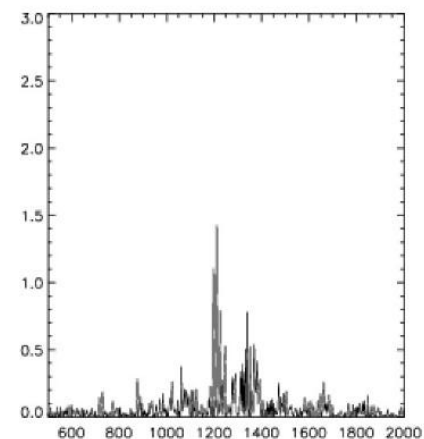
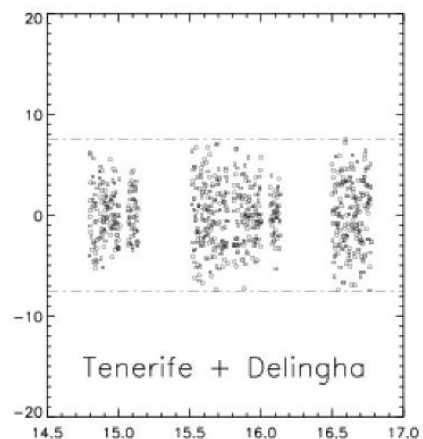
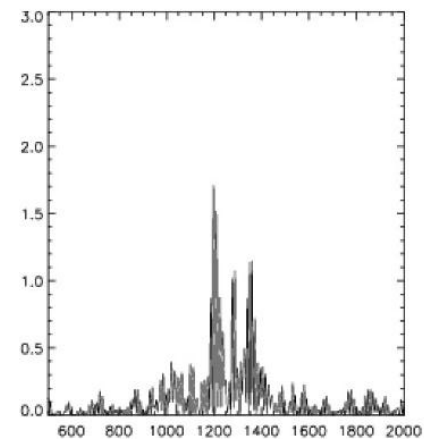
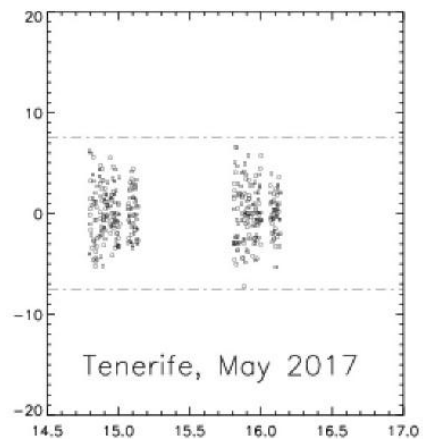
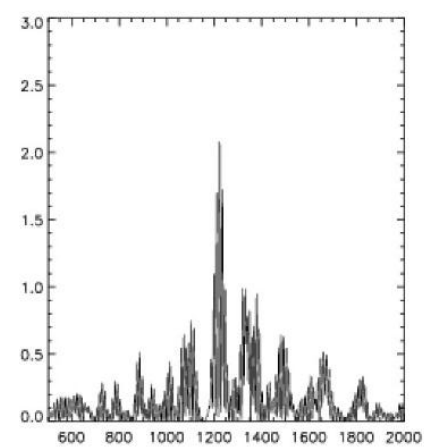
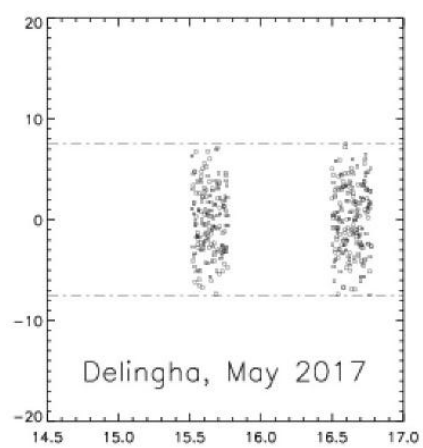
观测目标	chi Dra	HD 185144		gam Per	eps Tau	Aldebaran
观测模式	ThAr	ThAr	Iodine	Iodine	Iodine	Iodine
狭缝编号	8	8	8	5	5	8
曝光时间	360s	360s	480s	180s	200s	30s
拍摄幅数	3	2	2	2+2+2	20+20+65	3
流量峰值	6800	3100	3000	16000	8000	8000

ε Tau



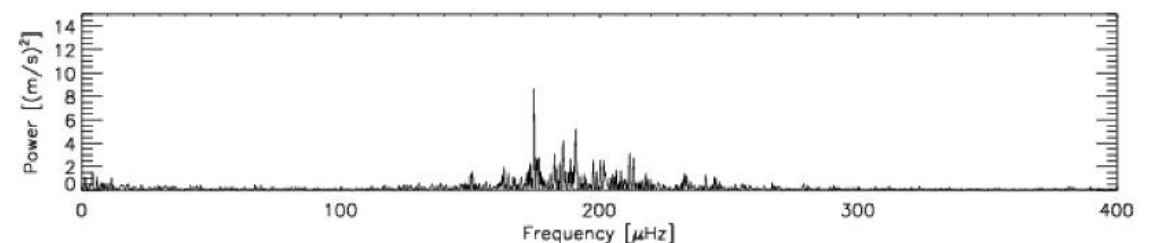
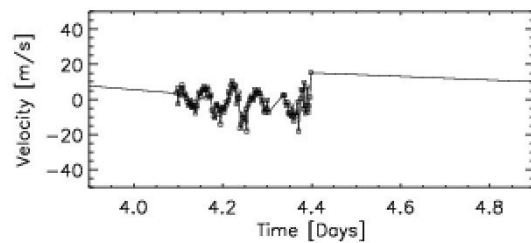
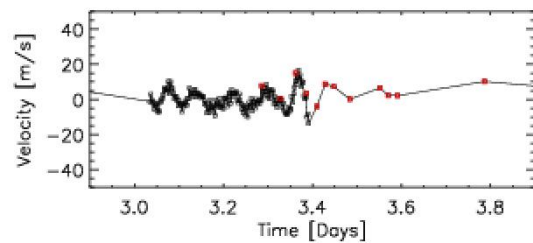
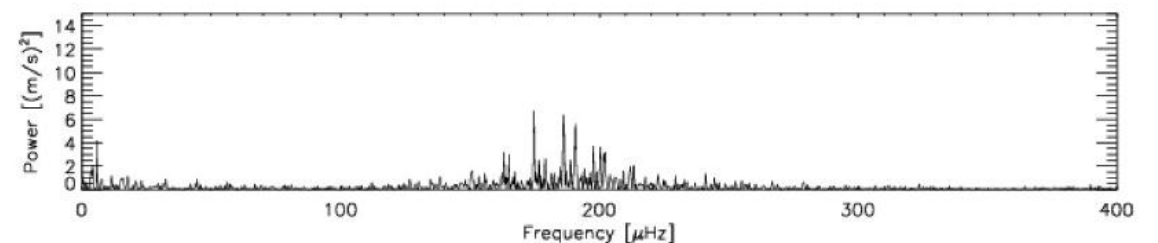
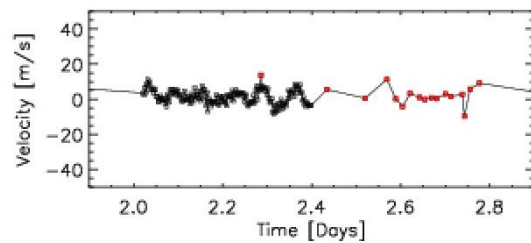
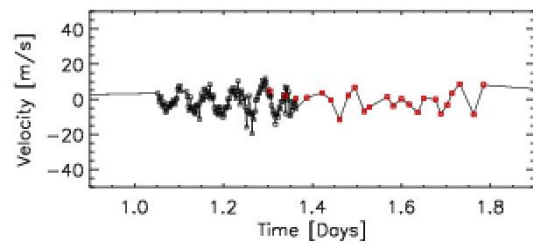
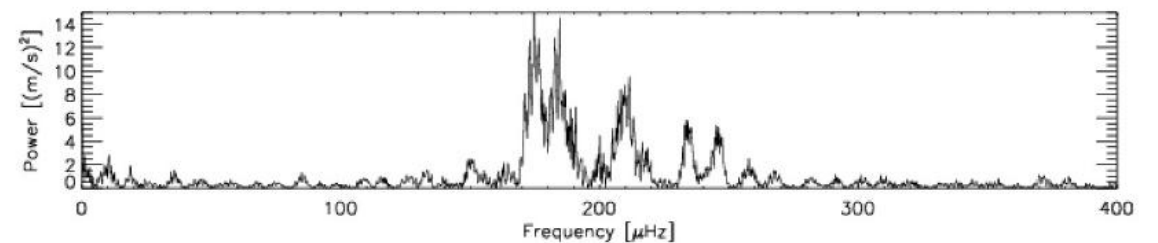
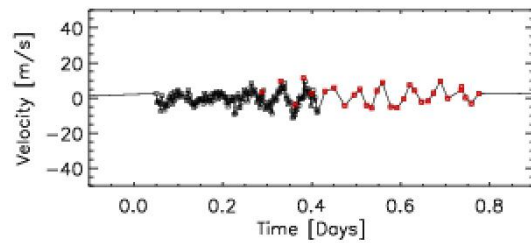
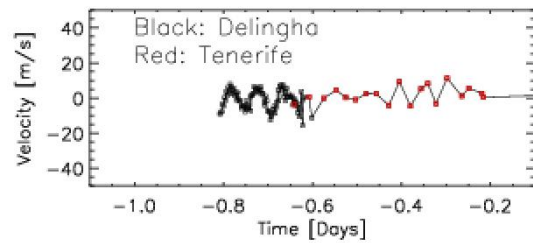
(Arentoft et al. in preparation)

μ Her



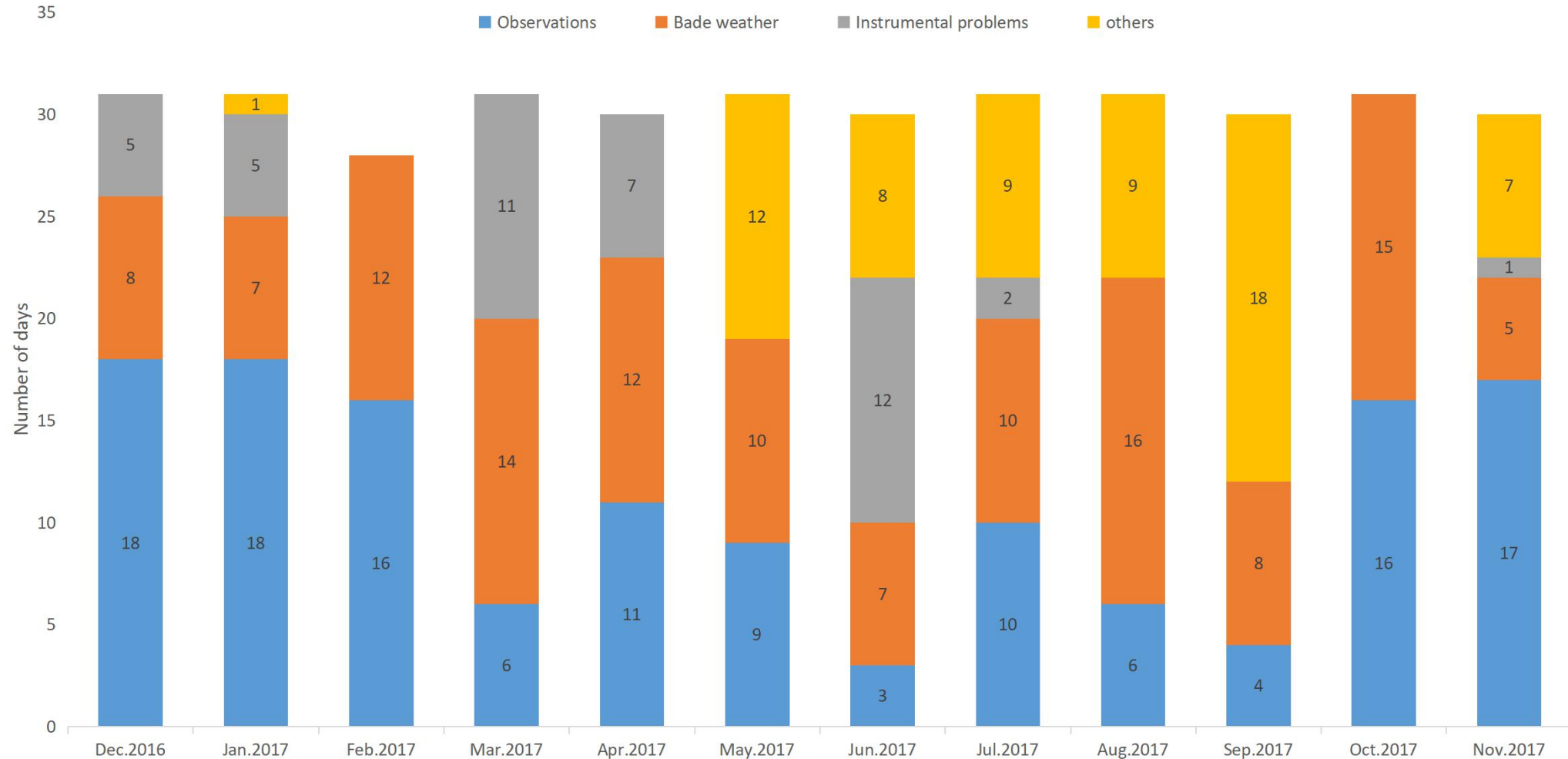
(Provided by Frank Grundahl)

γ Cep



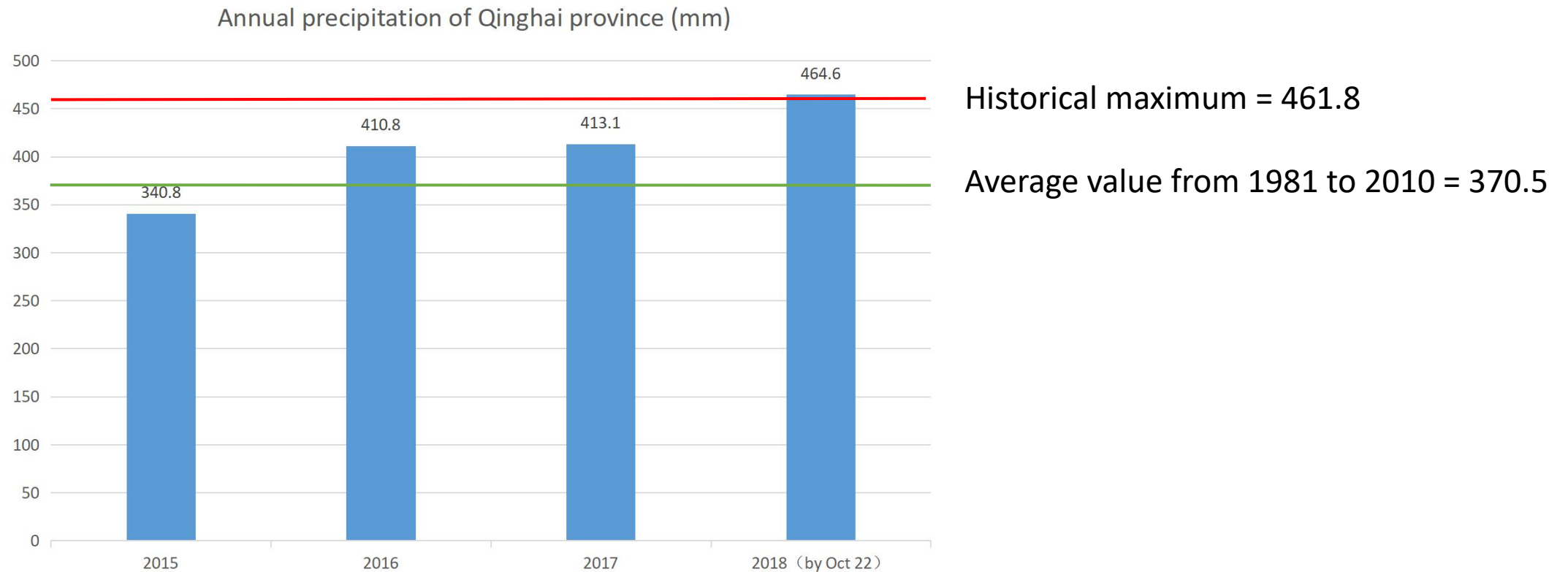
(Provided by Frank Grandhal)

Statistics form Dec.2016 to Nov. 2017



Problems - observing conditions

- Climate change



- Light pollution from Delingha city

Problems - telescope

- Optical alignment
- System stability
- Software
-



中国科学院
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南京天文光学技术研究所

Nanjing Institute of Astronomical Optics & Technology
National Astronomical Observatories, CAS

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Problems - shortage of man power

- Kun Wang (graduated in 2016, now a postdoc at the IAC)
- Jianfeng Tian (graduated in 2016, now an engineer at Xilong station)
- Zhengzhou Yan (graduated in 2017, will go to Chile)
- Xiaodian Cheng (joined the team in 2016)
- Chunguang Zhang

Solutions

- Bad weather
- Instrumental problems
- Shortage of man power

Solutions

- Bad weather
- Instrumental problems
- Shortage of man power

Relocate!

Solutions

- Bad weather
- Instrumental problems
- Shortage of man power

Relocate!

Fix the hardwares!

Solutions

- Bad weather
- Instrumental problems
- Shortage of man power

Relocate!

Fix the hardwares

and softwares!

Solutions

- Bad weather
- Instrumental problems
- Shortage of man power

Relocate!

**Fix the hardwares
and softwares,**

so we can do automatic observations.

Solutions

- Bad weather
- Instrumental problems
- Shortage of man power

Relocate!

**Fix the hardwares
and softwares,**

**so we can do automatic observations,
and stop being jealous of you.**