

Follow up of Gaia targets from ROAD (Remote Observatory Atacama Desert)

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A stylized silhouette of a mountain range in shades of brown and tan, positioned at the bottom of the slide. The background of the slide is a dark blue gradient that transitions to a lighter blue at the bottom, where the mountain range is located.

ROAD @ San Pedro

- San Pedro de Atacama, Spaceobs (A. Maury)
- Very touristic with restaurants, hotels, internet, power and water
- 2500 m elevation
- Exceptional number of clear nights:

01.08.11-31.07.12	321 nights
01.08.12-31.07.13	320 nights
01.08.13-31.07.14	335 nights
01.08.14-31.07.15	312 nights
01.08.15-31.07.16	312 nights
01.08.16-31.07.17	315 nights
01.08.17-31.07.18	324 nights
01.08.18-31.07.19	321 nights



ROAD equipment off the shelf

- 40cm f/6.8 optimized Dall Kirkham (ODK) from Orion Optics, UK
- ASA DDM 85 direct drive mount (Astrosystems Austria)
- FLI ML16803 CCD with UBVRI Astrodon photometric filters
- MAXIM DL, CCDCommander, LesvePhotometry



SPACEOBS, Chile



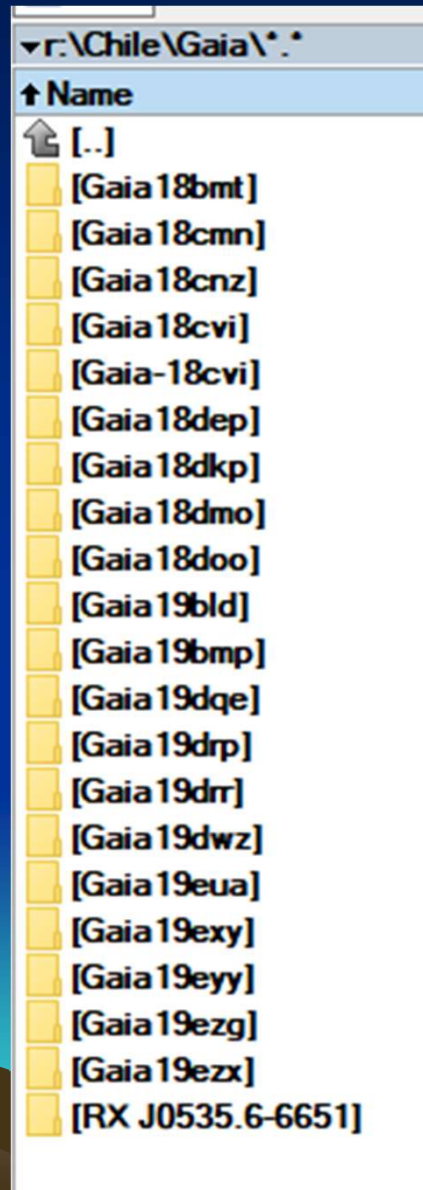
ROAD: Remote Observatory Atacama Desert, Chile



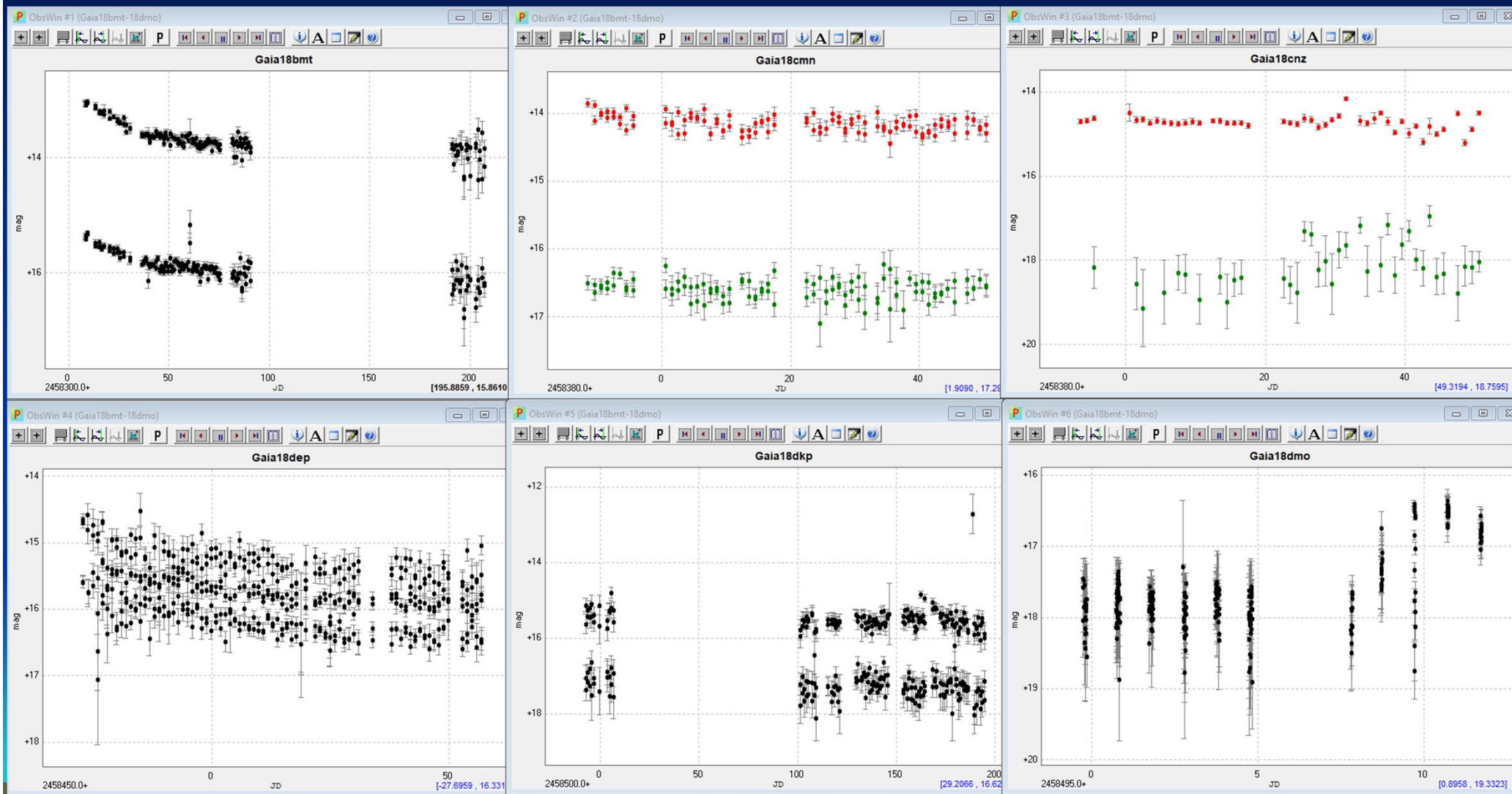
Courtesy Y. Beletsky

[Mad Telescope.mp4](#)

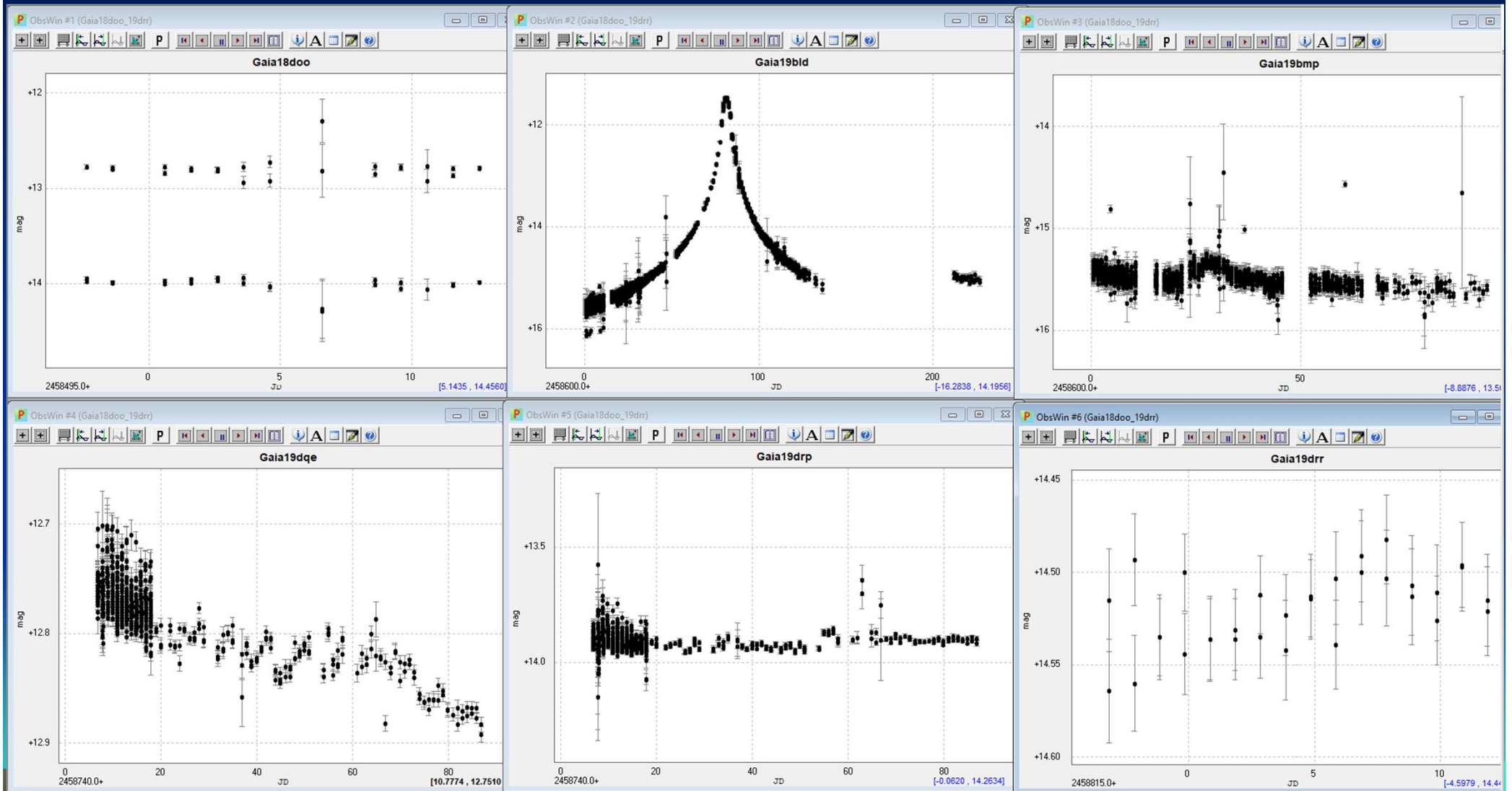
ROAD Gaia follow-ups



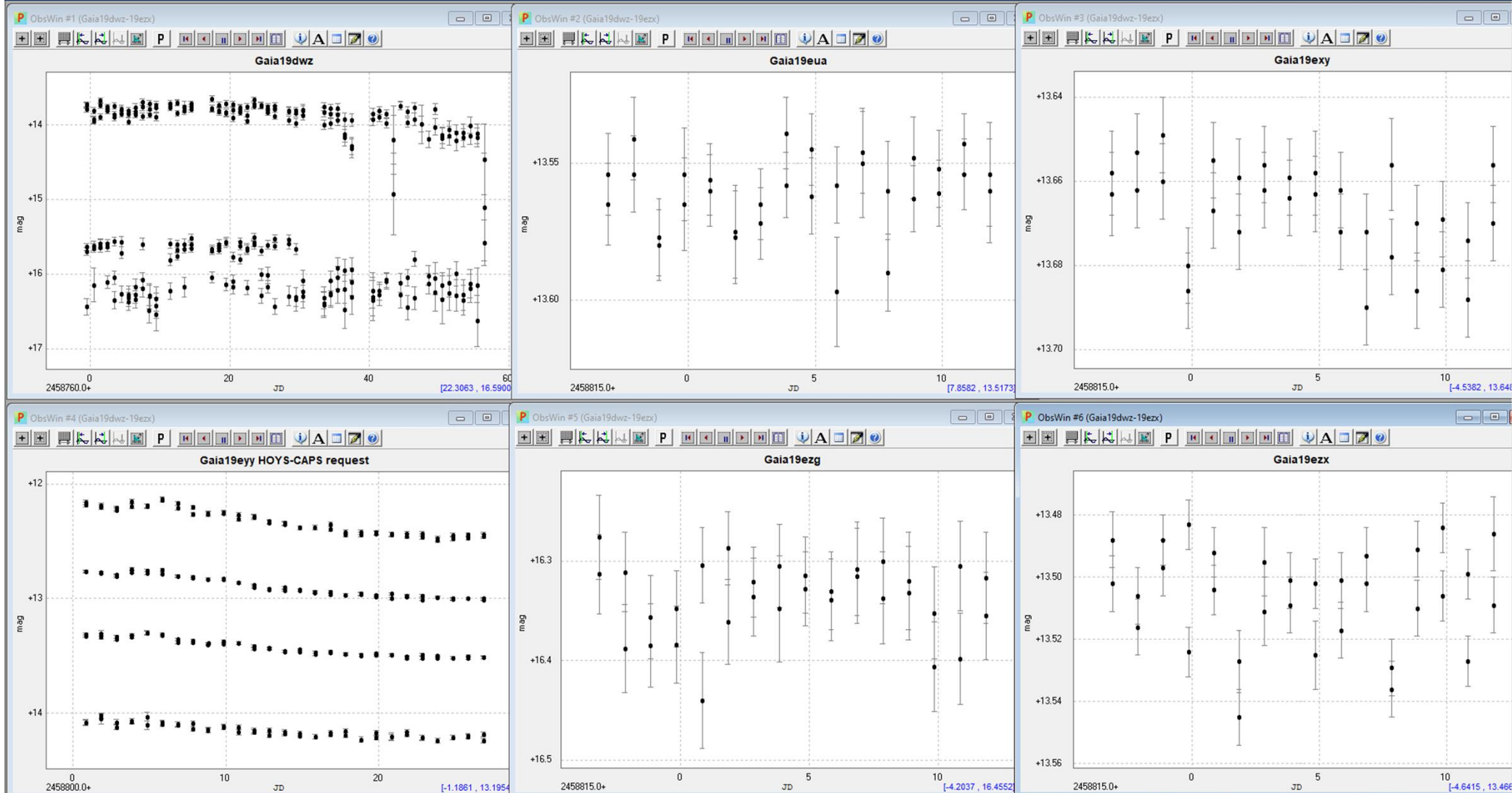
ROAD Gaia follow-ups



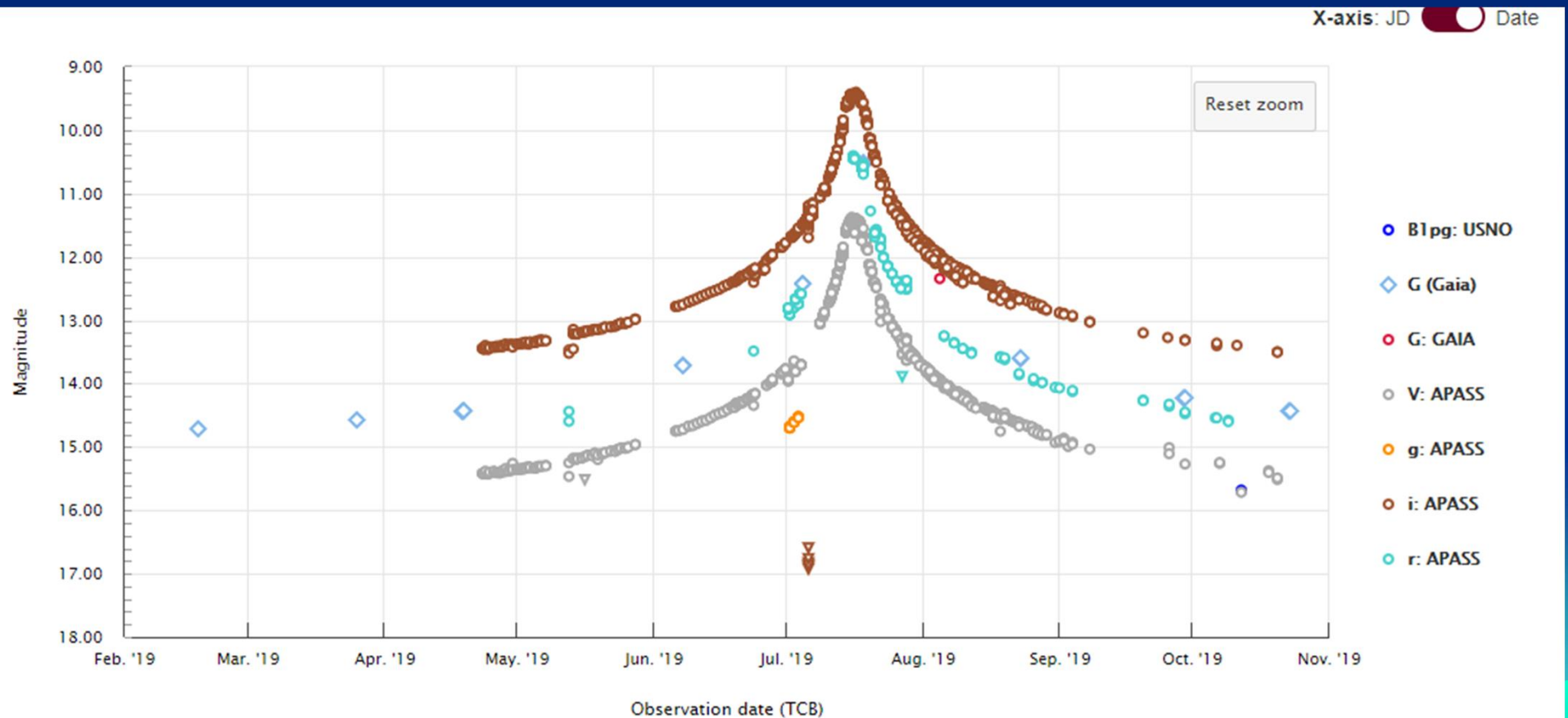
ROAD Gaia follow-ups



ROAD Gaia follow-ups

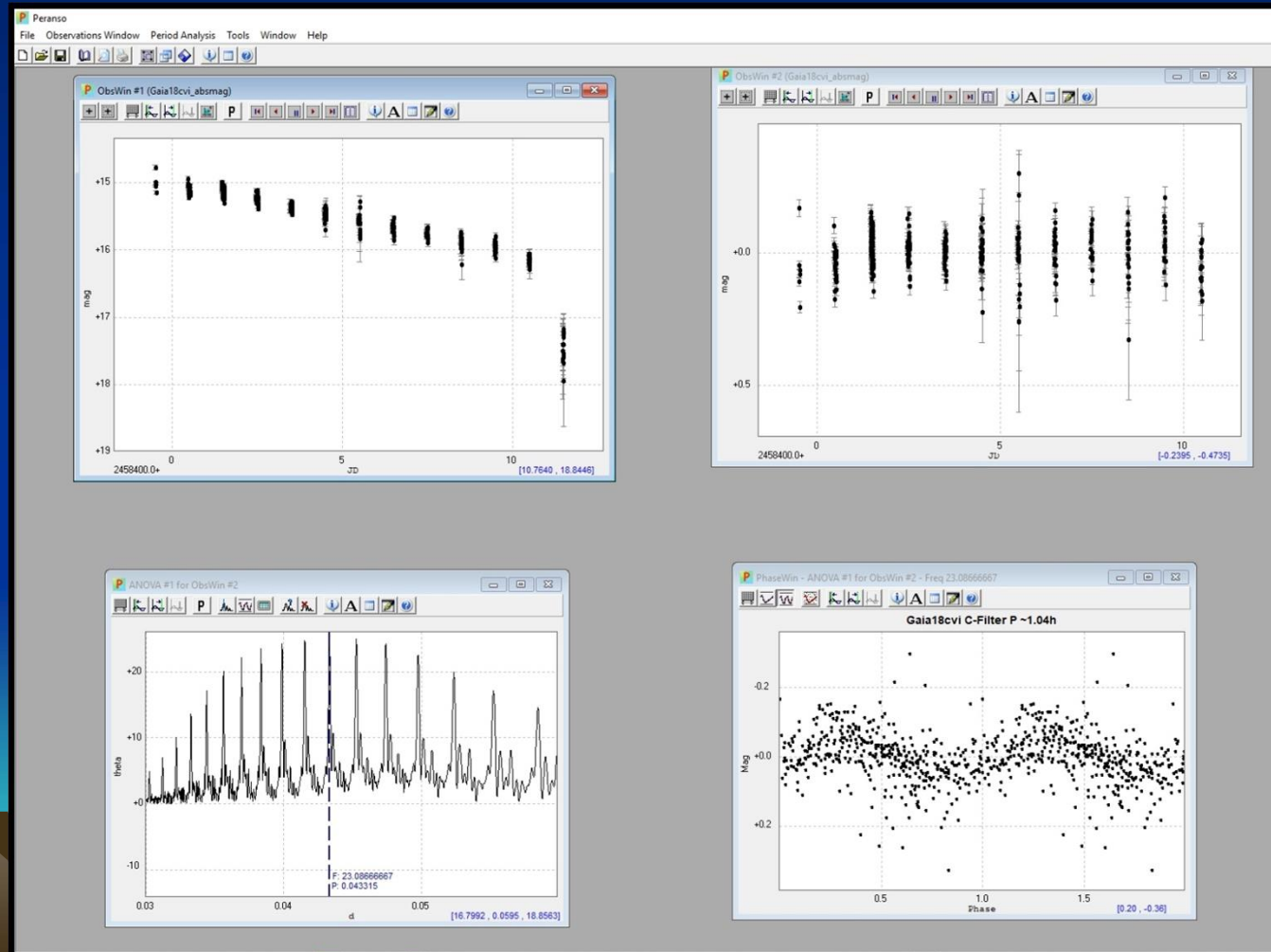


Gaia19bld is a highly magnified microlensing event in the Galactic disk ATEL#12948



GAIA CV follow up so far

- Gaia18cvi (CV, C filter observed for several nights)

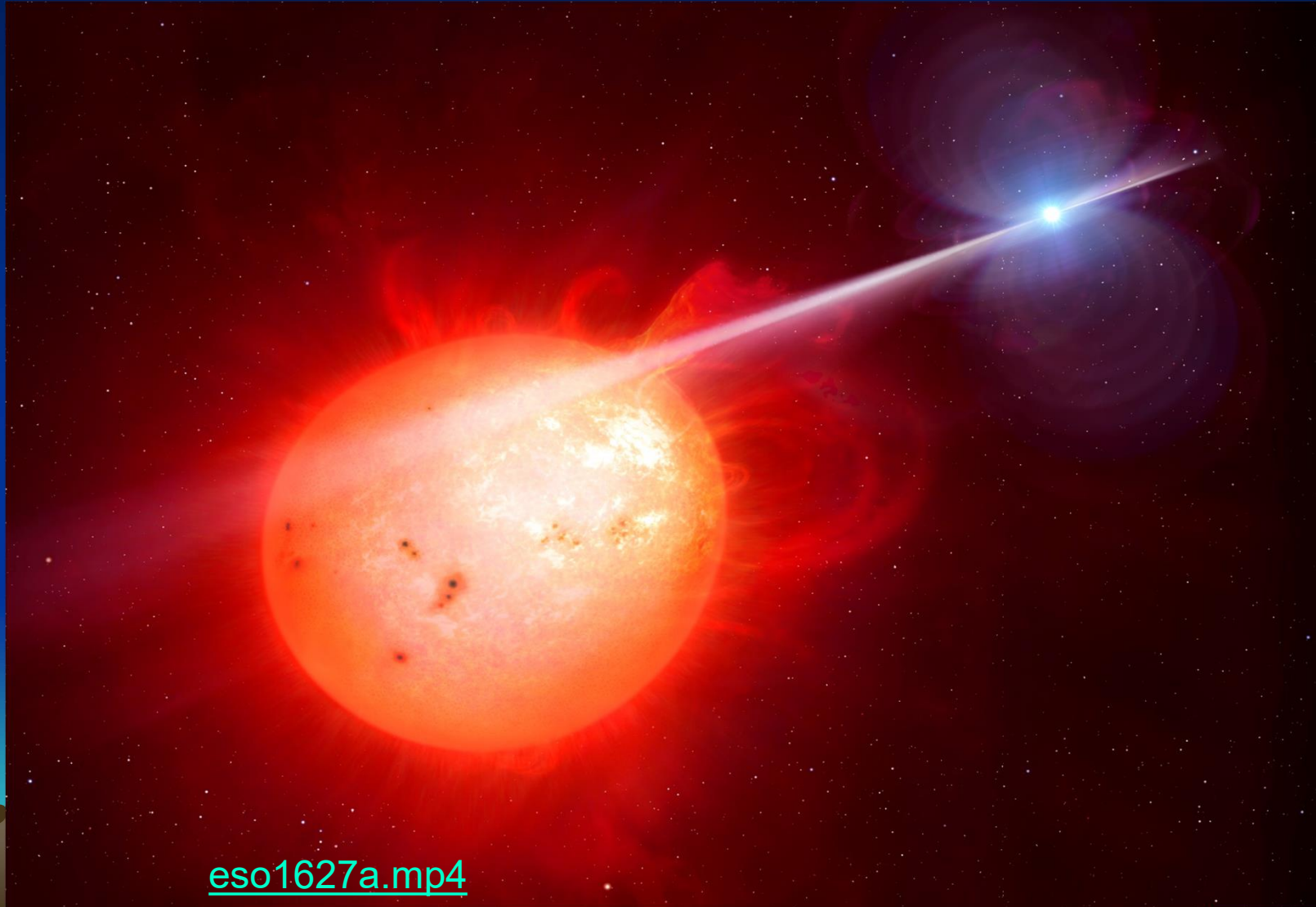


ROAD highlights

- AR Sco, first white dwarf pulsator (Nature paper)
- J1407 ring system
- WD1145 a zombie star
- Intensive novae observations
- Cataclysmic variables
- Luminous blue variables
- RR Lyr stars
- ...
- **Most of the papers (85+) with co-authorship can be found on ARXIV**
searching for Hambsch

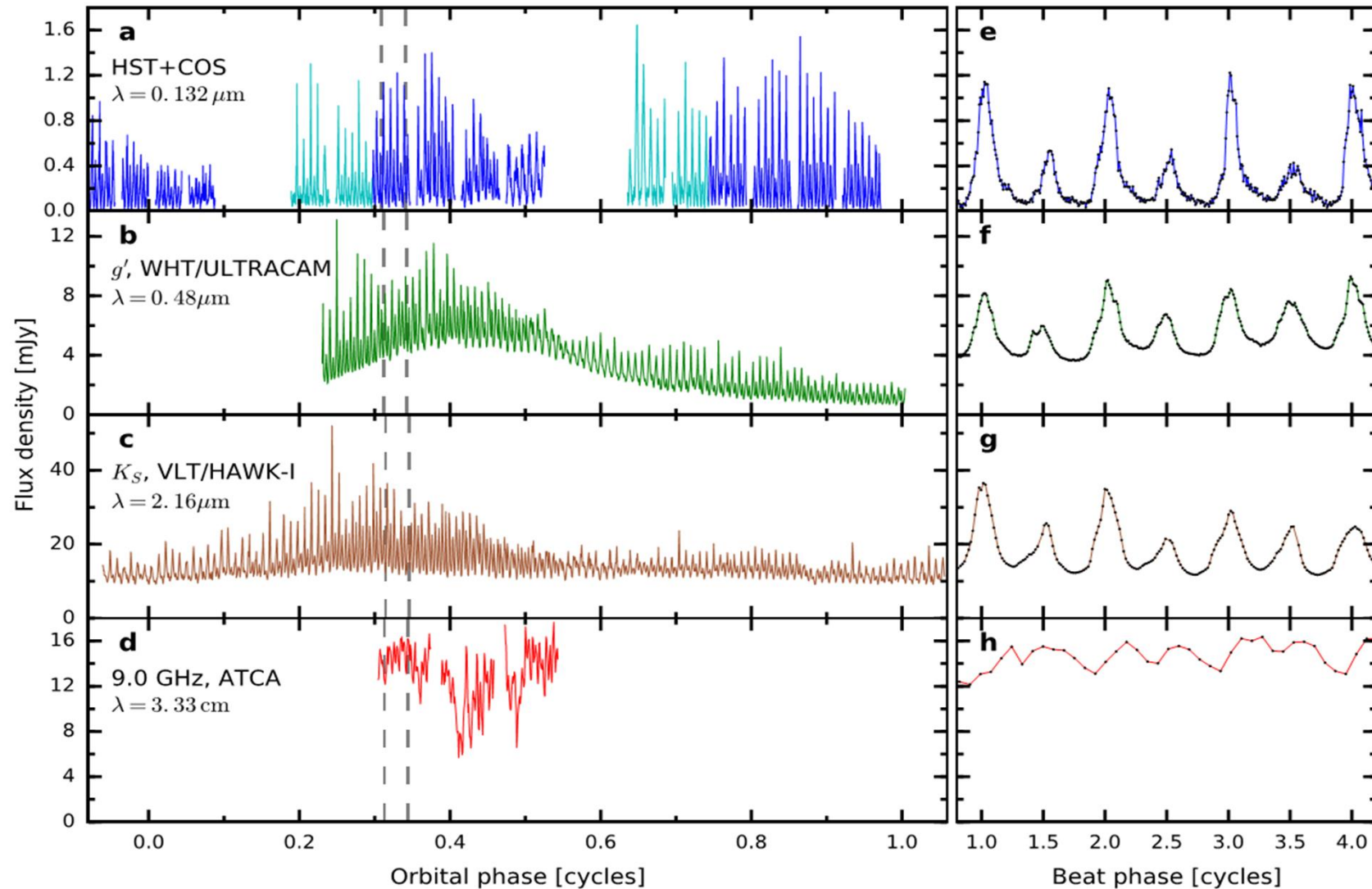


Artist's impression of the exotic binary star AR Sco (1st white dwarf pulsar)



[eso1627a.mp4](#)

High-speed measurements in different wavelengths



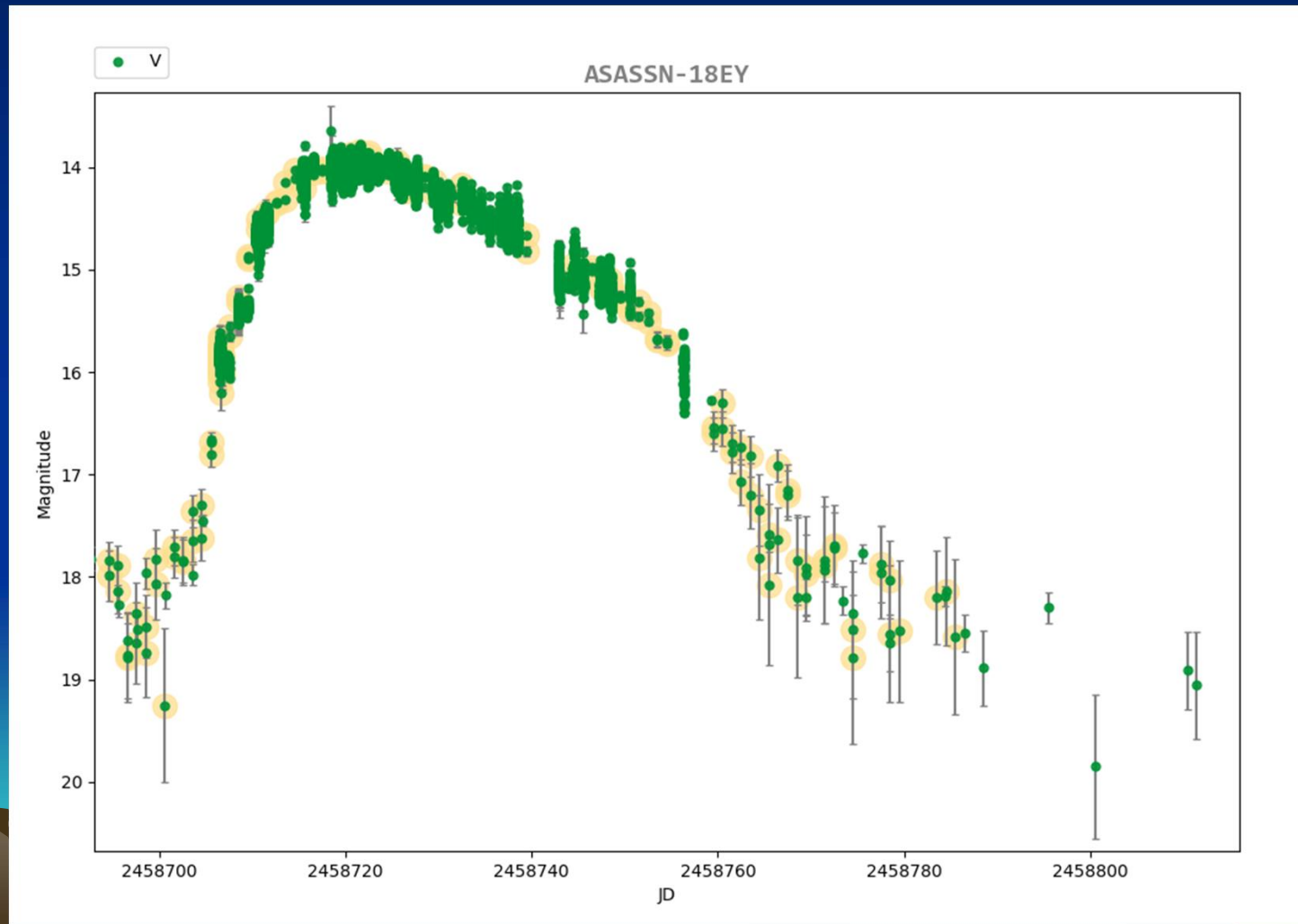
UV

g'

K

Radio

Optical Rebrightening of ASASSN-18ey = MAXI J1820+070 ATEL#13014



Conclusions

- Variable stars observations open lots of possibilities for an amateur to contribute to scientific research
- Participation in AAVSO Alerts and requests for observations (e.g. PALE RED Dots campaign, ASASSN- targets, GAIA alerts,...)
- Collaboration with many prof. astronomers (see ARXIV: Hambsch, 85+ refereed papers)



Thank you for your attention

