



ONDREJOV EXOPLANET GROUP

J.SUBJAK, P. KABATH, M. SKARKA, T. KLOCOVA, M. BLAZEK, M. SPOKOVA, J. DVORAKOVA, J. ZAK, D. DUPKALA

1) ASTRONOMICAL INSTITUTE OF CZECH ACADEMY OF SCIENCES, FRICOVA 298, ONDREJOV, CZECH REPUBLIC

Astronomical Institute
of the Czech Academy of Sciences

Ondrejov Echelle Spectrograph (OES), ground based support of space missions

OES is an echelle spectrograph installed at Perek 2-m telescope operated by Czech Academy of Sciences, Czech Republic. We restarted the operations with OES, and use it mainly for ground-based follow-up of exoplanetary candidates.

Spectral resolution: 50,000
Wavelength coverage: 370-850 nm
Detector: 2kx2k CCD
Calibration lamp: ThAr
RV accuracy: 40 m/s

Official website: <http://stelweb.asu.cas.cz/exogroup/>



Activities

- OES RV follow-up of K2/KEPLER/TESS candidates
- Initial screening of candidates for PLATO foreseen
- Characterization of hot-Jupiters and BDs
- Characterization of host stars for the candidate systems
- Transmission spectroscopy of exoplanets
- Occultation photometry of exoplanets
- Influence of stellar activity on exoplanets

Memberships:

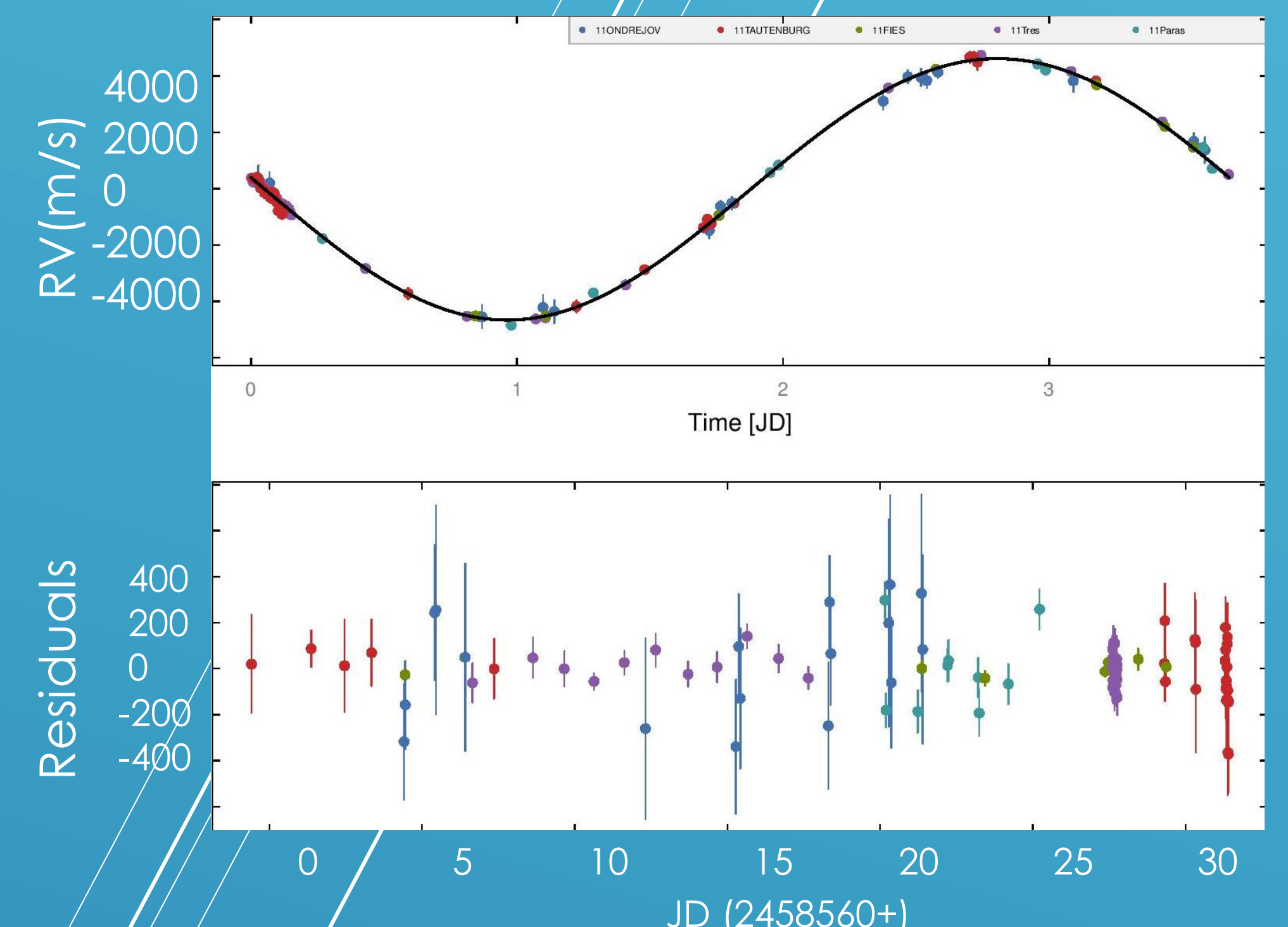
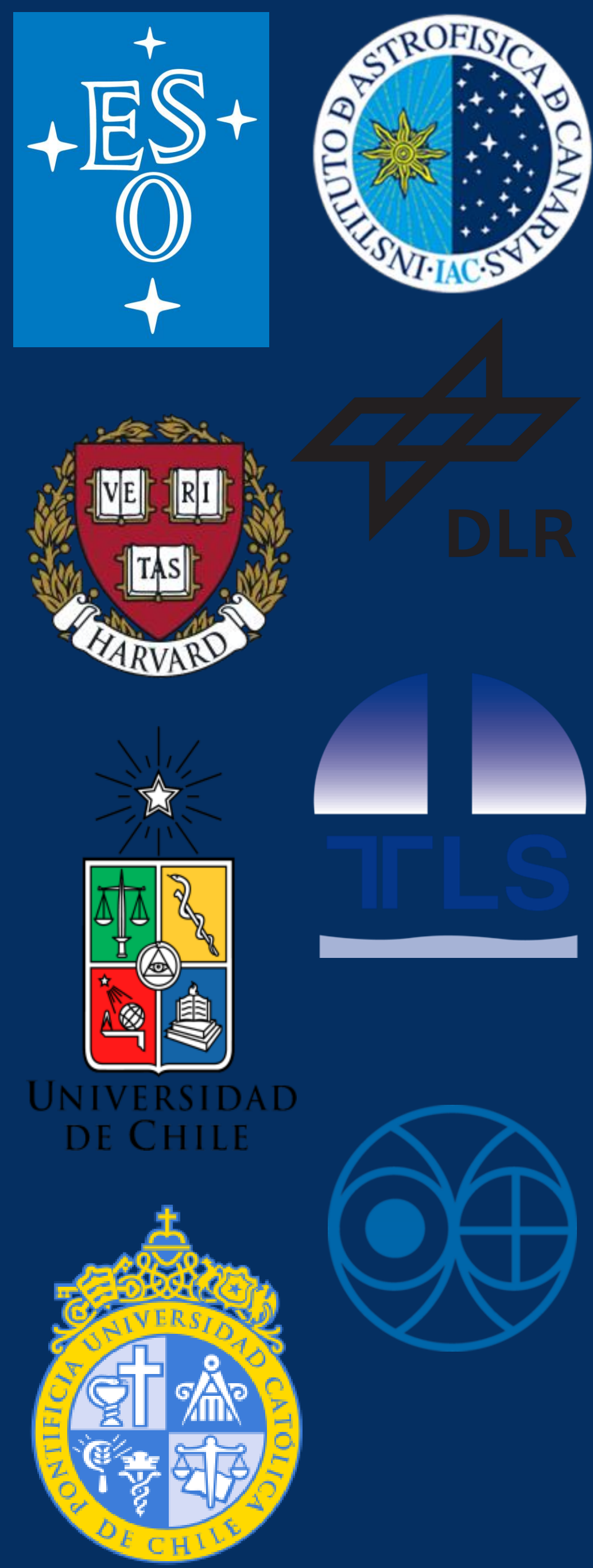
- Central Europe monitoring network (Thuringer Landessternwarte Tautenburg and others)
- KESPRINT consortium

Selected publications:

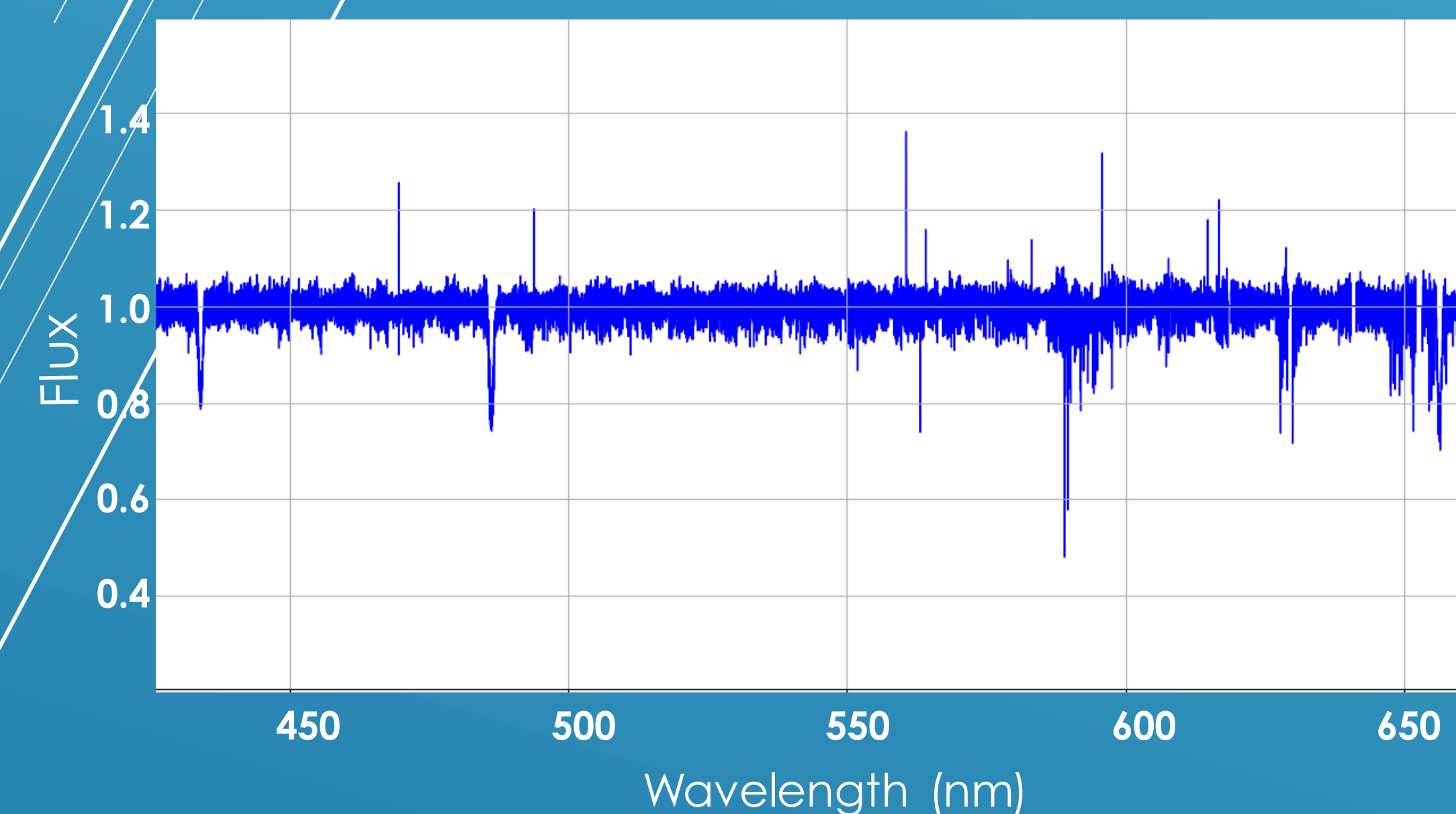
- Skarka, M., et al. 2019, MNRAS, 487, 4230, HD 99458: First time ever Ap-type star as a δ Scuti pulsator in a short period eclipsing binary?
- Kabath, P., et al. 2019b, PASP, 131, 085001, Detection Limits of Exoplanetary Atmospheres with 2 m Class Telescopes
- Klocova, T., et al. 2017, A&A, 607, A66, Time-resolved UVES observations of a stellar flare on the planet HD 189733 during primary transit



Collaborations



RVs (blue ones) obtained with OES spectrograph from Ondrejov,CZ



Example of a spectrum obtained with OES spectrograph from Ondrejov,CZ

PLATOSpec

We are leading the PLATOSpec project. PLATOSpec will be a state-of-the-art echelle spectrograph with high spectral resolution $R=70k$, which will be dedicated to ground-based support of space missions TESS, PLATO and later ARIEL. See the poster of P. Kabath for more details.



Official website: <https://stelweb.asu.cas.cz/plato/index.html>

PLATO space mission

Exoplanet group is coordinating Czech contribution to PLATO Space Mission. OES will be used as a follow-up instrument for PLATO planetary candidates in the northern hemisphere. We will perform an initial screening of candidates and characterization of hot-Jupiters.

TOI-503

We are working on a paper about the first brown dwarf discovered by TESS and orbiting a metallic-line A-type star. The paper is in preparation and will be the result of a collaboration between Harvard University, PRL India, and the KESPRINT consortium.

