



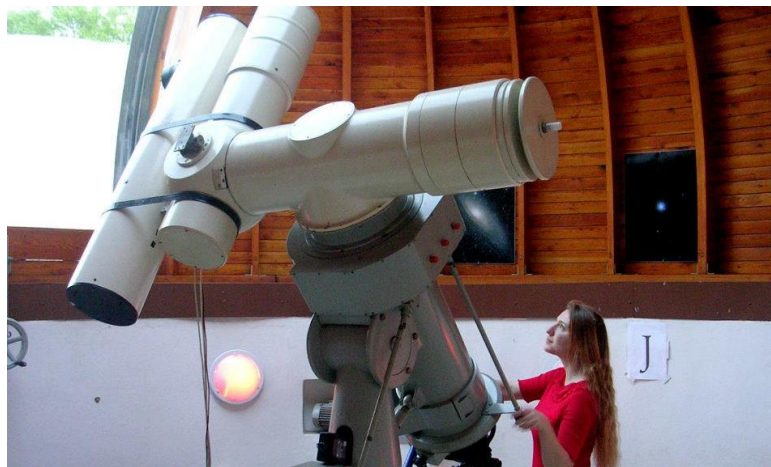
AMATEUR CZECH ASTRONOMICAL SOCIETY  
OBSERVATION AND RESEARCH OF EXOPLANETS

KATEŘINA HOŇKOVÁ

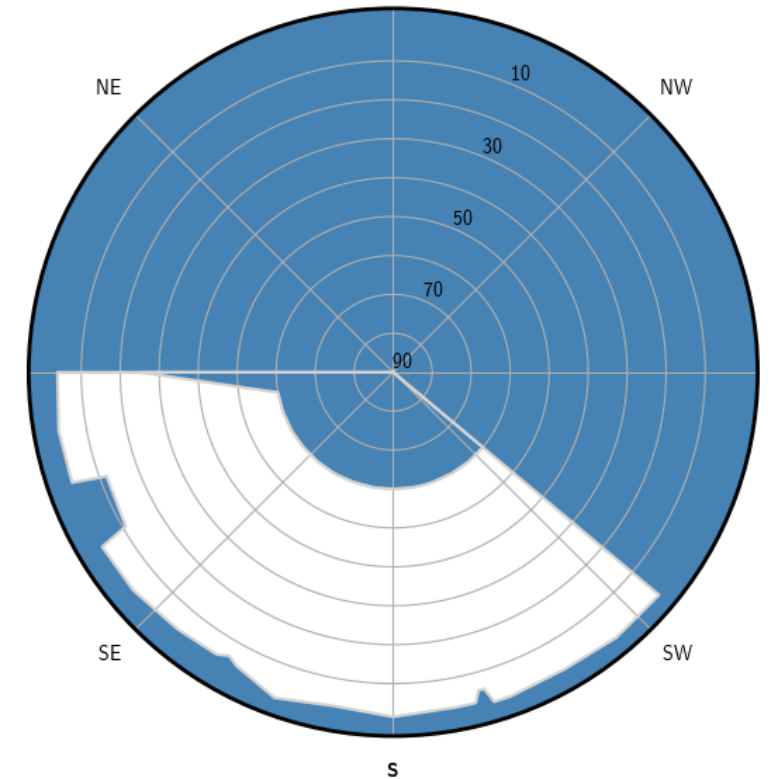
EUROPLANET PRO-AM EXOPLANET OBSERVATIONS WORKSHOP 2019, 25TH APRIL 2019

# ABOUT ME

- 2009 - Astronomical course in Ostrava observatory
- 2010 – Night guide for public observation
- 2011 – Variable star observer (Mira-type stars, eclipsing binary, exoplanets)
- 2012 – member of VSES
- From 2013 – VSES executive committee
- From 2013 – start my PhD in molecular biology and genetics, work in Dpt. Genetic Toxicology in Institute of Experimental Medicine the Czech Academy of Sciences



Kamyk Observatory (50.01N, 14.44E, 290 m.n.m.)  
N



# ABOUT SOCIETY

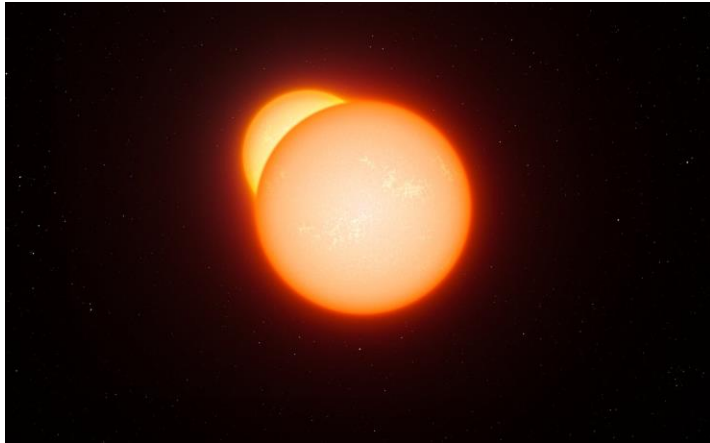
**Variable Star and Exoplanet Section of Czech Astronomical Society** was found in 1924 (as Variable Star Section of CAS). Since the time, it's an organisation coordinating research and observing of variable stars and exoplanet in Czech republic. Members of our Section are mostly advanced amateur and professional astronomers.



# ABOUT SOCIETY

- Observing variable stars and exoplanets
- Tutorials of data processing and observing (usually in Czech)
- Regular meetings (conferences, summer schools or workshops)
- YouTube channel with presentation from these meetings
- Publication - popular and also scientific - OEJV
- Monitoring the candidates to observe (variable stars and exoplanets)

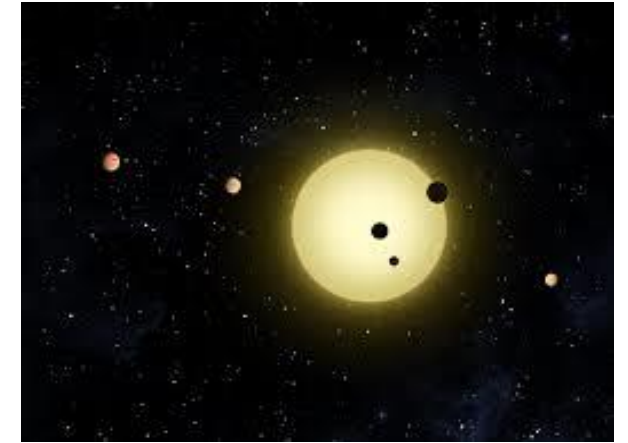




Eclipsing binaries  
(B.R.N.O.)



Long-term pulsating  
variable stars (MEDÚZA)



Transits of exoplanets  
(TRESKA/ETD)

OBSERVING PROJECTS OF VSES CAS

# IMPORTANT HISTORIC POINTS IN VSES CAS

ETD

Fist transit  
measured with  
3.5 cm telescope

CzeV343 Aur

V 838 Mon

# ETD ... complete ... worldwide ... continuously growing ...

## Exoplanet Transit Database

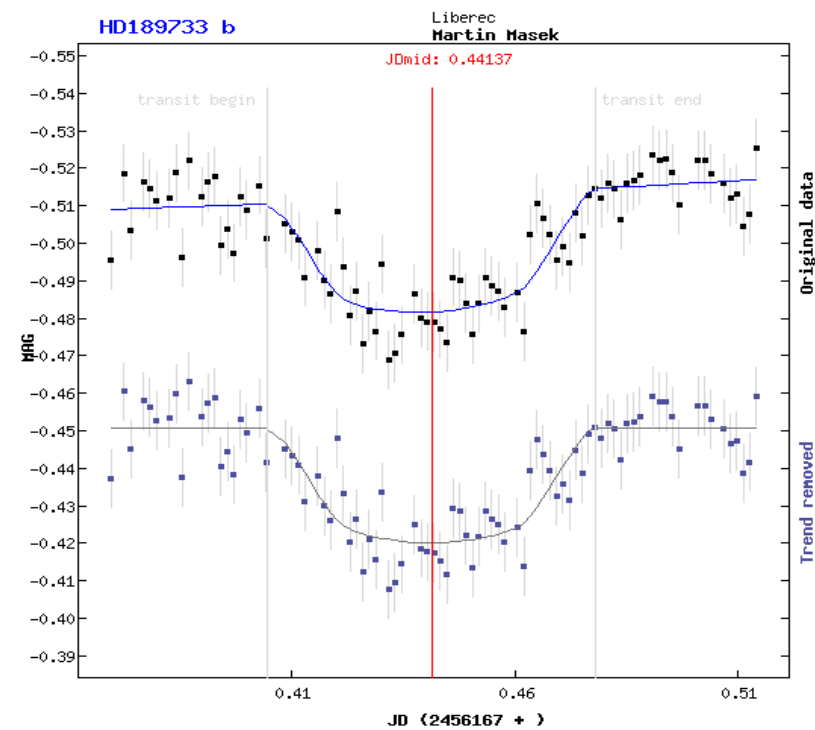
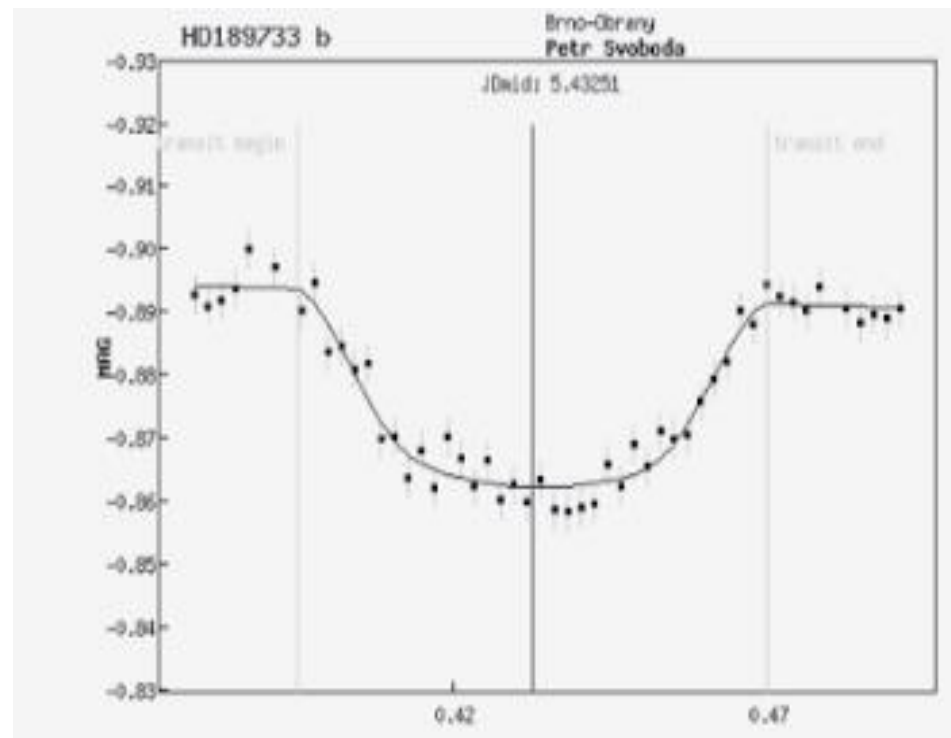
<http://var.astro.cz/ETD>



Luboš Brát

Start in 2008 – 25 exoplanets were known, 22 transits observed by Czech astronomers in 2008!

Petr Svoboda in 2008 observed the exoplanet transit with 3.5cm telescope. Observation with DSLR – Canon + Sonnar 180mmM. Masek



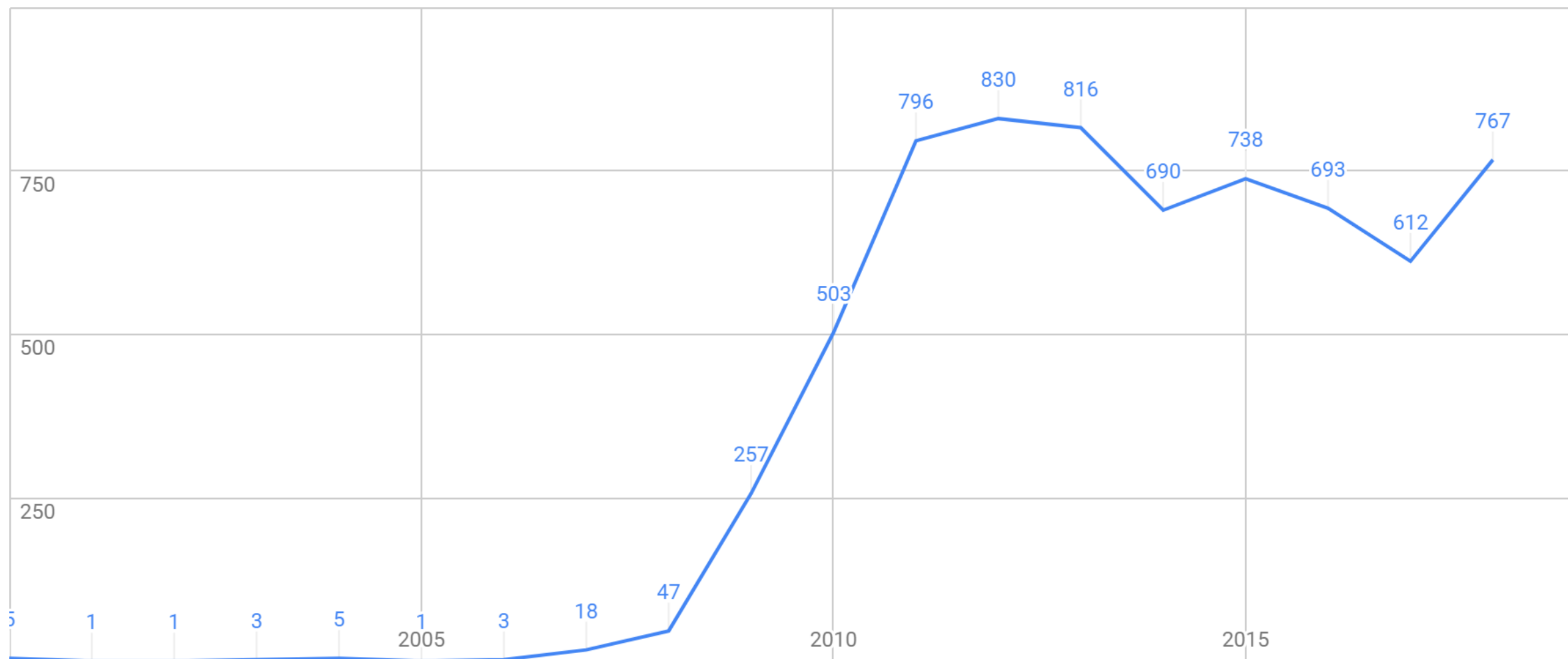
# ETD



... complete ... worldwide ... continuously growing ...

# Exoplanet Transit Database

<http://var.astro.cz/ETD>





# ETD



... complete ... worldwide ... continuously growing ...

# Exoplanet Transit Database

<http://var.astro.cz/ETD>

**7156 transits**

1031 observers of group of observers

## All prediction

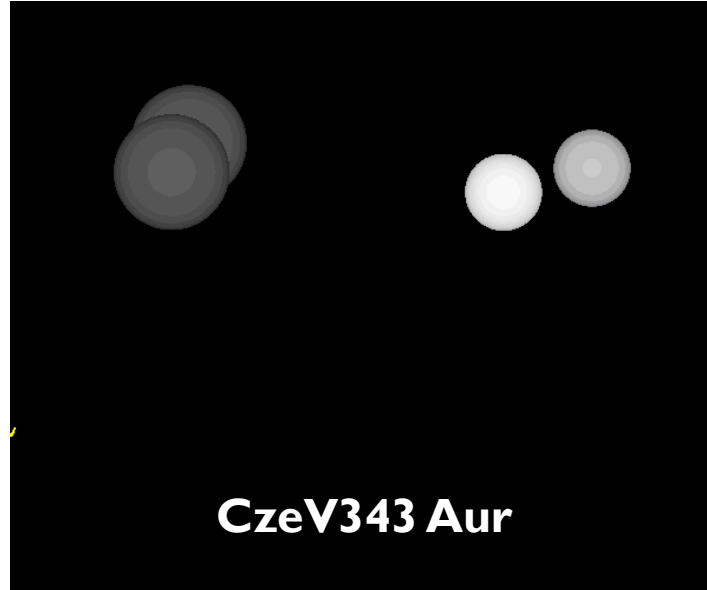
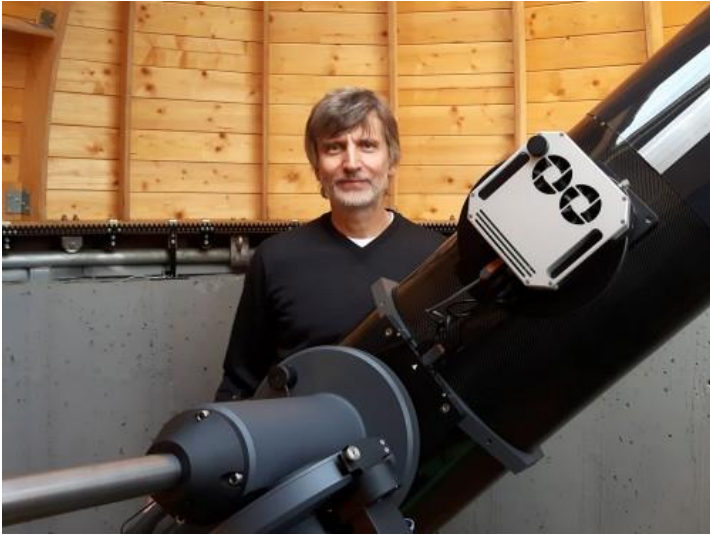
Kepler prediction

TESS prediction

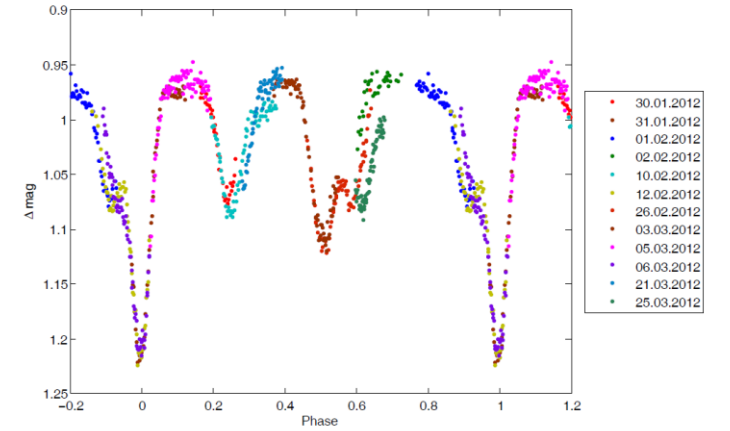
Only 5 active Czech and Slovak observers :(

|   |            |
|---|------------|
| <b>Rasteau observatory</b>                            | <b>225</b> |
| UAI B10 Baronnie Provençales Observatory              | 123        |
| Sedlčany  | 83         |
| Observatori Albany;                                   | 78         |
| Gruppo Astrofili Salese Galileo Galilei S.M di Sal... | 36         |
| Ribot Observatory                                     | 34         |
| Taurus Hill Observatory (A95), Varkaus, Finland       | 29         |
| MAS MOIXA MPC C86                                     | 22         |

Pavel Cagas



CzeV343 Aur



CZEV CATALOGUE  
(> 1700 NEW VARIABLE STARS)

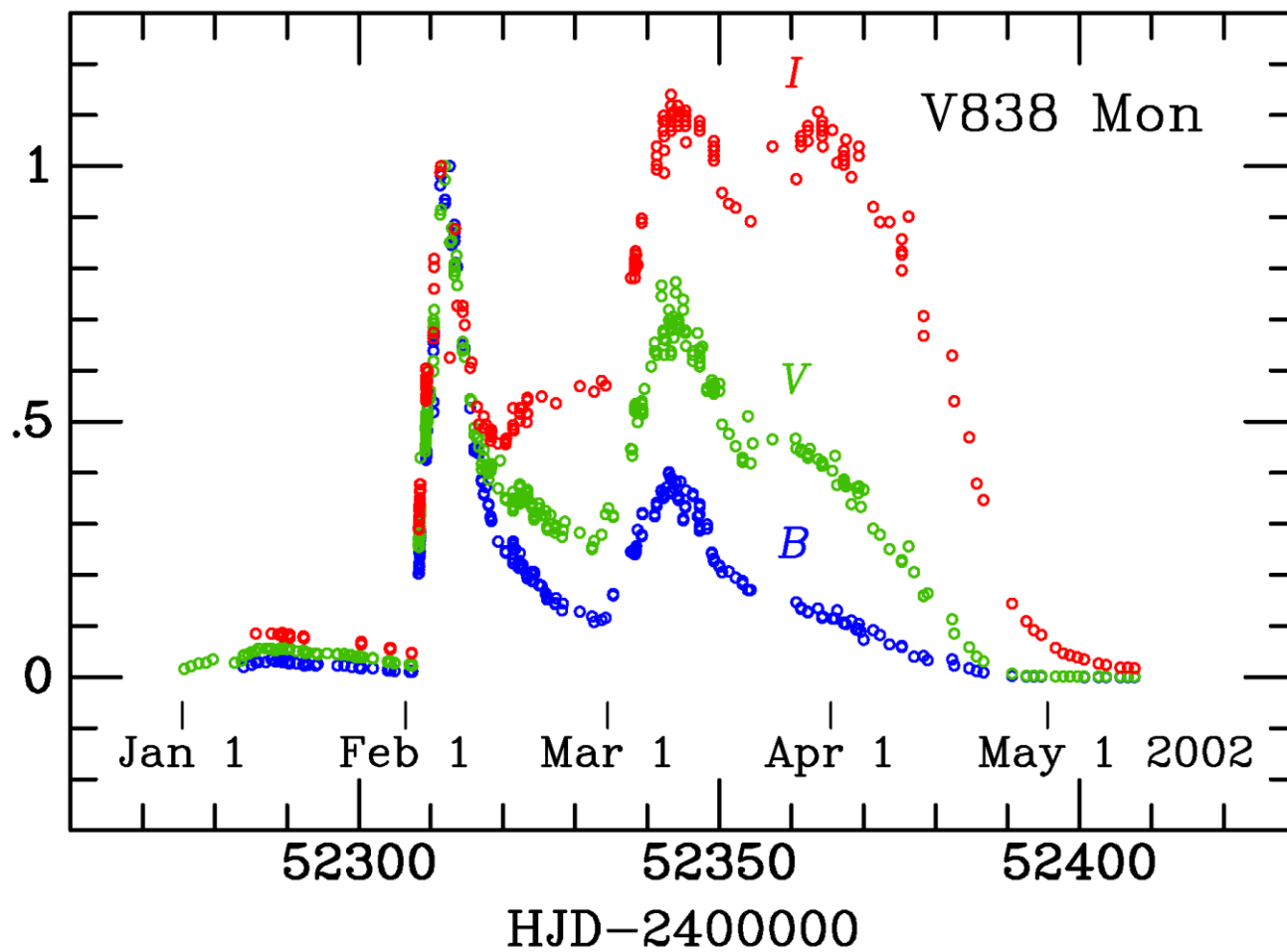
CzeV stats



# V838 MON



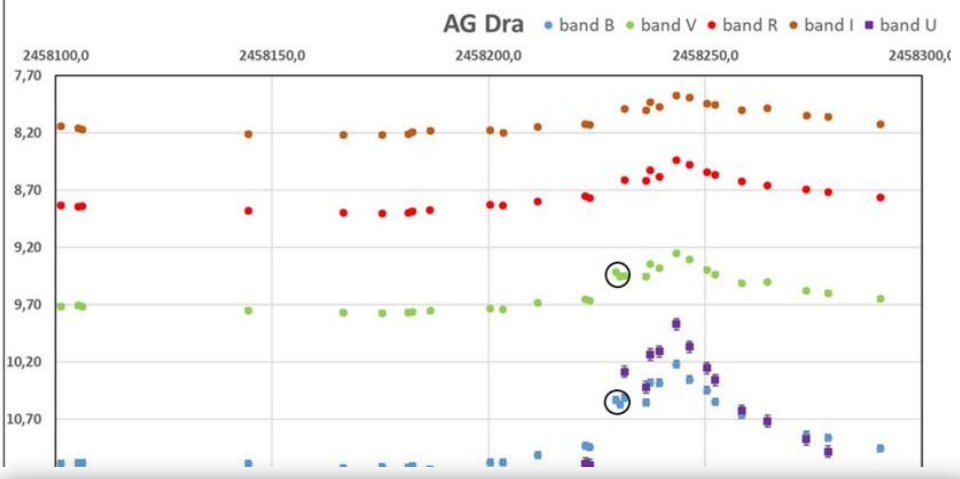
Normalized flux



# PUBLISHING RESULTS OF 2018

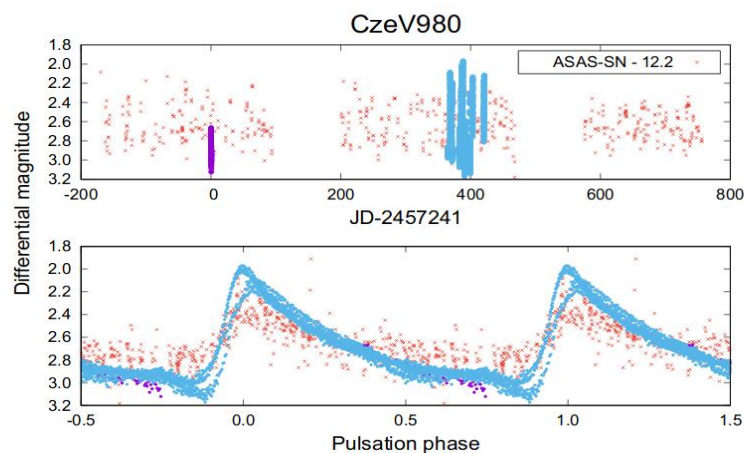
## SYMBIOTIC STARS

- M. Vrašťák, R. Gális: Observing spectri of symbiotic star AG Dra in flare on Spring seminar in Ondrejov observatory CAS. *ATEL*.



## CzeV discovered stars – RR Lyrae (Blazhko effect)

- M. Skarka, P. Cagaš 2018: Discovery of the Blazhko effect in V1065 Aql, CzeV980, FI Sge and CzeV1242. *IBVS*.

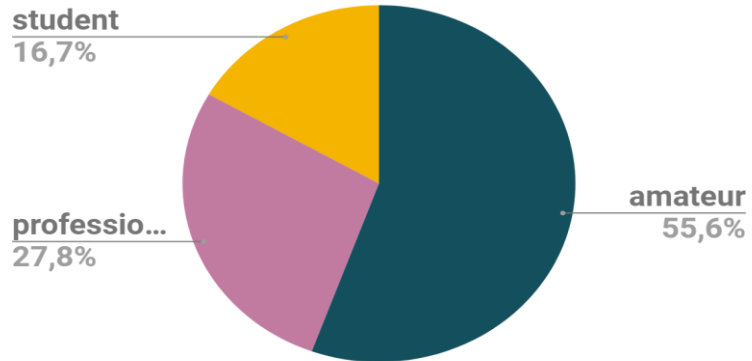


## ERUPTIVE ECLIPSING BINARY

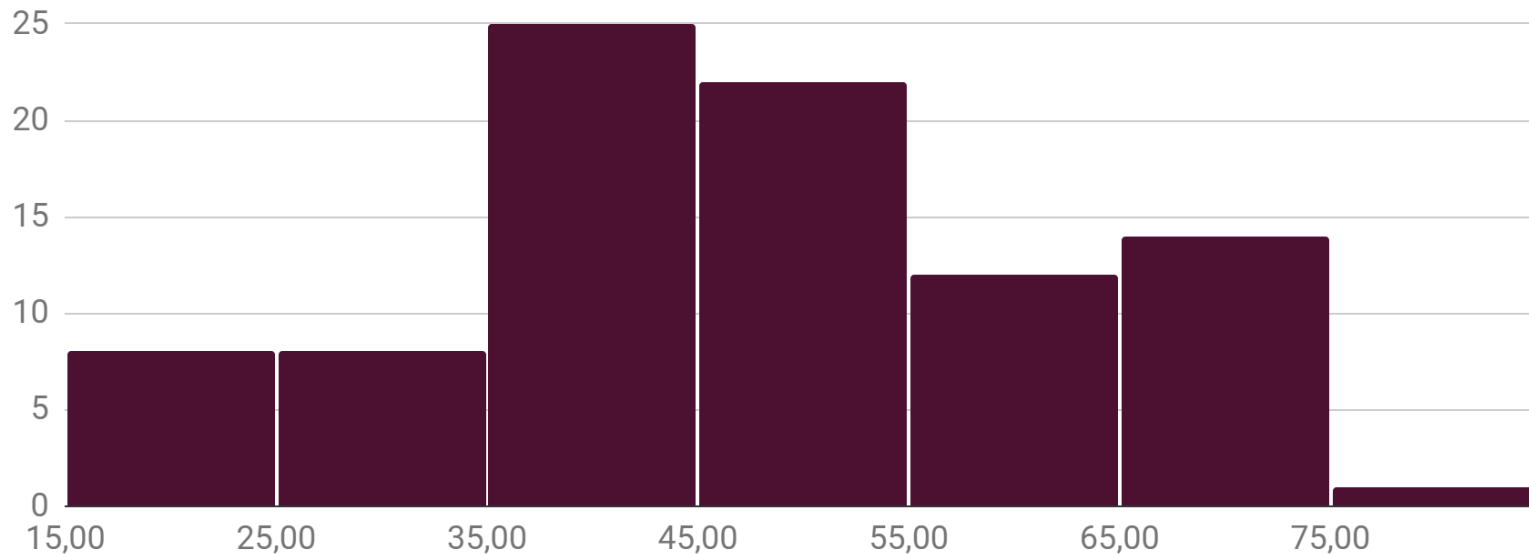
- Šmelcer L. et al, 2018: Eruption activity of a new eclipsing binary TYC 5112-252-1, *OEJV*.



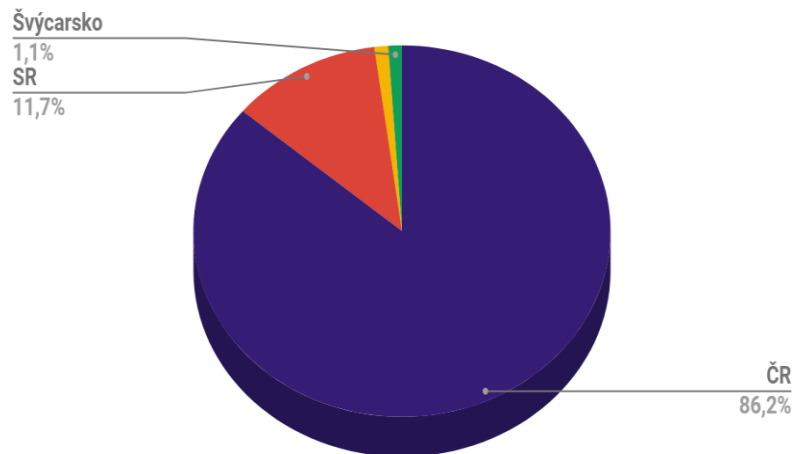
Memberships



Memberships - age histogram



Memberships - nationality



# MEMBERSHIPS

VSES - 95 MEMBERS (ONLY 40% ACTIVE!), CAS - 650 MEMBERS

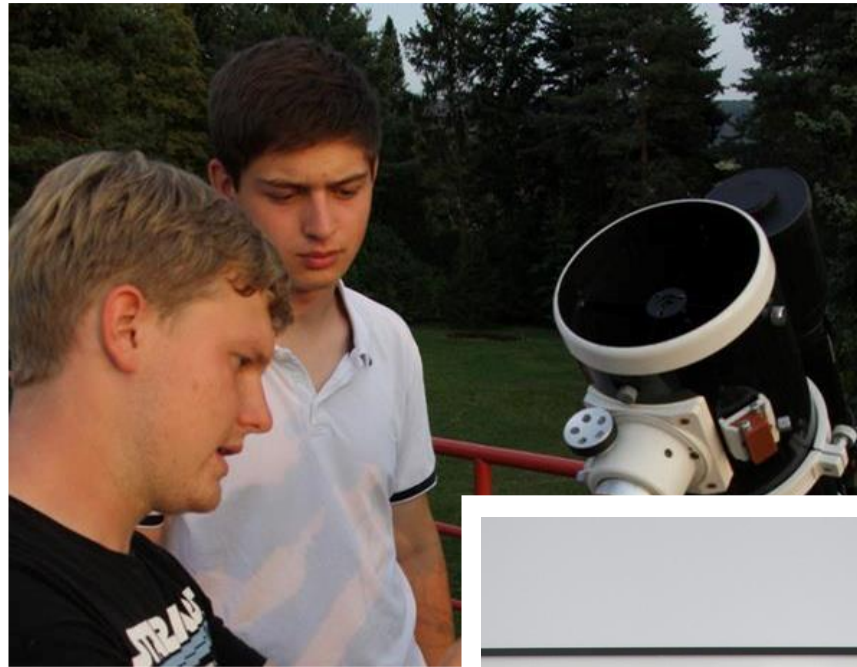
VSES - 6 €, CAS - 20 €

# VARIABLE STAR MEETINGS AND WORKSHOPS

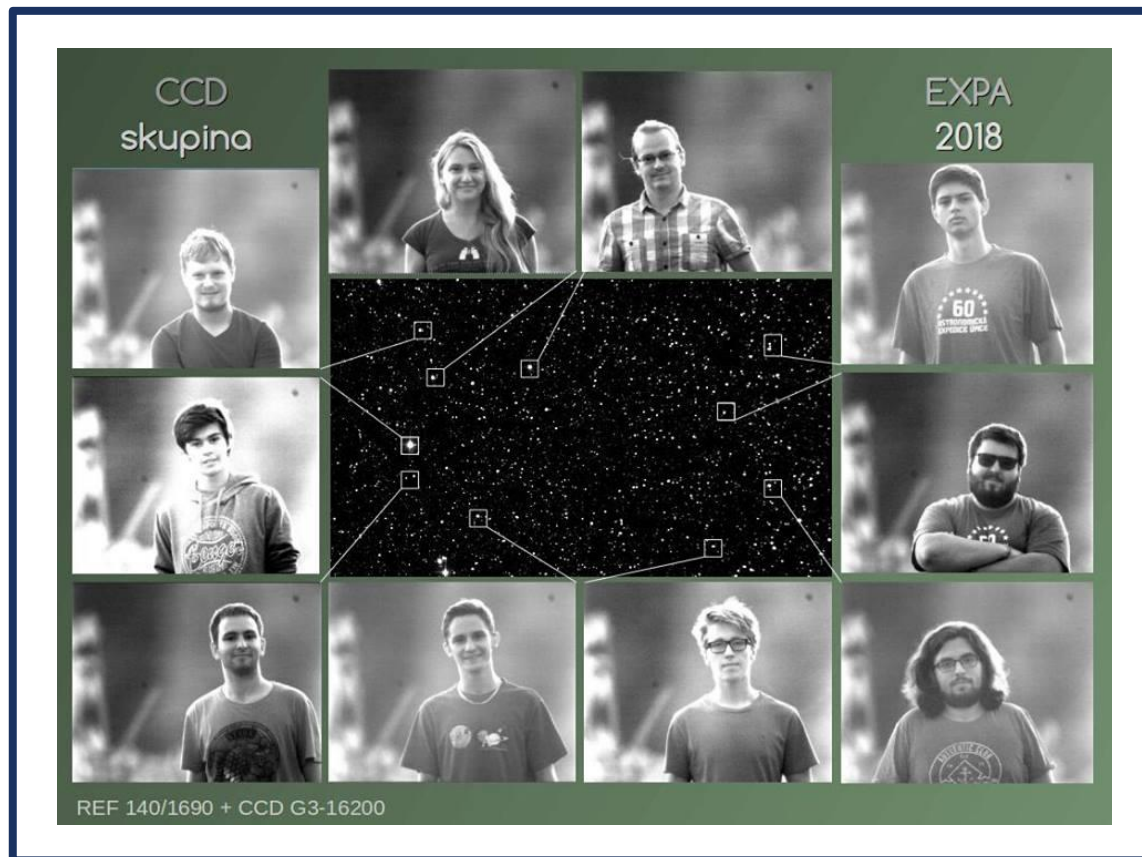
Spring  
workshops

Summer  
school for  
observers

International  
conference on  
variable star



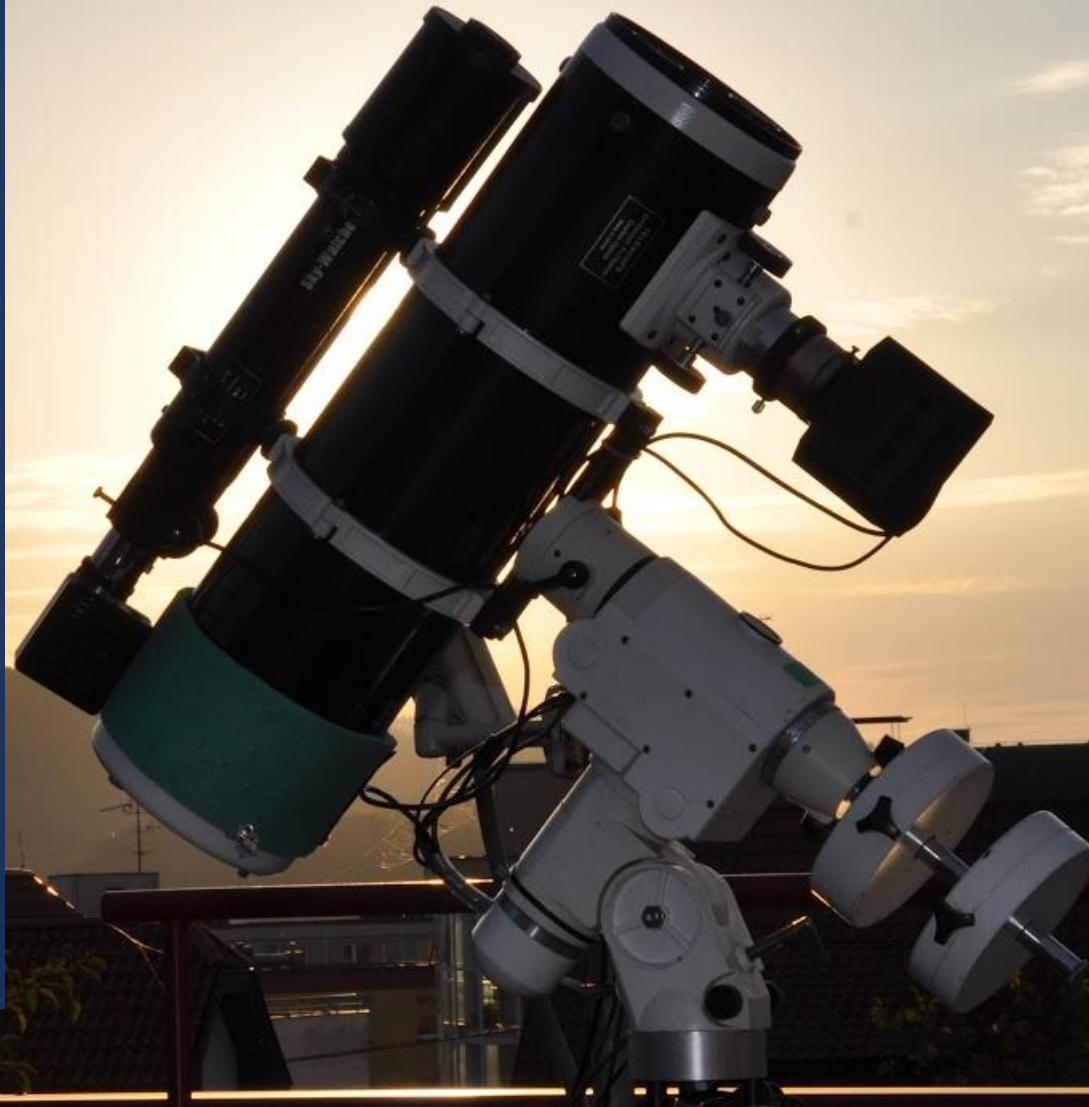
# ASTRONOMICAL EXPEDITION IN UPICE OBSERVATORY



- Two-weeks summer camp in Upice observatory (near Giant Mountains National Park) for young people (15-26 age).
- Systematic observing DSO, Moon, meteors and asteroids, astrophotography, radioastronomy and CCD measuring.
- Intensive education in observing of variable stars and exoplanets, data processing and data publication.
- Four semi-professional set of equipment (cooled CCD cameras, GoTo mounts, 150-300 mm telescopes) for in situ observation.
- Remote observation by VSES telescope or robotic telescope in Argentina, Chile etc.

# VSES TELESCOPE

- Terrace in observatory Valašské Meziříčí, Moravia, Czech Republic
- Remote controlled telescope for VSES members (and others)
- NWT 150/750 + HEQ 5 GoTo
- CCD G2-1600 + CCD GI-0300 + CCD GI-0300
- BVRI filters
- SIPS + TeamViewer







THANK YOU  
FOR YOUR  
ATTENTION

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