

Masaryk University and ESA



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Masaryk University

Faculty of Sciences	1919
Faculty of Law	1919
Faculty of Medicine	1919
Faculty of Arts	1919
Faculty of Education	1946
Faculty of Economics	1991
Faculty of Informatics	1994
Faculty of Social Studies	1998
Faculty of Sport Studies	2002
+ CEITEC	2014

5600 employees
32000 students



Department of Theoretical Physics and Astrophysics

5 Professors (2+3)

6 Associate professors (4+2)

5 Assistant professors (3+2)

79 Students



Fields of interest:

- Stellar variability
- Stellar atmospheres and winds
- Stellar magnetic fields
- Star clusters
- Exoplanets
- Galaxies and galaxy clusters
- GRB



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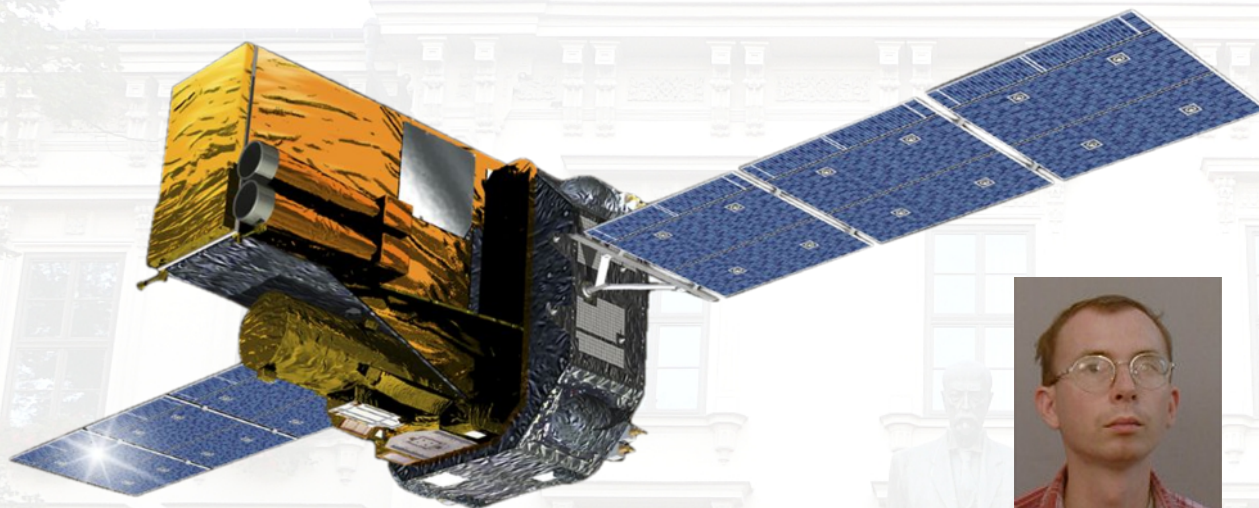
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Need for the space data

DTPA and ESA - INTEGRAL



International Gamma-Ray Astrophysics Laboratory (2002)

Software development for the OMC
(optical monitoring camera)

Dr. Filip Hroch

Talk by R. Hudec Thursday

Monthly Notices

of the

ROYAL ASTRONOMICAL SOCIETY

MNRAS **459**, 4360–4377 (2016)

Advance Access publication 2016 April 15

doi:10.1093/mnras/stw851

Cyclic variations in $O-C$ diagrams of field RR Lyrae stars as a result of LiTe

J. Liška,¹ M. Skarka,^{1,2} M. Zejda,¹ Z. Mikulášek¹ and S. N. de Villiers³

¹Department of Theoretical Physics and Astrophysics, Masaryk University, Kotlářská 2, CZ-611 37 Brno, Czech Republic

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COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS
Number 5996

Konkoly Observatory
Budapest
17 August 2011

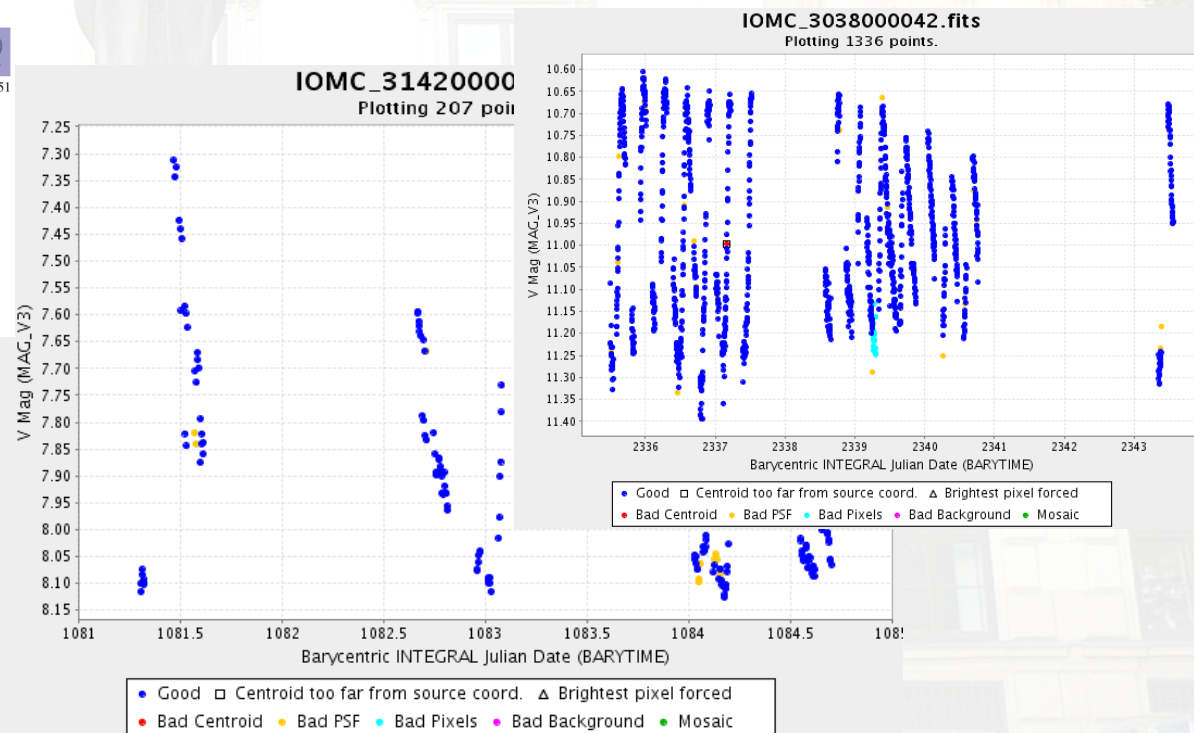
HU ISSN 0374 – 0676

REFERENCE FRAME AND TIME STANDARD USED IN INTEGRAL/OMC DATASETS

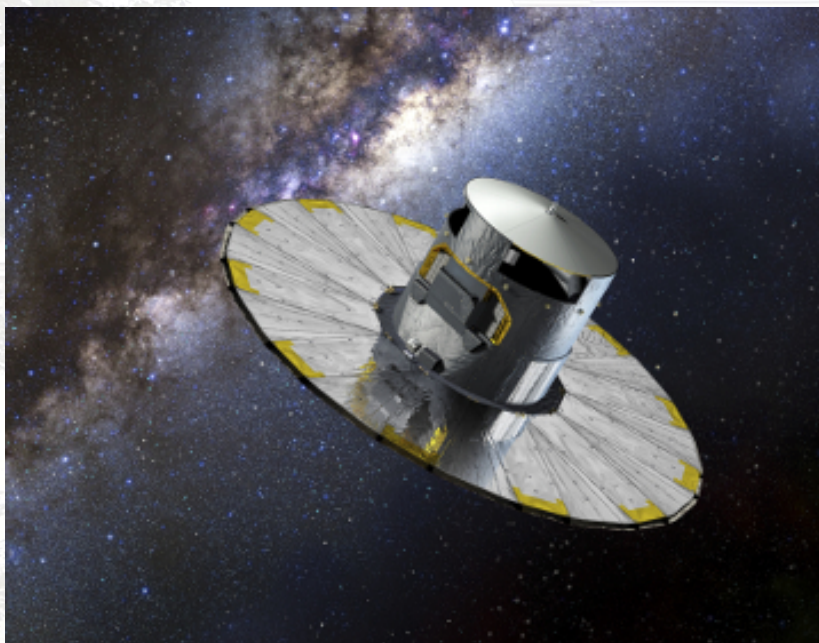
ZEJDA, MILOSLAV¹; DOMINGO, ALBERT²

¹ Department of Theoretical Physics and Astrophysics, Masaryk University, Kotlářská 2, CZ 611 37 Brno, Czech Republic, e-mail: zejda@physics.muni.cz

² Centro de Astrobiología (INTA-CSIC) POB 78, 28691 Villanueva de la Cañada, Madrid, Spain. e-mail: albert@cab.inta-csic.es

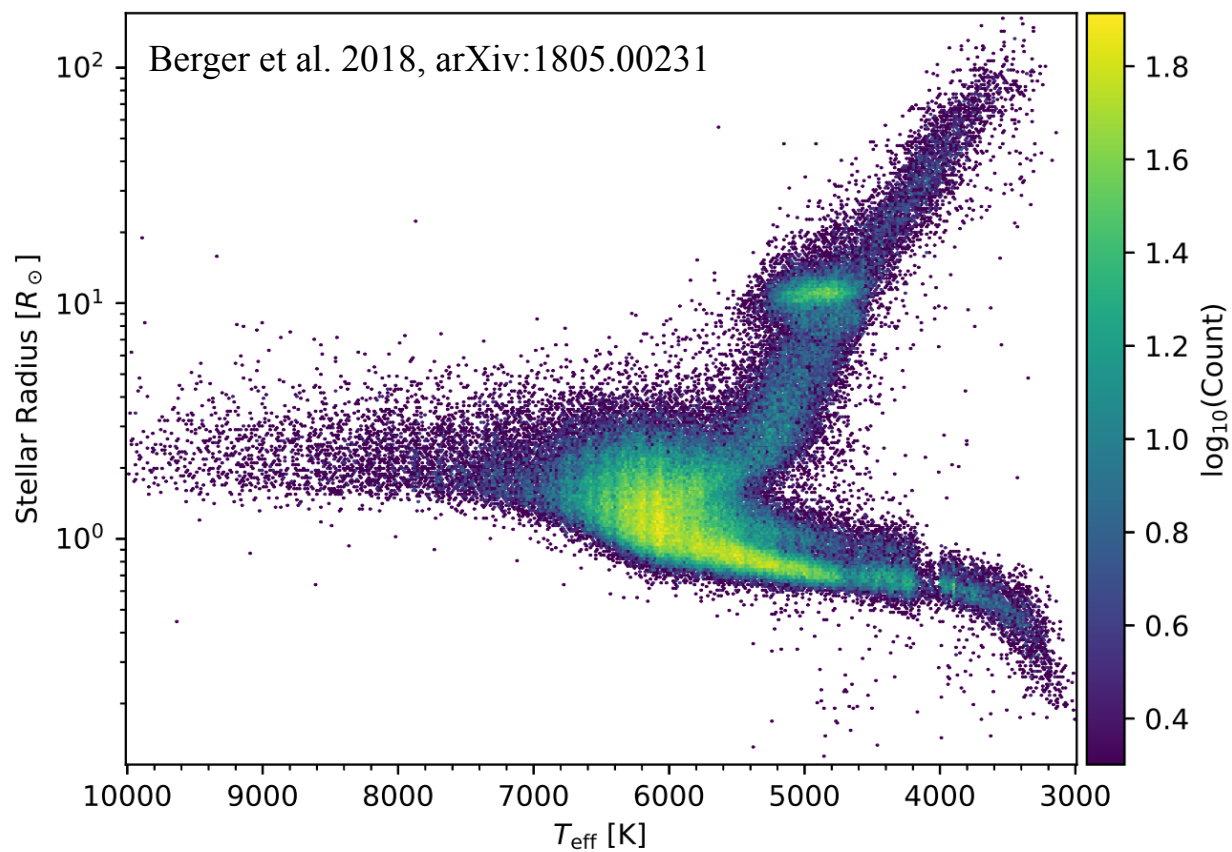
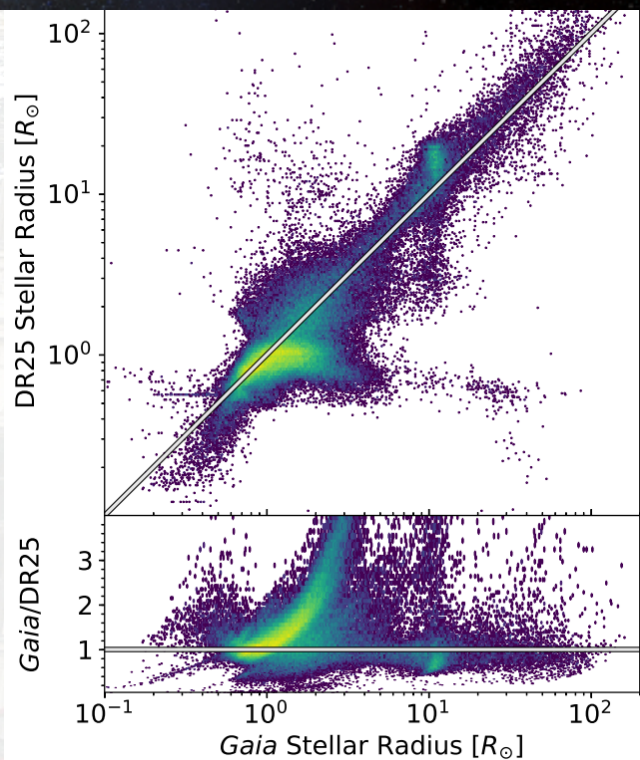


DTPA and ESA - GAIA

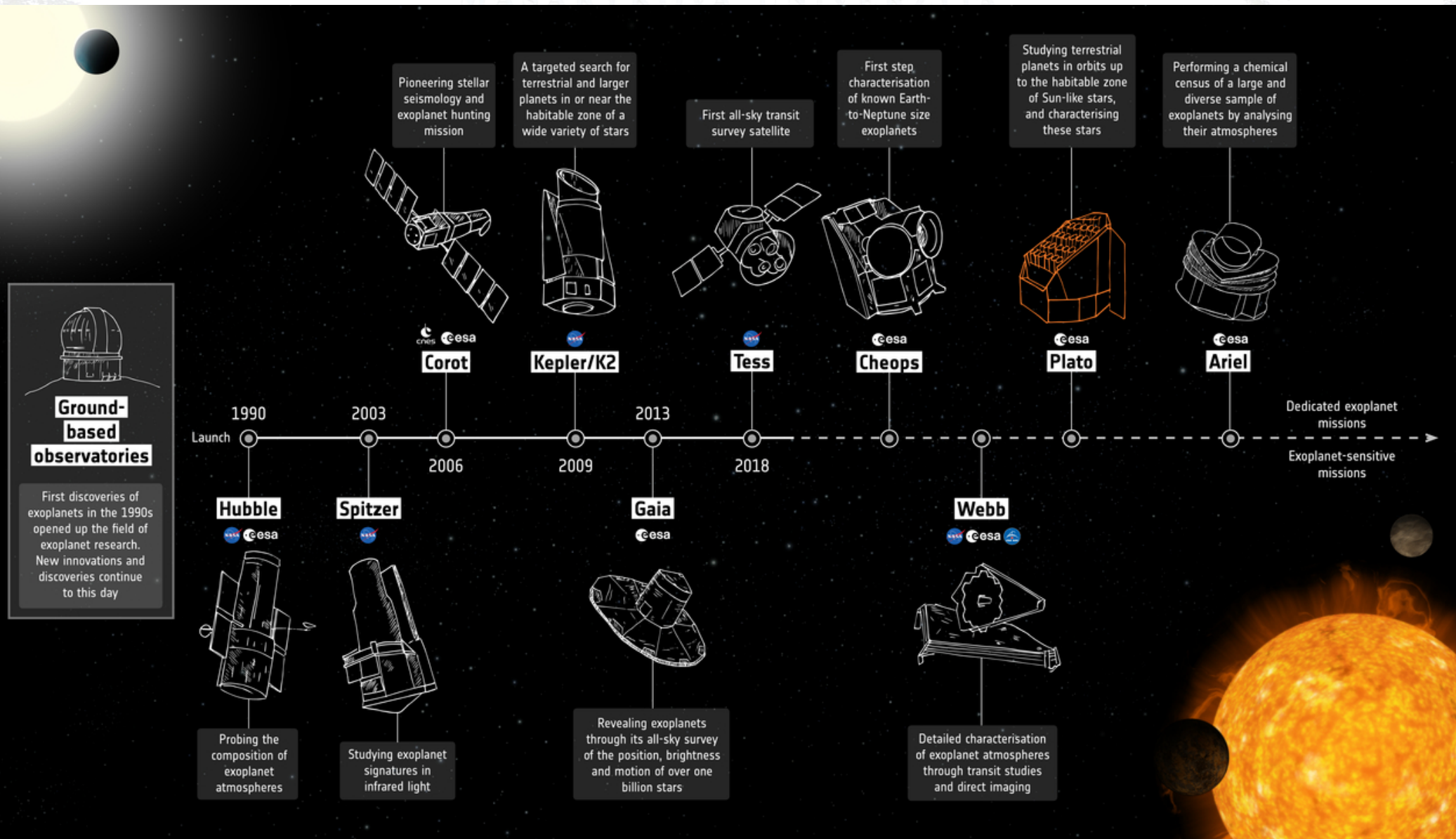


Global Astrometric Interferometer for Astrophysics (2013)

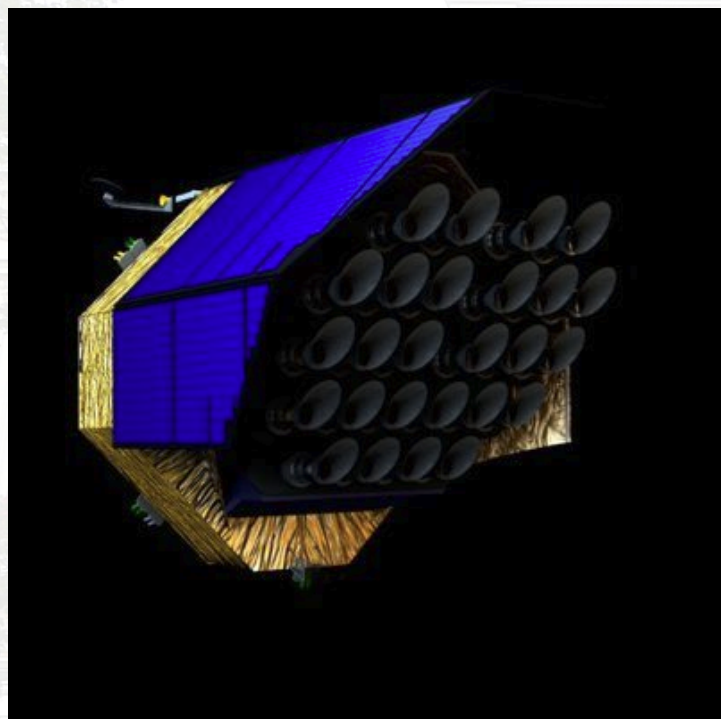
Major impact on stellar astrophysics



DTPA and ESA – Future missions



DTPA and ESA – Future missions



PLAnetary Transits and Oscillations of stars

Primary goals: Detection and characterisation of terrestrial exoplanets around bright solar-type stars, with emphasis on planets orbiting in the habitable zone.



Launch in 2026(?)

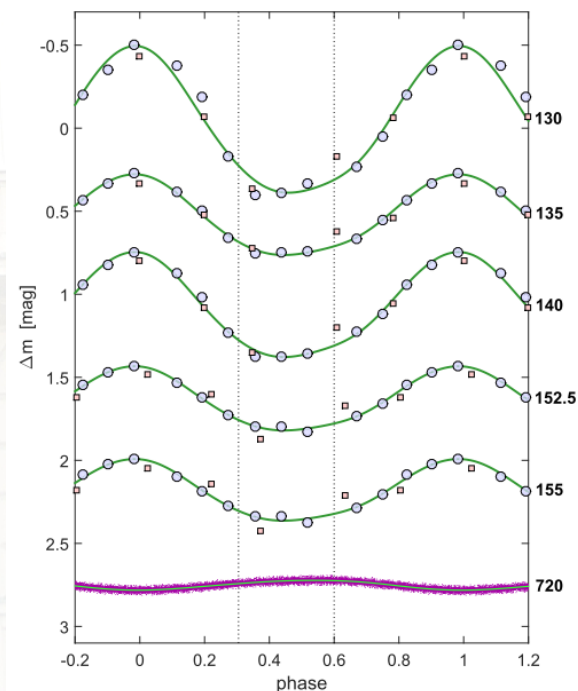


Echelle spectograph	Parametere value
Wavelength coverage	360-680 nm
Spectral resolution	70k
Thermal stability	0.1deg
RV accuracy	3m/s
Calibration	ThAr+Iodine cell

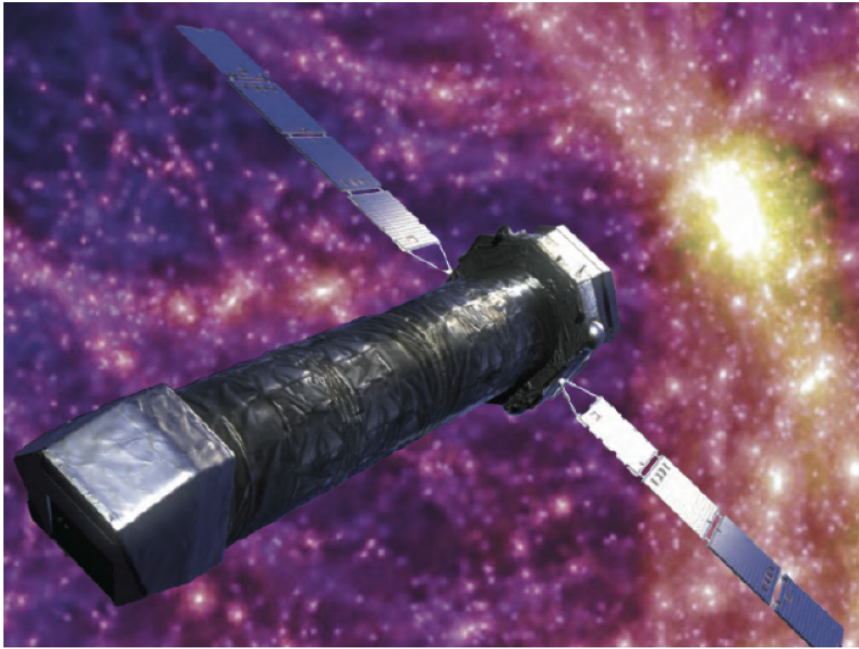
MU possible member of the consortium

HST/STIS analysis of the first main-sequence pulsar CU Vir★

J. Krτίčka¹, Z. Mikulášek¹, G. W. Henry², J. Janík¹, O. Kochukhov³, A. Pigulski⁴, P. Leto⁵, C. Trigilio⁵, I. Krτίčková¹, T. Lüftinger⁶, M. Prvák¹, and A. Tichý¹



DTPA and ESA – Future missions



Athena

Advanced Telescope for
High-ENergy Astrophysics

Primary goals: Mapping hot gas structures
and determining their physical properties
Searching for supermassive black holes

Launch in 2031(?)

Talks by D. Barret, R. Hynek and J. Zlámal (Tuesday)



Assoc. Prof. Norbert Werner



The background is a faded, light-colored image of the Masaryk University building in Prague. The building is a grand, multi-story structure with many windows and classical architectural details. At the top, a pediment features the university's name in Czech. In the foreground, centered, is a statue of Jan Masaryk, the first president of the Czech Republic, standing on a pedestal. The text "Thank you for your attention" is overlaid in the center of the image.

Thank you for your attention