

Zdeněk Prudil - curriculum vitae

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PROFESSIONAL EXPERIENCE	Postdoctoral researcher Astronomisches Rechen-Institut, Heidelberg, Germany	since Jul 2020
	Graduate researcher Astronomisches Rechen-Institut, Heidelberg, Germany	Sept 2016 – Jun 2020
EDUCATION	Astronomisches Rechen-Institut, Heidelberg University, Heidelberg, Germany <i>Ph.D., Astronomy, Expected 2016 – 2020</i> <i>Supervisor: Prof. Dr. Eva K. Grebel</i> <i>Thesis: RR Lyrae stars as tracers of substructure and Galactic archaeology</i> Faculty of Science, Masaryk University, Brno, Czech Republic <i>MSc., Theoretical Physics and Astrophysics, 2014 – 2016</i> <i>Supervisor: Mgr. Marek Skarka, Ph.D.</i> <i>Thesis: Blazhko Effect in Galactic Bulge RR Lyrae Stars</i> Faculty of Science, Masaryk University, Brno, Czech Republic <i>BSc., Astrophysics, 2011 – 2014</i> <i>Supervisor: doc. RNDr. Miloslav Zejda, Ph.D.</i> <i>Thesis: Analysis of Light Curve of RR Lyrae Type Star</i>	
RESEARCH INTERESTS	<ul style="list-style-type: none"> Galactic archaeology in the Milky Way and its neighborhood The Milky Way structure and dynamics using stellar tracers Data analysis and machine learning Radial stellar pulsations 	
FELLOWSHIPS PRIZES	Hector Fellowship: Hector Fellow Academy April 2017 - April 2020 <i>Benefits: 3 years of full Ph.D. funding, including a research fund of 45 000 €</i> The International Max Planck Reserach School for Astronomy and Cosmic Physics: Fellow of the IMPRS-HD, September 2016 - April 2020 Masaryk University: Deans' award for the best Master thesis June 2017 <i>Thesis: Blazhko Effect in Galactic Bulge RR Lyrae Stars</i>	
TECHNICAL SKILLS	Programming languages: Python (numpy, scipy, scikit-learn), SQL Software: galpy, iSpec, Period04, \LaTeX , CERES Observing experince: <ul style="list-style-type: none"> Masaryk University Observatory and Observatory and Planetarium Brno - 0.35 m telescope, CCD photometry, Brno, Czech Republic (9 nights) Akdeniz University observatory - 0.25 m telescope, CCD photometry, Antalya, Turkey (4 nights) 	
SUCCESSFUL PROPOSALS	MPG/ESO 2.2m telescope, FEROS, PI: Z. Prudil – DDT 10 hours 2019 <i>Program: 0103.A-9029(A), Spectroscopic study of shock waves in RR Lyrae stars</i> VLT/ESPRESSO, PI: Z. Prudil – SV 1 hour 2019 <i>Program: 60.A-9511(A), Spectroscopic study of shock waves in RR Lyrae stars</i>	

RESEARCH VISITS	• Faculty of Science, Masaryk University, Brno	October 2018
	• Nicolaus Copernicus Astronomical Center of the Polish Academy of Sciences, Warsaw	March 2018
	• Nicolaus Copernicus Astronomical Center of the Polish Academy of Sciences, Warsaw	February 2016
CONFERENCE TALKS SEMINARS & COLLOQUIA	RRL/Cep 2019 - Frontiers of Classical Pulsators: Theory and Observations , Cloudcroft, <i>Talk</i> : Main and early shocks in RR Lyrae photometric light curves (contributed talk)	October 2019
	A Synoptic View of the Magellanic Clouds - VMC, Gaia and Beyond , Garching, <i>Poster</i> : Photometric study of the stellar overdensity north from the Small Magellanic Cloud	September 2019
	Hector Fellow Symposium , Heidelberg, <i>Talk</i> : Final Ph.D. presentation	July 2019
	MOSAIC 2019 Science and Surveys with the ELT Multi-Object Spectrograph , Heidelberg University	March 2019
	Astronomical seminar , Faculty of Science, Masaryk University, Brno, <i>Talk</i> : Research and studies at the Heidelberg University	October 2018
	RRL2017 Revival of the classical pulsators: from galactic structure to stellar interior diagnostics , Niepołomice, <i>Talk</i> : The Oosterhoff Dichotomy in the Galactic Bulge (contributed talk)	September 2017
	ARI Institute Colloquium , Astronomisches Rechen-Institut, Heidelberg University, <i>Talk</i> : The Blazhko effect and additional periodicity among RR Lyrae stars in the Galactic bulge	January 2017
	The 48th Conference on Variable Stars Research , Prague, <i>Talk</i> : Multiple variability in RR Lyrae stars (contributed talk)	November 2016
	Meeting of Young CAMK , Centrum Astronomiczne im. Mikołaja Kopernika, Warsaw, <i>Talk</i> : Blazhko effect in Galactic bulge RR Lyrae stars	February 2016
	RRL2015 High-Precision Studies of RR Lyrae Stars , Visegrád, <i>Poster</i> : Analysis of light curve of LP Camelopardalis	October 2015
WORKSHOPS	2019 MESA Summer School , University of California, Santa Barbara	August 2019
	IMPRS Summer school: Gaia Data & Science , Heidelberg University	September 2018
	Workshop: Near-Field Cosmology with the Dark Energy survey's DR1 and beyond , Chicago	June 2018
	Gaia Data Workshop , Heidelberg	November 2016
TEACHING & EXPERIENCE	Teaching and organizational experience:	
	• LOC AT THE MOSAIC 2019 MEETING at Heidelberg University,	March 2019
	• GALAXY EVOLUTION at Heidelberg University Convener in winter and summer semester 2018, 2019 (weekly seminar)	
	• GALACTIC AND EXTRAGALACTIC ASTRONOMY at Heidelberg University Teaching assistant in summer semester 2017, 2018 (weekly exercises for master and graduate students)	
	• ASTRO-LAB at Heidelberg University (block course) Teaching assistant in winter semester 2017 (lab course for undergraduate and graduate students)	

Public outreach:

- VYSKOV OBSERVATORY at Vyskov **Summer 2013, 2014**
Astronomer - public observations of the night sky and Sun using the telescopes
- BRNO OBSERVATORY AND PLANETARIUM at Brno **FY 2015**
Night Sky Guide - public observations of the night sky using the telescopes

MBA courses: Three courses as a part of the Hector Fellow Academy, focused on the soft skills and project management: PROJECTS, PEOPLE, VALUES at the Karlsruhe Institute of Technology **2018 – 2019**

References

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Zdeněk Prudil - publication list

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PUBLICATIONS Peer-reviewed

14. Savino, A., Koch, A., **Prudil, Z.**, Kunder, A., Smolec, R.: The age of the Milky Way inner stellar spheroid from RR Lyrae population synthesis, 2020, [accepted for publication in A&A](#)
13. Bono, G. et al., including **Prudil, Z.**: On the Metamorphosis of the Bailey diagram for RR Lyrae stars, 2020, [Apj, 896, L15](#)
12. Hanke, M., Koch, A., **Prudil, Z.**, Grebel, E. K., Bastian, U.: Purveyors of fine halos. II. Chemodynamical association of halo stars with Milky Way globular clusters, 2020, [A&A, 637, A98](#)
11. Skarka, M., **Prudil, Z.**, Jurcsik, J.: Blazhko effect in the Galactic bulge fundamental mode RR Lyrae stars II: Modulation shapes, amplitudes and periods, 2020, [MNRAS, 494, 1237](#)
10. **Prudil, Z.**, Dékány, I., Grebel, E. K., Kunder, A.: Evidence for Galactic disk RR Lyrae stars in the Solar neighborhood, 2020, [MNRAS, 492, 3408](#)
9. **Prudil, Z.**, Dékány, I., Smolec, R., Catelan, M., Grebel, E. K., Kunder, A.: Humps and bumps: The effects of shocks on the optical light curves of fundamental-mode RR Lyrae stars, 2020, [A&A, 635, A66](#)
8. **Prudil, Z.**, Dékány, I., Grebel, E. K., Catelan, M., Skarka, M., Smolec, R.: On the Oosterhoff dichotomy in the Galactic bulge: II. kinematical distribution, 2019, [MNRAS, 487, 3270](#)
7. **Prudil, Z.**, Skarka, M., Liška, J., Grebel, E. K., Lee, C.-U.: Candidates for RR Lyrae in binary systems from the OGLE Galactic bulge survey, 2019, [MNRAS, 487, L1](#)
6. **Prudil, Z.**, Dékány, I., Catelan, M., Smolec, R., Grebel, E. K., Skarka, M.: On the Oosterhoff dichotomy in the Galactic bulge: I. Spatial distribution, 2019, [MNRAS, 484, 4833](#)
5. **Prudil, Z.**, Grebel, E. K., Dékány, I., Smolec, R.: Photometric study of the SMC-NOD using variable stars from the OGLE-IV survey, 2018, [MNRAS, 480, 669](#)
4. **Prudil, Z.**, Skarka, M.: Blazhko effect in the Galactic bulge fundamental mode RR Lyrae stars I: Incidence rate and differences between modulated and non-modulated stars, 2017, [MNRAS, 466, 2602](#)
3. **Prudil, Z.**, Smolec, R., Skarka, M., Netzel, H.: Peculiar double-periodic pulsation in RR Lyrae stars of the OGLE collection - II. Short-period stars with a dominant radial fundamental mode, 2017, [MNRAS, 465, 4074](#)
2. Smolec, R., **Prudil, Z.**, Skarka, M., Bakowska, K.: Peculiar double-periodic pulsation in RR Lyrae stars of the OGLE collection - I. Long-period stars with dominant radial fundamental mode, 2016, [MNRAS, 461, 2934](#)
1. Skarka, M., Liška, J., Auer, R. F., **Prudil, Z.**, Juráňová, A., Sódor, Á.: The SERMON project: 48 new field Blazhko stars and an investigation of modulation-period distribution, 2016, [A&A, 592, A144](#)

Non-Peer-reviewed

9. Salinas ,R., Hajdu ,G., **Prudil, Z.**, Howell ,S., Catelan, M.,: A Speckle Interferometric Search for a Companion to the RR Lyrae Star UV Oct, 2020, *RNAAS*, **4**, 143
8. Skarka, M., **Prudil, Z.**, Liška, J.,: Binary stars with RR Lyrae components - new candidates in the Galactic bulge, 2020, in Contributions of the Astronomical Observatory Skalnaté Pleso, *Vol. 50*, 442-445
7. Skarka, M., **Prudil, Z.**,: Photometric Differences Between Modulated and Non-Blazhko ab-type RR Lyrae Stars in the Galactic Bulge, 2018, in The RR Lyrae 2017 Conference. Revival of the Classical Pulsators: from Galactic Structure to Stellar Interior Diagnostics, ed. R. Smolec, K. Kinemuchi, & R. I. Anderson, *Vol. 6*, 319-320
6. **Prudil, Z.**, Grebel, E. K., Dékány, I. Smolec, R., Skarka, M.: The Oosterhoff Dichotomy in the Galactic Bulge, 2018, in The RR Lyrae 2017 Conference. Revival of the Classical Pulsators: from Galactic Structure to Stellar Interior Diagnostics, ed. R. Smolec, K. Kinemuchi, & R. I. Anderson, *Vol. 6*, 37-41
5. Skarka M., et al., including **Prudil, Z.**: CzeV - The Czech Variable Star Catalogue, 2017, *OEJV*, **185**, 1
4. Smolec, R. et al., including **Prudil, Z.**: Petersen diagram revolution, 2017, in Wide-Field Variability Surveys: A 21st Century Perspective - 22nd Los Alamos Stellar Pulsation - Conference Series Meeting, San Pedro de Atacama, Chile, Edited by Catelan, M.; Gieren, W.; *EPJ Web of Conferences*, *Volume 152*, id.06003
3. **Prudil, Z.**: Multiple variability in RR Lyrae stars, 2017, in proceedings of the 48th conference on Variable Stars Research, *Open European Journal on Variable Stars*, **180**, 47
2. **Prudil, Z.**, Skarka, M., Zejda, M.: Analysis of light curve of LP Camelopardalis, 2016, *Communications of the Konkoly Observatory Hungary*, **105**, 213
1. Liška, J., Skarka, M., Auer, R. F., **Prudil, Z.** & Juráňová, A.,: Possible candidates for multiple occurrence of variable stars in the VSX catalogue, 2015, *OEJV*, **170**, 1