

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.</i> , Astronomy, Expected 2016 – 2020 <i>Supervisor</i> : Prof. Dr. Eva K. Grebel <i>Thesis</i> : RR Lyrae stars as tracers of substructure and Galactic archaeology Faculty of Science, Masaryk University , Brno, Czech Republic <i>MSc.</i> , Theoretical Physics and Astrophysics, 2014 – 2016 <i>Supervisor</i> : Mgr. Marek Skarka, Ph.D. <i>Thesis</i> : Blazhko Effect in Galactic Bulge RR Lyrae Stars Faculty of Science, Masaryk University , Brno, Czech Republic <i>BSc.</i> , Astrophysics, 2011 – 2014 <i>Supervisor</i> : doc. RNDr. Miloslav Zejda, Ph.D. <i>Thesis</i> : Analysis of Light Curve of RR Lyrae Type Star
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</i> : 3 years of full Ph.D. funding, including a research fund of 45 000 € 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</i> : Blazhko Effect in Galactic Bulge RR Lyrae Stars
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</i> : 0103.A-9029(A), Spectroscopic study of shock waves in RR Lyrae stars VLT/ESPRESSO, PI: Z. Prudil – SV 1 hour 2019 <i>Program</i> : 60.A-9511(A), Spectroscopic study of shock waves in RR Lyrae stars

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

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.** & Juránová, A.,: Possible candidates for multiple occurrence of variable stars in the VSX catalogue, 2015, **OEJV, 170, 1**