Nina-Elisabeth Nèmec

Curriculum Vitae

Justus-von-Liebig-Weg 3 37077-Göttingen Germany ⊠ nemec@mps.mpg.de Website

Research Interests

Solar and stellar variability Solar and stellar magnetic fields Solar and stellar activity Sun-Earth interactions Planetary habitability and exoplanets

Education

Since 2017 **PhD student** at the International Max Planck Research School (IMPRS) at the Max Planck Institute for Solar System Research (MPS) and the University of Göttingen

Project Description

Title Exploring the solar paradigm to explain stellar variability

- Supervisor Dr. Alexander Shapiro, Research Scientist and Group Leader "Connecting solar and stellar variabilities (SOLVe)", MPS
- Supervisor Dr. Natalie Krivova, Research Scientist, MPS
- Supervisor Prof. Dr. Stefan Dreizler, University of Göttingen
- Abstract The unprecedented precision of broadband stellar photometry achieved with the CNES CoRoT and NASA Kepler satellites has inaugurated a new era in studying stellar photometric variabilities. Several recent investigations utilised Kepler data to establish the dependence of stellar photometric variability on the rotational period for stars with near-solar effective temperatures. While the photometric variability strongly decreases with the period for slow rotators (P_{rot} >about 10 days), it is almost independent of the period for fast rotators (P_{rot} <about 10 days). To date, such a dependence has not been explained. The goal of this work is to find out, through comparison of observational and simulated data, which (if any) physical concepts of solar brightness variability must be altered in order to reproduce the distribution of Sun-like stars' variabilities.
- 2015-2017 MSc in Astronomy at the University of Vienna
- Thesis Title The XUV Sun in Time

Supervisor Prof. Dr. Manuel Güdel

Winter KU Leuven - Erasmus + study

2016/17 Stay was used to extend knowledge in stellar and plasma physics and stellar evolution

2012-2015 BSc in Astronomy at the University of Vienna

- Thesis Title The solar wind in time
- Supervisor Prof. Dr. Manuel Güdel
- Supervisor Dr. Colin P. Johnstone
- Supervisor Dr. Theresa Lüftinger

Research Experience

- 2017-present PhD student in SOLVe Group at MPS
 - Lead Dr. Alexander Shapiro
 - 2014-2017 Research Assistant FWF Project "Pathways to Habitability" at the University of Vienna
 - Lead Prof. Dr. Manuel Güdel
 - 2014-2017 Research Assistant Star and Planet Formation Group at the University of Vienna
 - Lead Prof. Dr. Manuel Güdel

Workshop and Conference Contributions

- Talk Solar brightness variations as they would be observed by the Kepler telescope, N.-E. Nemec, A.I. Shapiro, N. A. Krivova, R. H. Cameron, S. K. Solanki, S. Dreizler, Observing the Sun as a star, Göttingen, Germany, 2018
- Talk Solar brightness variations as they would be observed by the Kepler telescope, N.-E. Nemec, A.I. Shapiro, N. A. Krivova, R. H. Cameron, S. K. Solanki, S. Dreizler, XXXth General Assembly of the International Astronomical Union, Vienna, Austria, 2018
- **Poster** The XUV Sun in Time, N.-E. Nemec, M. Güdel, T. Lüftinger, C.P. Johnstone, XXXth General Assembly of the International Astronomical Union, Vienna, Austria, 2018
 - Talk Solar brightness variations as they would be observed by the Kepler telescope, N.-E. Nemec, A.I. Shapiro, N. A. Krivova, R. H. Cameron, S. K. Solanki, S. Dreizler, Sun-Climate Symposium, Lake Arrowhead/California, USA, 2018
 - **Talk** *The XUV Sun in Time*, N.-E. Nemec, M. Güdel, T. Lüftinger, C.P. Johnstone, General Assembly of the German Astronomical Union, Göttingen, Germany, 2017
- **Poster** The XUV Sun in Time, N.-E. Nemec, M. Güdel, T. Lüftinger, C.P. Johnstone, Rocks and Stars, Göttingen, Germany, 2017
- **Poster** The solar wind in time, N.-E. Nemec, M. Güdel, T. Lüftinger, C.P. Johnstone, The Astrophyiscs of Habitability, Vienna, Austria, 2016
- Member Conference "The Astrophysics of Habitability", Vienna, Austria, 2016 LOC
 - Talk The HRD, Workshop "Plasma", Traunkirchen, Austria, 2014
 - Talk Coronal Mass Ejections, Workshop "Plasma", Traunkirchen, Austria, 2014

Publications

N.-E. Nemec, A.I. Shapiro, N.A.Krivova, R.V. Tagirov, R. H. Cameron, S. K. Solanki and S. Dreizler, in prep.

N.-E. Nemec, M. Guedel, T. Lueftinger, C.P. Johnstone, in prep.

Honours and Awards

- 2017 Performance Scholarship, University of Vienna
- 2016 Erasmus+ Scholarship for KU Leuven, Belgium
- 2016 Performance Scholarship, University of Vienna
- 2015 Performance Scholarship, University of Vienna
- 2015 Scholarship Alpbach Summer School 2015

Representation and Public Outreach

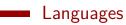
- March 2019 Talk for 10 15 year old high school students in the framework of the Zukunftstag at MPS, Goettinge, Germany
- January 2019 Night of Science, Goettingen, Germany
 - 2018- Member of Max Planck PhDnet working group on Open Science and Good Scientific Practice
 - 2018- Member of Max Planck PhDnet working group to organise the General Meeting of the PhDnet in 2019
 - Since July Member of the Executive Committee of IMPRS at MPS 2018
 - Since July PhD Student Representative of IMPRS at MPS 2018
 - May 2016 "Lange Nacht der Forschung", Vienna, Austria
 - 2015-2017 Chief Faculty Student Representative, University of Vienna
 - 2015-2017 Student Representative for Astronomy, University of Vienna

Teaching

- Summer 2019 TA 'Experimental Physics IV' at University of Göttingen
- Summer 2019 TA 'Analytical Mechanics' at University of Göttingen

2018 Supervision of two high school students during their 2 week internship at MPS

- Winter 2018 TA 'Calculation methods' at University of Göttingen
- Summer 2017 TA 'Lab: Introduction to astronomical methods' at University of Vienna
- Summer 2016 TA 'Lab: Introduction to astronomical methods' at University of Vienna
- Winter 2015 TA 'Mathematical Methods I' at University of Vienna
- Winter 2014 TA 'Introduction to Astronomy' at University of Vienna



German Native speaker English Fluent

on a conversational and scientific level

Computer Skills

Programming Python IDL, Fortran OS Windows, Mac, Linux/Ubuntu Word LATEX, Open Office, Office Processing

References

Dr. Alexander Shapiro Max Planck Institute for Solar System Research shapiroa@mps.mpg.de Dr. Natalie Krivova Max Planck Institute for Solar System Research krivova@mps.mpg.de Prof. Dr. Manuel Güdel Universität Wien manuel.guedel@univie.ac.at Dr. Theresa Lüftinger Universität Wien theresa.rank-lueftinger@univie.ac.at advanced basics