Rinat **Tagirov**

Postdoctoral Researcher

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Education

ETH Zürich — *Zürich, Switzerland*

Doctor of Sciences — *Sep. 2011 - Oct. 2016*

- Thesis Title: Physical Understanding of Solar Irradiance in UV and Radio Wavelengths.
- Scientific Advisors: Dr. Alexander Shapiro, Prof. Dr. Werner Schmutz

Saint-Petersburg State University — *Saint-Petersburg, Russia*

Specialist Diploma in Astronomy — *Sep. 2006 - Jun. 2011*

- Thesis Title: Physical Conditions in Molecular Clouds at High Redshifts.
- Scientific Advisor: Dr. Alexandre Ivanchik

Skills

Science	Numerical radiative transfer, NLTE effects, Solar and stellar brightness variability modeling
Programming	Python, Fortran, Linux, LaTeX, IDL
Languages	Russian (native), English (fluent), German (basic)

Experience

Max Planck Institute for Solar System Research — *Göttinen, Germany*

Postdoctoral Researcher, Sun and Heliosphere Department — *Sep. 2018 — PRESENT*

- Solar and stellar brightness variability modeling

Imperial College London — *London, UK*

Research Associate, Blackett Laboratory, Astrophysics Group — *Oct. 2016 — Sep. 2018*

- Radiative transfer code development, solar spectrum modeling, solar irradiance variability modeling

Physical-Meteorological Observatory Davos — *Davos, Switzerland*

PHD Student — *Sep. 2011 — Sep. 2016*

- Radiative transfer code development, solar spectrum modeling, solar irradiance variability modeling

Ioffe Physical-Technical Institute — *Saint-Petersburg, Russia*

Research Assistant, Theoretical Astrophysics Department — *Sep. 2010 - Jun. 2011*

- Physics of interstellar medium in the early Universe

Teaching

Faculty of Natural Sciences — *Imperial College London*

First Year Computational Project Supervisor (4 students, 2 projects) — *Mar. 2018 — June 2018*

- Project #1: Modeling airplane boarding process using statistical mechanics
- Project #2: Modeling rainbow formation

Faculty of Natural Sciences — *Imperial College London*

First Year Computational Project Supervisor (2 students, 1 project) — *Mar. 2017 — June 2017*

- Project: Identification and study of solar active regions using HMI/SDO images

Department of Mechanical Engineering — *ETH Zürich*

Physics Laboratory Practicum Assistant — *Sep. 2013 — Dec. 2014*

- Lab experiment practice instruction and supervision

Department of Physics — *ETH Zürich*

Physics III Course Assistant — *Oct. 2012 — Feb. 2013*

- Excercise classes on optics, statistical mechanics and quantum mechanics

Department of Physics *ETH Zürich*

Physics II Course Assistant *Feb. 2012 — May 2012*

- Excercise classes on classical mechanics

Publications

2018

- R. V. Tagirov, A. I. Shapiro, N. A. Krivova, Y. C. Unruh, K. L. Yeo and S. K. Solanki
  Solar Spectral Irradiance Variations: SATIRE-S with NLTE spectra
  in preparation

- T. Egorova, W. Schmutz, E. Rozanov, A. I. Shapiro, I. Usoskin, J. Beer, R. V. Tagirov and T. Peter
  Revised historical solar irradiance forcing
  Astronomy & Astrophysics, 615, A85

2017

- R. V. Tagirov, A. I. Shapiro and W. Schmutz
  NESSY: NLTE spectral synthesis code for solar and stellar atmospheres
  Astronomy & Astrophysics, 603, A27

- G. Thuillier, P. Zhu, A. I. Shapiro, S. Sofia, R. V. Tagirov, M. van Ruymbeke and W. Schmutz
  Solar disk radius determined from observations made during eclipses by bolometric and photometric instruments on-board the PICARD satellite
  Astronomy & Astrophysics, 603, A28

- J. Gröbner, S. Kazadzis, N. Kouremeti, L. Doppler, R. V. Tagirov, and A. I. Shapiro
  Spectral solar variations during the eclipse of March 20th 2015 at two European sites
  American Institute of Physics Conference Proceedings, 1810, 1

2016

- G. Cessateur, ..., R. V. Tagirov, et al.
  Solar irradiance observations with PREMOS filter radiometers on the PICARD mission: In-flight performance and data release
  Astronomy & Astrophysics, 588, A126

2015

- A. I. Shapiro, S. K. Solanki, N. A. Krivova, R. V. Tagirov and W. K. Schmutz
  The role of the Fraunhofer lines in solar brightness variability
  Astronomy & Astrophysics, 581, A116

Presentations

Sun-climate group seminar of Max-Planck-Institute for Solar System Research *MPS, Göttingen, Germany*

Invited talk *Nov. 2015*

Fixing Λ-Iterations in the NESSY code

Solar Metrology: Needs and Methods *Paris, France*

Conference poster *Oct. 2014*

Fast NLTE radiative transfer numerical scheme for solar spectrum modeling

Davos Atmosphere and Cryosphere Assembly (DACA-13) *Davos, Switzerland*

Conference poster *Jul. 2013*

Analysis of the solar eclipses observed with PREMOS/PICARD

8^{th} European Space Weather Week *Namur, Belgium*

Conference splinter-session talk *Nov. 2011*

Analysis of the solar eclipses observed with PREMOS/PICARD

References

Dr. Alexander Shapiro

Scientist, ERC Research Group SOLVe Leader

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Dr. Yvonne Unruh

Reader in Astrophysics

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