

# Rinat Tagirov

RESEARCH ASSOCIATE

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## Education

### ETH Zürich

DOCTOR OF SCIENCES

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

Zürich, Switzerland

Sep. 2011 - Oct. 2016

### Saint-Petersburg State University

SPECIALIST DIPLOMA IN ASTRONOMY

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

Saint-Petersburg, Russia

Sep. 2006 - Jun. 2011

## Skills

Science	Numerical Radiative Transfer, NLTE effects, Solar Irradiance Modeling
Programming	Fortran, Python, Linux, LaTeX, IDL
Languages	Russian (native), English (fluent), German (basic)

## Experience

### Imperial College London

RESEARCH ASSOCIATE

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

London, UK

Oct. 2016 — PRESENT

### Physical-Meteorological Observatory Davos

PHD STUDENT

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

Davos, Switzerland

Sep. 2011 — Sep. 2016

### Ioffe Physical-Technical Institute

RESEARCH ASSISTANT

- Physics of interstellar medium in the early Universe

Saint-Petersburg, Russia

Sep. 2010 - Jun. 2011

## Teaching

### Faculty of Natural Sciences

FIRST YEAR COMPUTATIONAL PROJECT SUPERVISOR (4 STUDENTS, 2 PROJECTS)

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

Imperial College London

Mar. 2018 — PRESENT

### Faculty of Natural Sciences

FIRST YEAR COMPUTATIONAL PROJECT SUPERVISOR (2 STUDENTS, 1 PROJECT)

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

Imperial College London

Mar. 2017 — June 2017

### Department of Mechanical Engineering

PHYSICS LABORATORY PRACTICUM ASSISTANT

- Lab experiment practice instruction and supervision

ETH Zürich

Sep. 2013 — Dec. 2014

### Department of Physics

PHYSICS III COURSE ASSISTANT

- Exercise classes on optics, statistical mechanics and quantum mechanics

ETH Zürich

Oct. 2012 — Feb. 2013

### Department of Physics

PHYSICS II COURSE ASSISTANT

- Exercise classes on classical mechanics

ETH Zürich

Feb. 2012 — May 2012

- 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

- 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

- 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

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### Sun-climate group seminar of Max-Planck-Institute for Solar System Research

MPS, Göttingen, Germany

INVITED TALK

Nov. 2015

*Fixing  $\Delta$ -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<sup>th</sup> European Space Weather Week

Namur, Belgium

CONFERENCE SPLINTER-SESSION TALK

Nov. 2011

*Analysis of the solar eclipses observed with PREMOS/PICARD*

## References

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### Dr. Yvonne Unruh

READER IN ASTROPHYSICS

Imperial College London

Blackett Laboratory, Astrophysics Group

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### Dr. Alexander Shapiro

SCIENTIST, ERC RESEARCH GROUP SOLVE LEADER

Max-Planck Institute for Solar System Research

Department Sun and Heliosphere

Justus-von-Liebig-Weg 3, Göttingen 37077, Germany

E-mail: [shapiroa@mps.mpg.de](mailto:shapiroa@mps.mpg.de)

Tel: +49 (0)551-384-979-431

### Prof. Dr. Werner Schmutz

DIRECTOR

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