

Fatima Kahil

✉ kahil@mps.mpg.de

Contact & Personal Information

- Max Planck-Institut für Sonnensystemforschung
Justus-von-Liebig-Weg 3
37077 Göttingen
Germany
- **Work:** +49-551 384 979-511
- **ResearchGate:** https://www.researchgate.net/profile/Fatima_Kahil
- **LinkedIn:** <https://www.linkedin.com/in/fatima-kahil/>
- **GitHub:** <https://github.com/fakahil/>
- **Date of Birth:** 06 March 1992
- **Nationality:** Lebanese

Education

PhD., Solar Physics 2015 – 2019

Georg-August Universität, Göttingen, Germany

- Dissertation: Brightness Contrast of Solar Magnetic Elements observed by Sunrise
- Thesis supervisors: Prof. Dr. Laurent Gizon, Prof. Dr. Sami Solanki, Dr. Tino Riethmüller
- magna cum laude

MSc., Astronomy and Astrophysics 2012 – 2014

Notre Dame University / Université Saint Joseph, Beirut, Lebanon

- Dissertation: “MESSENGER Spectroscopic Observations of Mercury’s Sodium Exosphere”
- Thesis supervisor: Dr. Nelly Mouawad
- GPA/4: 3.56 (second highest in department)

B.S., Fundamental Physics 2009 – 2012

Lebanese University, Nabatieh, Lebanon

- GPA/100: 82 (highest in department)

Research Experience

Postdoctoral Research Fellow 02/2019 – present

Max Planck Institute for Solar System Research, Göttingen, Germany

PhD Research Fellow 2015 – 2019

Max Planck Institute for Solar System Research, Göttingen, Germany

Research Interests

- Spectroscopic, Polarimetric and Photometric Data Analysis / Statistical Data Analysis
- Solar/Stellar/Planetary Image Processing
- Radiative Magnetohydrodynamical Simulations
- Inversions of Solar Stokes Profiles

Publications

- **Brightness of Solar Magnetic Elements As a Function of Magnetic Flux at High Spatial Resolution**
Kahil, F., Riethmüller, T. L., & Solanki, S. K. 2017, ApJS, 229, 12
- **Intensity Contrast Of Solar Plage As a Function of Magnetic Flux At High Spatial Resolution**
Kahil, F., Riethmüller, T. L., & Solanki, S. K. 2019, A&A, 621, A78
- **Center-To-Limb Variation Of Quiet-Sun Intensity Contrasts As Observed With Sunrise**
Feller, A., Kahil, F., Hirzberger, J., Riethmüller, T. L et al. - to be submitted to ApJ

Additional Projects

- Investigation of magnetic field computational methods: Inversions vs. Centre of Gravity
- Cancellation events in the quiet Sun: looking for signatures of magnetic reconnection

Talks And Posters

Hinode-12: The many Suns

Poster

Granada, Spain

September 10 – 13, 2018

- On the contrast of solar magnetic elements observed by SUNRISE

International Astronomical Union General Meeting

Poster

Vienna, Austria

August 20 – 31, 2018

- On the contrast of solar magnetic elements in the quiet Sun and active region plage

German Astronomical Meeting

Talk

Göttingen, Germany

September 18 – 22, 2017

- Photometric and Magnetic Properties of Solar Plage Observed by SUNRISE

15th European Solar Physics Meeting

Poster

Budapest, Hungary

September 04 – 08, 2017

- Solar Magnetic Elements at High Spatial Resolution

Solar Polarization Workshop 8

Talk

Florence, Italy

September 12 – 16, 2016

- Brightness of solar magnetic elements as a function of magnetic flux at high spatial resolution

10th Sunrise Science Meeting

Talk

Göttingen, Germany

May 03 – 04, 2016

- Longitudinal magnetic field computation in the quiet Sun: Inversions vs. Centre-of-Gravity method

9th Sunrise Science Meeting

Talk

Göttingen, Germany

September 28 – 29, 2015

- On the Contrast-Magnetic field relation in the quiet Sun

Third Middle-East and Africa IAU Regional Meeting

Talk

Beirut, Lebanon

September 01 – 06, 2014

- Mercury's Sodium Exosphere

Workshop Organization

XLAB 2016 Science Camp

Göttingen, Germany

Tasks:

August 15 – 21, 2016

- Organization of “Astronomy Week” for international high school students
- Preparing projects on analyzing Solar (SUNRISE) and Planetary (ROSETTA) data
- Laboratory work: Spectroscopy

IAU MENA Regional Summer School

Beirut, Lebanon

Tasks:

August 25 – 31, 2014

- Astronomy with Small Telescopes Workshop
- How to use IRAF to process astronomical data?
- Photometric and Spectroscopic observations with a 50 cm telescope

Teaching Experience

Supervisor

Summer Semester 2017

Max Planck Institute for Solar System Research, Göttingen, Germany

- Supervising a high school student for a scientific internship
- Project: Statistical Study of Granulation and Bright Points Physical Properties / Basics of Programming with Python
- Duration: 3 weeks

Teaching Assistant

Winter Semester 2015/16

Georg-August Universität, Göttingen, Germany

- Course: Introduction to Astrophysics

Lab Assistant

2013 – 2014

Notre Dame University, Beirut, Lebanon

- Course: Experimental Physics for Engineers

Instructor

2012 – 2013

Notre Dame University, Beirut, Lebanon

- Course: Classical Physics for Freshman students

Achievements and Activities

Equal Opportunity Workgroup Member

2016 – present

- Community: Max Planck PhD Network, Germany

Student Representative

2016 – 2017

- International Max Planck Research School (IMPRS) for Solar System Science

Coordinator

2015 – 2016

- Solar System Science (S3) seminar group at IMPRS

Dean's Honors list

2012 – 2014

- Faculty of Physics and Astronomy, Notre Dame University, Beirut

Computer Skills

- Programming: Python, IDL, R
- L^AT_EX
- Image Visualization and Reduction Softwares: DS9, ImageJ, IRAF
- Machine Learning
- Image and Signal analysis
- Statistical analysis
- Mathematical Modeling
- Web development
- OS: Linux, Windows

Languages

- Arabic (Native)
- English (Professional)
- French (Professional)
- German (Intermediate)

References

1. Prof. Dr. Sami Solanki (solanki@mps.mpg.de)
2. Dr. Tino Riethmüller (riethmueller@mps.mpg.de)
3. Dr. Alex Feller (feller@mps.mpg.de)