
Workplace: PMOD/WRC, Davos, Switzerland

Description: The project aims at modeling the variability of the solar spectrum over the 11-year activity and longer time scales. The underlying assumption is that the solar spectrum variability is caused by the evolution of the magnetic field at the solar surface. The successful candidate will work on the development of a photospheric magnetic flux decay model needed to calculate the contributions of different magnetic features to the solar spectrum. The individual spectra of the magnetic features will be calculated with the state-of-the-art solar radiative transfer code developed at PMOD/WRC. The model output will be constrained and tested against the available measurements of the solar spectrum variability (in particular, SPM/VIRGO and PREMOS/PICARD). The final goal of the project is to calculate a new reconstruction and forecast of the solar spectrum (1800-2200) based on the available records and predictions of the long-term solar magnetic activity.

The project is part of the FUPSOL-II (Future and Past Solar Influence on the Terrestrial Climate II) project funded by the Swiss National Foundation and builds on the results of the highly successful FUPSOL-I project. It will be implemented in a tight collaboration with ETH Zurich, University of Bern, Swiss Federal Institute of Aquatic Science and Technology and Oescher Center for Climate Research. The frequent meetings with our project partners will allow the successful candidate to develop the insight into the modeling of the natural climate variability. PMOD/WRC will support the participation at international conferences and other travels related to the project.

Education: We are looking for a highly motivated candidate with a master degree in physics or natural sciences.

Entrance: January 1, 2014 or as agreed on

Duration of appointment: 3 years

Remarks: The candidate will work full-time at PMOD/WRC. The PhD degree will be obtained from the ETH Zurich and the supervisor of the PhD Thesis is Prof. Marcella Carollo. Regular visits to the Institute of Astronomy of the ETH Zuerich will allow the successful candidate to integrate within the Institute and to participate in its activities. Admission to the PhD program of ETH Zurtich is a necessary condition of this position.

Applying: Applicants should send a CV, transcripts of study records with grades, and a brief statement of research experience and research interests. They should also include the email addresses of two referees which can be asked to provide the reference letters (actual letters are not required at this stage). Applications and questions about the position should be directed to Dr. Alexander Shapiro (alexander.shapiro@pmodwrc.ch). Selections of candidates will continue until the position is filled.