

Instituto de Astrofísica de Canarias (IAC, Tenerife, Spain).

PRE-doctoral contract for a PhD thesis in Solar Physics at the IAC

The Instituto de Astrofísica de Canarias (IAC, Tenerife, Spain) invites applications for one PhD pre-doctoral contract funded by the European Research Council (ERC) Advanced Grant “Polarized Radiation Diagnostics for Exploring the Magnetism of the Outer Solar Atmosphere” (POLMAG: www.iac.es/proyecto/polmag/).

The selected candidate will develop her/his PhD thesis at the IAC having Prof. Javier Trujillo Bueno and Dr. Tanausú del Pino Alemán as thesis advisors.

Title: Ultraviolet Spectropolarimetry: Opening a New Diagnostic Window in Solar and Stellar Physics

Topic: This PhD research project aims at a true breakthrough in the development and application of polarized radiation diagnostics methods to make feasible the investigation of the magnetic and geometrical structure of the outer atmosphere of the Sun and of other stars via ultraviolet spectropolarimetry. In particular, we will theoretically investigate the polarization produced by scattering processes and the joint action of the Hanle and Zeeman effects in ultraviolet spectral lines located between 1000 and 4000 Å. This novel investigation is of great present scientific interest. For example, after the success of the first flight of the Chromospheric Lyman-Alpha Spectro-Polarimeter (CLASP, a series of international suborbital rocket experiments developed by Japan, USA and Europe in which we are seriously involved) NASA accepted its second flight for 2019 in order to observe the intensity and polarization of the Mg II h & k lines. On the other hand, the SUNRISE III ballon-borne solar observatory, led by the Max Planck Institute for Solar System Research, will be equipped with a spectropolarimeter for the 3000-4000 Å wavelength range. Moreover, there is increasing interest in developing novel telescopes and instruments to measure with high spectral resolution the polarization of the integrated stellar disk radiation (e.g., the POLLUX instrument planned for the LUVVOIR space telescope).

The duration of the contract will be for a period of 4 years.

The deadline for receiving applications is 2018 November 18.

For more information on the PhD research project, please, contact Dr. Tanausú del Pino Alemán (tanausu@iac.es) and Prof. Javier Trujillo Bueno (jtb@iac.es).

For instructions on how to apply, please visit

<http://www.iac.es/info.php?op1=26&id=766>