

Título: Magnetic interaction of planets with M stars using radio techniques

Centro: INSTITUTO DE ASTROFÍSICA DE ANDALUCÍA (IAA-CSIC)

Tipo: Predoctoral

descripción:

A four-year PhD contract is offered in the framework of the Project "Severo Ochoa" at IAA-CSIC. The selected candidate will carry out her/his activity in the research line of The Understanding of Planetary Systems, working on the study of star-planet interaction in M stars, mainly by means of radio observations.*Supervisors: Miguel Ángel Pérez Torres and Jose Luis Ortiz (mapt@unizar.es, ortiz@iaa.es)*

M stars are the most abundant type of stars in our galaxy. Due to their low mass and other characteristics, they are ideal for searching Earth-type planets. The finding of a planet in the habitable zone of the dwarf M star Proxima Centauri has represented a major breakthrough in exoplanetary science, especially because the mass and size of the planet is likely similar to that of Earth and other Earth-like planets will be found around numerous M stars in the future thanks to several ongoing surveys such as the CARMENES survey at Calar Alto observatory.

We propose a PhD project where the successful candidate will become familiar with radio observation techniques, as well as with physics of planets and ultracool dwarf stars. The main tasks will consist on:

-Analyzing the best candidate stars.

- Verifying the existence of adequate archival observations, planning the realization of possible observing proposals and executing the observations. Those observations will likely include the use of forefront radio interferometric infrastructures around the world.

- Analyzing the available data with techniques we are developing, or using other techniques that could be developed during the PhD Thesis.

The work will be done in collaboration with experts in the fields of planetary bodies, exoplanets, radio astronomy and stellar variability at the IAA-CSIC. Knowledge in astronomy, as well as in scientific programming is an asset, and proficiency in English is assumed.

Applications must be submitted online at the URL of the Ministerio de Ciencia e Innovación <https://sede.micinn.gob.es/ayudaspredoctorales/> . To request the present research project please use the following reference: SEV-2017-0709-20-1.

Candidates are also encouraged to contact Dr. Miguel Pérez-Torres (mapt@unizar.es) and Dr. José Luis Ortiz (ortiz@iaa.es), and provide the following information:

- Curriculum vitae, with a publication list if relevant;
- A statement of interest (max. one page, including a brief description of research interests and relevant experience);
- Copies of university grades, certificates and/or diplomas;
- Names and contact details of 2 experts who are prepared to send confidential recommendation letters should they be requested to do so.