Predoctoral position in Astroparticle Physics at CIEMAT (Madrid)

Cosmology and Fundamental Physics with extragalactic surveys

The CIEMAT (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas) Department of Basic Research announces the upcoming opening of a predoctoral position for outstanding young MSc graduates interested in working in observational cosmology with the goal of obtaining a PhD Thesis.

The 4-year PhD contract (Personal Investigador Predoctoral en Formación or Formación de Personal Investigador-FPI) is funded by CIEMAT. This position is associated to the project “Cosmology and Fundamental Physics with Extragalactic Surveys”, reference PGC2018-094773-B-C33, and dedicated to “Study of the properties of dark energy and measurement of cosmological parameters”/“Estudio de las propiedades de la energía oscura y medida de parámetros cosmológicos”.

The candidate must have a Master's Degree in Physics (following the Bologna Declaration) or alternatively be registered or admitted in a doctoral program at a university department on a related subject, at the time of signing the contract (see details in the official call). Main considerations for selection are excellent grades, very good command of written and spoken English and a strong training in cosmology. Experience in modern programming languages such as Python, C and/or scripting languages will be valued. A background in astrophysics and/or fundamental physics is desirable as well.

CIEMAT currently participates in several ongoing galaxy surveys, with the goal of pinning down the nature of dark energy: the DESI (Dark Energy Spectroscopic Instrument) survey at the Kitt Peak Observatory (https://www.desi.lbl.gov/) and the LSST (Large Survey for Space and Time) at the Rubin observatory (https://lsstdesc.org/). The PhD student will be expected to work with the huge datasets of these projects performing statistical analyses of the characteristics of the detected objects, in order to understand the large-scale structure of the Universe and the influence of the dark energy revealed by them. We also encourage new ideas and directions that our students may want to pursue.

We offer close supervision and a stimulating international environment with expected research stays in the United States and other partner institutions, as well as presentation of results at meetings and conferences as well as observation shifts.

For any question related to this position, please contact:

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The CIEMAT is an affirmative action/equal opportunity employer. Eliminating gender inequalities by promoting equal opportunities for men and women is a core compromise of our group and it is our commitment to establish the necessary actions to close the gender gap.