



Jorge Terol Calvo

Cosmology and Astroparticles

PhD Student

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I studied the bachelor in physics at the University of Valencia and then the master's degree in Advanced Physics in the specialty of Theoretical Physics at the same place. I did my master thesis on "Neutrino non-standard interactions" in the group of Astroparticles and High Energy Physics of the Instituto de Física Corpuscular (IFIC, joint institute between CSIC and the UV). After a two-month stay at the Johannes Gutenberg-Universität Mainz (Germany), I was employed for a year in the same group at IFIC working on theoretical neutrino physics.

With the FPI-Severo Ochoa grant I came to the IAC to carry out my PhD in the Astroparticles Theory group, supervised by Dr. Jorge Martín Camalich. My thesis consists on studying extensions of the standard model of particle physics and its phenomenology derived from particle laboratories such as CERN and bridge it to their possible astrophysical and cosmological implications. For example, we will study the impact of potential new light particles such as the axion or sterile neutrinos in star evolution or possible effects of dark matter clusters between sources of radio and microwave emission and the Earth, which can give us information about the properties of the particles that constitute the dark matter. All this with the support of the observations of our colleagues from the IAC.