223-PRECIE-PDI22

Predoctoral position in Experimental Particle Physics at CIEMAT (Madrid)

*Searches for new physics and precision studies with the CMS experiment at the LHC*

The CIEMAT-Física de Partículas (CIEMAT-FP) Unit hosts a new predoctoral position for an outstanding young MSc graduate interested in working in the CIEMAT-FP group collaborating in the CMS experiment at CERN towards a PhD Thesis.

The CIEMAT- Física de Partículas (CIEMAT-FP) Unit is actively participating in the CMS experiment at the Large Hadron Collider at CERN. The LHC is currently starting a new period of data taking (2022-2025) after a three years shutdown period to upgrade the accelerator and detectors to prepare for the coming High Luminosity phase of the collider. The analysis of the new data, together with the data sample collected during the Run 2 of LHC will allow extending current searches for physics beyond the standard model (SM) but also to perform precision measurements of many processes within the SM. Should any of these measurements reveal to be inconsistent with the predictions, would be an indication of the path towards an extension of the SM. Some current areas of interest of the CIEMAT-FP CMS group include the measurement of processes involving vector bosons, direct searches for new resonances with high momentum leptons and the determination of the properties of the Higgs boson. The CMS CIEMAT-FP group is heavily involved in the upgrade of the muon detector and in development of new triggering algorithms. The successful candidate will also contribute to this effort.

We offer close supervision and a stimulating international environment, with expected stays at CERN to carry out research work, for presentation and discussion of results, advanced training in the field participating in highly specialized workshops and schools, and attendance to international conferences with the possibility to present his/her scientific results on behalf of the collaboration.

We seek candidates with a Master's Degree in Physics at the time of appointment, an excellent academic record, very good English knowledge and mainly, a high motivation towards the scientific field of High Energy Physics at the energy frontier. We also value experience in programming languages such as C++, python and scripting languages.

For any further questions, please contact Isabel Josa (Isabel.Josa@ciemat.es) and/or Begoña de la Cruz (Begona.Delacruz@ciemat.es).

*The CIEMAT Particle Physics Unit 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.*