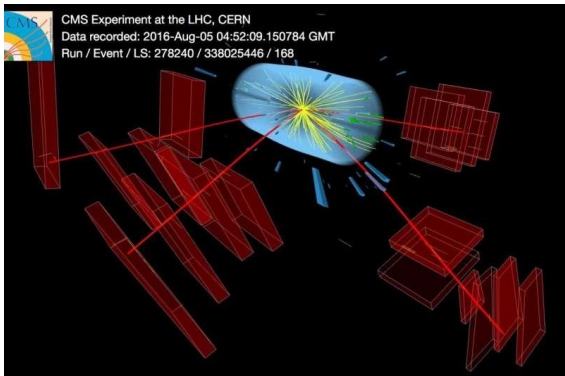


## Predoctoral position in Experimental Particle Physics at CIEMAT (Madrid)

### *Scientific exploitation, data analysis and operation of the CMS experiment at the CERN LHC*

The CIEMAT-Física de Partículas (CIEMAT-FP) Unit hosts a **FPI predoctoral position for an outstanding young MSc graduate motivated at working in the CIEMAT-FP group collaborating in the CMS experiment at CERN.**



The CIEMAT-Física de Partículas (CIEMAT-FP) Unit is actively engaged in the CMS experiment at the Large Hadron Collider (LHC) at CERN, funded by MICIU-AEI (Grant Id: PID2023-147706NB-100). The participation takes place at several fronts in data analysis and scientific exploitation, software development, and operation of the CMS detector. The LHC is currently taking data in its third working period (2022-2026) and preparing for the coming High Luminosity phase of the collider. The amount of data collected and the expertise with the detector and analysis techniques are at the base of the predoctoral work to be developed, **performing precision measurements of processes involving SM bosons related to the electroweak symmetry breaking mechanism.** 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 highly energetic 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. The successful candidate will also contribute to this effort.

**We offer** a stimulating and excellent international environment, development of innovative work, with expected stays at CERN to carry out research work, presentation and discussion of results, advanced training in the field, and attendance to international conferences.

**We seek** candidates with a Master's Degree in Physics, an excellent academic record, very good English knowledge and 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 Begoña de la Cruz ([Begona.Delacruz@ciemat.es](mailto:Begona.Delacruz@ciemat.es)) and Isabel Josa ([Isabel.Josa@ciemat.es](mailto:Isabel.Josa@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.*