

PhD position in Cosmic Ray Physics with the AMS experiment on the International Space Station at CIEMAT (No. 215-PRECIE-PDI24)

The Cosmic Ray Physics research group of the CIEMAT-FP Unit (*Centre for Research in Energy, Environment and Technology* in Madrid, Spain) announces the opening of a **predoctoral position** for outstanding young M.Sc. graduates interested in working in **Cosmic Ray Physics** research activities towards a PhD Thesis.

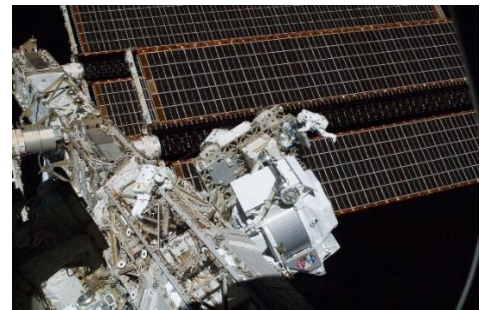
The **4-year PhD contract** is funded by **CIEMAT**. The official call will be announced at <https://www.ciemat.es/predoc>.

The **Alpha Magnetic Spectrometer** (AMS-02) is a high-energy particle physics detector operating on the **International Space Station** (ISS) since 19 May 2011. AMS-02 has operated continuously for more than 13 years on the ISS and has collected more than 2×10^{11} events. The experiment is planned to continue collecting science data until 2030, with the goal of carrying out precise measurements of cosmic rays in the energy range from 1 GeV/n to 1 TeV/n. Accurate studies of the fluxes of individual components of cosmic rays are achieved thanks to the excellent particle identification and energy resolution of the detector.

The precise data obtained with AMS-02 allow addressing fundamental physics questions such as the **nature of dark matter** or the **presence of primordial antimatter in the Universe**. In addition, the accurate measurements of individual species of cosmic rays in a wide energy range provide a complete set of benchmark data to validate the state of the art models describing the propagation of cosmic rays in our Galaxy which, in turn, provide the prediction of the expected backgrounds in the AMS-02 searches for **new physics**.

The candidate is expected to participate actively in the AMS-02 operations in space, the detector offline calibration, data analysis and modelling. The results of this research should be communicated in **international conferences** and published in **reference journals**. This research, oriented toward accomplishing a PhD degree in Physics, will be carried out under the supervision of the CIEMAT members of the AMS-02 collaboration.

For more information on the research project or any question regarding the application, please contact:
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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.