

JOB OFFER – Joint Center for Ultraviolet Astronomy/Universidad Complutense de Madrid

Postdoctoral researcher specialized in Solar System minor bodies

Contract under the scope of the European Research Council Advanced Grant: ENIMUS.

Background:

The ENIMUS project aims to carry out an in-depth evaluation of the feasibility of detecting alanine, the second most abundant amino acid in Solar System ices by remote sensing. Alanine is a chiral molecule and produces a clear spectro-polarimetric signature at ultraviolet wavelengths (140-200 nm). It is known from laboratory experiments that amino acids and the reference nucleobases for RNA and DNA can be formed in space ice under high energy, vacuum ultraviolet (VUV) irradiation. However, the actual on-field measurements are very scarce and biased; basically, the analysis of carbonaceous chondrites and the very costly detections by the ESA probe Rosetta and the JAXA probe Hayabusa2. ENIMUS is designed to evaluate the feasibility of systematic remote sensing of amino acids in the Solar System by UV spectro-polarimetry.

This research will be carried within the premises of the Joint Center for Ultraviolet Astronomy (JCUVA) in the campus of the Universidad Complutense de Madrid. Among other facilities, the center includes the Vacuum Ultraviolet Laboratory (LUV), and within it ISO-7 and ISO-5 spaces, a vacuum chamber, an AFM microscope and other instrumentation. JCUVA is also equipped with high performance computation capabilities for data processing.

For the purpose of the ENIMUS project, the team will build novel laboratory instruments to carry out a crystallographic analysis of chiral space amino acids, carry out numerical simulations, and design space instrumentation.

Candidate Profile:

The job offer is intended for a space scientist with experience in Planetology and Solar System minor bodies. This researcher will work with LUV personnel in the definition of the samples to be tested and participate in the definition and evaluation of the numerical results.

The successful candidate is required to have at least 3 years of postdoctoral experience and be familiarized with the space exploration programs of the main Agencies.

Contract:

Annual Salary: 37,339.97 eur plus Health and Social Security benefits.

Duration: till the end of the grant (June 30th, 2029)

Contact:

Candidates should send a detailed curriculum vitae and cover letter describing his/her research interests in the project to the e-mail address sec.aegora@ucm.es, quoting reference "ENIMUS postdoc position". Applications will be considered until October 31st, 2024. Contract starting date will be February, 2025.