

Postdoctoral position in Galactic gamma-ray astronomy

The Institute for Research in Astrophysics and Planetology (IRAP) in Toulouse, France invites applications for a postdoctoral position to work on Galactic gamma-ray sources funded by the French Agence Nationale de la Recherche through the PARMIGIANO project.

Context

Observations have revealed an ever-growing and increasingly diverse population of TeV–PeV Galactic gamma-ray sources, which hold the promise of shedding light on fundamental problems related to the origin and transport of cosmic rays. The advent of the Cherenkov Telescope Array Observatory (CTAO), with its Galactic Plane Survey, has the potential to increase the number of known TeV sources by a factor of five. Multiwavelength and multimessenger information is crucial for the physical understanding of gamma-ray sources.

The Galaxies, High-Energy Astrophysics and Cosmology (GAHEC) department at IRAP has a long-standing leading role in the production of high-energy source catalogs (e.g., Fermi-LAT, XMM-Newton) and in multiwavelength source characterization. The CTAO team at IRAP is responsible for the production of focal-plane instrumentation for CTAO cameras, for which pathfinders will be installed on the telescopes starting in 2026, and has been at the forefront of preparations for the CTAO Galactic Plane Survey.

Activities

The successful candidate will lead the development of automated methods for the probabilistic cross-matching of TeV–PeV Galactic gamma-ray sources with multiwavelength catalogs and will assess their applicability to CTAO data.

The successful candidate is also expected to collaborate with other members of the GAHEC department working on the study of Galactic gamma-ray sources using data from Fermi-LAT, CTAO pathfinders, and other observatories. Furthermore, they will have the opportunity to collaborate with other members of the PARMIGIANO Consortium (LUX, CPPM, FSLAC¹), including experts in the modeling of Galactic gamma-ray sources, as well as members of the international Fermi-LAT collaboration and CTAO Consortium.

Profile

The post is open to candidates who hold a PhD in astrophysics or physics. Desired skills and qualifications:

¹ Laboratory for the study of the Universe and eXtreme phenomena at Paris Observatory, Center for Particle Physics of Marseille, French-Spanish Laboratory for Astrophysics in Canarias

- Experience of Galactic gamma-ray sources in the multiwavelength context
- Very good written and spoken English (at least level B2)
- At ease with programming and knowledge of Python
- Ability to work in a highly collaborative international setting

Employment

The post is initially for one year and renewable for a second year. The expected start date is October 2026 (negotiable).

Compensation will be commensurate with experience, with gross monthly salary ranging between 2800€ and 3900€. The position includes full access to the French healthcare and welfare system (medical and dental, sick leave, parental leave, family allowances for children, pension and unemployment benefits).

Additional funding for conferences, collaboration, personal equipment and publication is available.

IRAP is a “ZRR — Zone à Régime Restrictif”: after the selection procedure access will need to be granted by the competent authorities.

Application procedure

Applicants should send a single PDF file by March the 15th 2026 to Luigi Tibaldo (luigi.tibaldo@utoulouse.fr) including: a cover letter, a CV with a publication list, a report of research experience (~2 pages), a statement of research interests (~1 page). Candidates must also arrange for two letters of recommendation to be sent independently to the same address by the application deadline.

Inquiries should be addressed to Luigi Tibaldo (luigi.tibaldo@utoulouse.fr).