Postdoctoral position in space instrumentation

Institution: CEA
Department name: Department of Astrophysics
City: Gif-sur-Yvette
Country: France

Context:
The ARIEL (Atmospheric Remote Sensing Large Survey) space mission is the ESA (European Space Agency) 4th medium class space mission (https://arielmission.space). The mission is planned to be launched in 2029. The satellite is composed of two instruments: the Fine Guidance System (FGS) and the ARIEL Infrared Spectrometer (AIRS). The CEA/Irfu Department of Astrophysics is in charge of the development of the AIRS instrument.
The CEA has an important background in the development of space-based instruments. It has been involved in ISOCAM, Herschel, JWST or Euclid for instance. In the ARIEL project, the CEA is notably in charge of the calibration of the detector. A test bench has been specifically developed for that purpose. The AIRS instrument is composed of H1RG detectors, widely used in astronomy in the IR domain.
As a post-doc researcher, you will be part of the AIRS team at CEA composed of about 20 persons and you will be involved in the characterization of the detectors in direct collaboration with the AIRS detector scientist. The high performance of the detector allows fine characterization of the detector by tests coupled to detector performance models.
The detector calibration activities are conducted in close collaboration with ESA and CNES experts, with support from the detector manufacturer (Teledyne Imaging Systems in USA) and the ARIEL science community. In the duration of the post doc, you will be involved in the calibration of the characterization of the Engineering Model and then the Flight Model of the instrument.

Applicants should submit a cover letter and a curriculum vitae. Application materials must be sent electronically to the following e-mail address: thibault.pichon@cea.fr

Missions
- Define test protocols
- Participate to the calibration of the detector
- Participate to data analysis.
- Modeling of the detector to understand detector performances

Competences:
- Semi-conductor physics
- Data treatment
- Physics of detector (HgCdTe detector will be a plus)
- Python

Duration: 2 years
Desired starting date: Q1 of 2024