

Department: Cosmology
Position: Postdoctoral Researcher
Duration: 2 years
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POSTDOCTORAL RESEARCH ASSOCIATE

Two-year postdoctoral researcher position at LAL/Orsay-France on CMB B-modes.

Project Description

We are looking for candidates who will work on the preparation, design and optimisation of the LiteBIRD satellite project. Properly propagating both foreground and instrumental systematics is the key to achieve a measurement of the tensor-to-scalar ratio (r) in the next decade. The successful applicant will have a leading role in the development of end-to-end simulations, allowing to contribute significantly to the Foregrounds, Systematics and Calibration LiteBIRD Joint Study Group. In parallel, a participation in the data analysis of the QUBIC experiment is foreseen. On a daily basis, the candidate will work in collaboration with on-site experts on sub-mm instrument, CMB likelihood, and cosmological parameter estimation.

Team

The successful applicant will work at LAL where the CMB group has actively participated in Archeops and Planck, with responsibilities both on hardware (DPU, ground calibration) and software (map-making, CMB data analysis and science interpretation). We are now deeply involved in CMB polarisation studies: the group brings together a leader of the ACTPol data analysis, external collaborators of the LiteBIRD space mission and key partners in the QUBIC project. The applicant will also work in close collaboration with Institut d'Astrophysique Spatiale (IAS). The Interstellar Matter and Cosmology group at IAS, in addition to having led the High Frequency Instrument on Planck, has expertise in Cosmology, galactic and extra-galactic science, and instrumentation. It includes specialists in mm to sub-mm instrumentation and will provide support in the modelization of instrumental systematics.

Qualification

Expertise in any of the following fields is highly desirable: CMB data analysis, simulations, instrumentation and strong computing skills (eg. High Performance Computing). Qualified applicants are required to have or be in the process of completing a Ph.D. in Cosmology, Astronomy, Physics, or another relevant field. The successful applicant must have completed their Ph.D. before starting the position.

Scientific environment

With a personnel of more than 300 people, LAL covers a rich research program from particle physics to cosmology. It has a strong commitments in CMB physics, in LSST, but also in gravitational waves with a group in the Virgo experiment and in the LHC program with groups in the ATLAS and LHCb experiments.

Application Instructions

Applicants are expected to provide a Curriculum Vitae, a cover letter and letters of recommendation to Sophie Henrot-Versillé and Matthieu Tristram (versille@lal.in2p3.fr, tristram@lal.in2p3.fr). The position is funded for 24 months by the Labex P2IO. The annual gross salary will be in the range of 50 to 65 k€ depending on the experience of the candidate. The deadline is December the 15th but applications will be considered until the position is filled.

