

Opening of a post-doctoral position at IJCLab

Improving Rubin/LSST photometry with atmospheric extinction measurements. Impact on cosmological probes.

Profile of the position

Scientific context

The post-doc will participate in the start-up of the LSST survey at the Vera Rubin Observatory. This start-up includes a commissioning phase of less than a year, which will be followed by a year of observation before the first data release.

Environment

The Dark Energy Study Group (GREEN = Groupe d'Étude de l'Énergie Noire) of IJCLab is composed of ten researchers and teacher-researchers experts in astronomy, astrophysics and cosmology.

Web site: <https://groups.lal.in2p3.fr/energienoire/>

Technical and scientific missions

Atmospheric absorption corrections during LSST main telescope observations will rely on the measurement of spectrophotometric standard spectra with a dedicated auxiliary telescope (Auxtel). Our group has equipped this telescope with a holographic disperser, in order to reach a final photometric precision of a few millimagnitudes. This precision is a key element that will allow a better estimation of the photometric redshifts, also one of the fields of activity of the group.

The postdoc will draw on our expertise in photometry and atmospheric models for the analysis and scientific exploitation of the auxiliary telescope data to develop correction procedures for the main telescope.

The postdoc will also be involved, depending on his/her background, in the scientific work of the GREEN host group of IJCLab, which deals with dark energy and dark matter issues.

Profile of the candidate, expected skills

The candidate should have a PhD in astronomy/astrophysics or fundamental physics with a cosmological component. He/she should have good computer skills, in particular in data analysis. Experience in observing with large telescopes will be appreciated.

The candidate should be fluent in written and spoken English and/or French, the two working languages of the host group.

Duration of the position, place of assignment

The position, assigned to the Laboratoire des deux infinis Irène Joliot-Curie (IJCLab-CNRS, Orsay, France), is to be filled for 2 consecutive years. The starting date is September 2021, but applications to start up to two months later will be considered.

Travel

The selected candidate will be required to travel for technical and observational missions and to participate in meetings, workshops and conferences, both nationally and internationally.

Remuneration conditions

from 31785€ to 36648€ per year, depending on the candidate's experience. This amount includes social charges, and in particular the general health insurance.

Procedure for applying

To apply, please submit to Marc Moniez (moniez@ijclab.in2p3.fr) and Réza Ansari (ansari@ijclab.in2p3.fr) a detailed curriculum vitae, a publication list, a summary of previous research and a letter of motivation. In addition, please arrange for at least two letters of

recommendation to be sent to the above addresses. Complete applications received by 15 May 2021 will receive full consideration; however, applications will continue to be received until the position is filled.

A committee will be formed to interview the candidates whose applications have been selected. The interviews can take place remotely.