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PROPOSAL – JOB OFFER

Summary

The CNRS LAPP (Laboratoire d'Annecy-le-Vieux de Physique des Particules) is opening a 2-year long post-doctoral position on experimental neutrino physics, to work on the STEREO experiment. STEREO will search for sterile neutrinos in the $\Delta m^2 \sim 1 \text{ eV}^2$ range by looking for distortions in the energy spectrum of nuclear reactor antineutrinos at very short baselines. LAPP is in charge of the radioactive source calibration system, whose input will be crucial to understand any eventual distortion in the energy spectrum. Successful applicants are expected to take part in the calibration of the experiment, analysis of the antineutrino data, and detector shifts.

Detailed description

The Neutrino group at LAPP is involved in present neutrino oscillation experiments, such as OPERA at Gran Sasso, as well as in an R&D programme on Liquid Argon detectors (WA-105) for future long baseline oscillation experiments (DUNE). We also participate in neutrino-less double beta decay searches through the SuperNEMO demonstrator, and in the search for sterile neutrinos with the STEREO detector.

STEREO is being installed at the Institute Laue-Langevin in Grenoble (France), 10 m away from one of the most compact nuclear reactors in the world. It utilizes a gadolinium-loaded liquid scintillator technology to precisely study the energy spectrum of the antineutrinos produced by the reactor. Oscillation into an eventual sterile neutrino will leave an unmistakable imprint on the energy spectrum. Our group is in charge of the radioactive source calibration system, that will allow a precise control of the energy scale, as well as a characterization of the detector response in a broader sense (non uniformities, non-linearities, response to fast and slow neutrons, etc).

Data taking is expected to start in the Autumn of 2016 and last for 2 years. The successful candidate will have the chance to take part in the very first antineutrino data analysis. Furthermore, he/she will operate and exploit the calibration system, study the calibration data, and derive the relevant calibration quantities and corrections. Participation in detector operation shifts is also expected. Repeated trips to Grenoble (130 km away from LAPP) are thus foreseen.

Qualifications

A PhD in experimental Particle Physics is required. Experience in nuclear or particle physics detector hardware, Monte Carlo simulations and data analysis will be appreciated.

Context

LAPP is a combined CNRS and Université de Savoie Mont-Blanc unit. Close to 150 people are working at LAPP: researchers, professors, engineers and support staff, students and visiting scientists. The laboratory is very actively involved in several large international collaborations working on accelerators (ATLAS and LHCb on the LHC at CERN, BaBar at SLAC in California, OPERA in Gran Sasso) and astroparticle experiments (Virgo, AMS, H.E.S.S. and CTA). Involved in many R&D and construction programs for large research infrastructures, the laboratory's skills cover a large scope of domains involving innovative technologies in micro-electronics, complex mechanical structure design and optimization, grid computing and scientific software developments. The location of LAPP, 50 km from CERN, and the presence of the theory laboratory LAPTh in the same premises, make the LAPP campus a very attractive research place for scientists contributing to particle and astroparticle physics. LAPP hosts the MUST mid-range data storage and computing centre - widely open to distributed computing infrastructure supporting research and academic projects.

Information

Type of contract: temporary contract

Appointment period: 2 years

Scheduled hire date: 01/10/16 (earlier if possible)

Working quota: Full time job

Workplace: LAPP at Annecy – le – Vieux (74941)

How to apply

Interested candidates should send their scientific curriculum vitae, a cover letter and a research statement and arrange for at least two letters of recommendation to be sent to:

Pablo del Amo Sanchez
LAPP, IN2P3/CNRS
9 chemin de Bellevue, B.P. 110
F74941 Annecy-le-Vieux
FRANCE

They can also be sent at the following email address: delamo@lapp.in2p3.fr

Deadline for application

The review of applications will start on 15/07/16 and will continue until the position is filled. Only shortlisted candidates will be contacted.

Contact

Administrative Contact

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