



Experimental Neutrino Physics

Postdoc opening at LAPP, Annecy on the WA105 experiment

In the framework of the French Excellence Initiative "ENIGMASS" labex, the 'Laboratoire d'Annecy-le-Vieux de Physique des Particules' (LAPP-IN2P3/CNRS) has an opening for a postdoctoral position in the area of experimental neutrino physics.

As part of a research pole, the LAPP neutrino group is participating to the worldwide effort of developing neutrino detectors for future long baseline neutrino project aiming at investigating the existence of CP violation in the leptonic sector and the neutrino mass hierarchy, two properties still to be discovered. Those physics topics can be addressed using long baseline neutrino beam coupled to a very large underground neutrino detector. Large size liquid argon TPCs are well suited detectors for such goals in addition to be performant for various astroparticle subjects. In this context the LAPP group participates to the WA105 collaboration to build at CERN a 300 tons liquid argon prototype detector working in double phase mode. The goal of this project is to demonstrate the feasibility of building and operating 10 kton detector modules with this technology for a future neutrino long baseline project, like the DUNE experiment, and to test at CERN the detector physics capabilities and validate the performances using a 1 to 20 GeV/c charged particle beam.

The LAPP neutrino group is involved in the detector optimisation and in the construction of the demonstrator in collaboration with several international institutes. It is responsible for the mechanical design of the structure and automation of the charge readout plane positioning as well as part of the development of the scintillation light readout electronics.

The successful candidate will have a leading role in the LAr detector development activity at LAPP and the analysis preparation but also in important aspects of the project with the advantage of being located in Annecy close to CERN. The candidate will contribute to the preparation of the experiment. She/he will be involved in the simulation, reconstruction and study of the performance of the detector with special emphasis on the scintillation light detection, reconstruction and study and in comparisons with other LAr TPC designs under development. She/he will also participate to the construction, commissioning and running of the detector on the CERN site.

Minimum requirements are: PhD degrees in Physics, experience with particle detectors, Monte-Carlo simulations and data analysis.

The fellowship is awarded for an initial period of two years with the possibility of a third year extension.

The position will be located in the Laboratoire de Physique des Particules d'Annecy-le-Vieux (France) but frequent trips to CERN are foreseen.

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

Dominique DUCHESNEAU,

Email: duchesneau@lapp.in2p3.fr

Address: LAPP, IN2P3/CNRS,

9 chemin de Bellevue, B.P. 110, 74941 Annecy-le-Vieux, FRANCE

The deadline for the application is September 15, 2015; late applications will be accepted until the position is filled.

