Postdoctoral position at the CEA-Saclay/SPP (Paris, France) on the CMS experiment

The CEA-Saclay/SPP proposes a two-year postdoctoral position starting in September 2013 to work in the CMS experiment. Part of the work will be done also with the LLR group.

This project proposes a complete study of the spin/parity properties of the H boson, with an emphasis on the $H \rightarrow \gamma \gamma$ channel. The selected is expected to take the lead of this measurement in the $H \rightarrow \gamma \gamma$ channel, he will have to develop -and/or improve - an analysis strategy and understand the phenomenological aspects of this study to potentially combine with other channels. The analysis will be performed first on the 2011-2012 dataset, but part of the work shall concentrate on the prospects with the 14TeV LHC run. In this measurement the ECAL endcaps may play a determinant role. Therefore, the postdoctorate scientist will have to work within the ECAL or electron/photon reconstruction teams, with the important goal to improve the energy resolution especially in the endcaps and/or to participate to the major task of reconstructing electron/photon in the CMS Global Event Description (GED) framework. This work will translate into an important improvement not only in the spin study, but also in the $H \rightarrow$ four-lepton channel.

The successful candidate will work mainly with the CEA-Saclay/SPP group. This group played a major role in the conception, development, construction and commissioning of the ECAL crystal transparency monitoring system. As a consequence, it is one of the central group in the ECAL calibration team. It has also a strong implication in the $H \rightarrow \gamma \gamma$ analysis. Part of the work could be done jointly with the LLR group which has a strong experience in the particle flow technique and has a strong involvement in the $H \rightarrow$4leptons analysis.
The postdoc appointment will start in September 2013, at the latest on October the 1st, for two years. Interested candidates should send a curriculum vitae, a statement of interest and two reference letters to: Fabrice Couderc (fabrice.couderc@cea.fr).

For any additional information contact: fabrice.couderc@cea.fr