INSTITUTO DE FISICA CORPUSCULAR – IFIC

POST DOCTORAL POSITION

"Simulations for the LHC long-range beam-beam compensation with wires"

The performance of the LHC and its high-luminosity upgrade can be severely limited by the long-range beam-beam effect. One of the possible compensation scenarios is the use of DC wires in either part of the high-luminosity IP, for each beam, in order to cancel locally the non-linear long-range force and increase the dynamic aperture, or equivalently allow the reduction of the crossing angle. An experimental program has been foreseen by the installation of four collimators in both IPs, equipped with electrical wires. This program is supported by the European Organization for Nuclear Research (CERN) and the EU FP7 program HL-LHC (European Coordination for Accelerator Research and Development).

In the framework of this project we are looking for a Post doc who would participate in tracking simulations for the wire compensation test program in the LHC, exploring the effectiveness of the compensation in the actual locations foreseen for the test wires, the tolerances with respect to alignment and current and the specification of measurable quantities which are influenced by the long range effect and its compensation in the LHC machine at collision, along with the required beam instrumentation. The candidate will be employed by the Instituto de Fisica Corpuscular IFIC in Valencia, Spain. The candidate is expected to spend a significant part of his time at CERN to collaborate in the simulation tasks.

IFIC is a High Energy Physics Institute where ongoing research activities include experimental and theoretical work with application in near-term and far-future projects, offering the possibility to work on a rich scientific environment at the forefront of a broad range of High Energy Physics studies. IFIC has also a number of groups working in the field of Medical Physics covering accelerator and detector developments and image reconstruction.

Applicants must have a PhD in Physics at the time of the recruitment and have to submit curriculum vitae including a statement of research interest. Applications should be sent, no later than middle of November 2014, to

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More information about HL-LHC can be found at:
http://hilumilhc.web.cern.ch/HiLumiLHC/index.html