

EP Seminar

SPEAKER: Patrick Janot (CERN)

A circular e+e- collider to study H(125)?

DATE: Tue 30/10/2012 11:00

PLACE: Council Chamber

ABSTRACT

The strategy for future collider projects will be influenced strongly by the discoveries of the LHC. The discovery by ATLAS and CMS of a 125 GeV/c2 boson naturally focuses attention on concepts for a Higgs factory to study in detail the properties of this remarkable particle. Such a machine should be able to go significantly beyond the capabilities of the LHC and its upgrades for Higgs studies, as well as offering other physics possibilities. Circular electron-positron colliders are among the options that merit further study, for a fully-informed decision to be taken at the appropriate time. Options for CERN include LEP3 – capable of collisions at energies up to \sim 240 GeV, that could be located in the LHC tunnel either after exploitation of the LHC or in parallel – and TLEP – a collider in a larger tunnel in the Geneva area that could reach energies above the top threshold. The physics potential of these circular colliders will be presented and compared to that of other options.