

Ions at the Future Hadron Collider

Andrea Daines, Silvia Masciocchi, Urs Achim Wiedemann

Introductory comments:

- Some slides shown by F. Gianotti on 18/11/2013
- Organizing contribution of the HI-community .

d) To stay at the forefront of particle physics, Europe needs to be in a position to propose an ambitious post-LHC accelerator project at CERN by the time of the next Strategy update, when physics results from the LHC running at 14 TeV will be available. ***CERN should undertake design studies for accelerator projects in a global context, with emphasis on proton-proton and electron-positron high-energy frontier machines. These design studies should be coupled to a vigorous accelerator R&D programme, including high-field magnets and high-gradient accelerating structures, in collaboration with national institutes, laboratories and universities worldwide.***

- European ambition is energy frontier physics.
- The main motivation of the next ambitious machine is physics beyond Higgs.
- Coherence with outside of Europe i.e. “global context” important



CERN Management set up a FCC project, with the main goal of preparing a Conceptual Design Report by the time of the next ES (~2018)

CDR main scope is to describe technical feasibility (e.g. tunneling, magnets), design (e.g. machine, experiments), cost, and physics motivations

Project Leader: Michael Benedikt (BE-OP)

Emphasis on (and design driven by) high-energy pp collider requirements. An e^+e^- machine (previously known as “TLEP”) and/or an ep machine could be built in the same tunnel if justified by physics in the international context (e.g. no ILC)

- A kick-off meeting is planned on 12-14 February 2014
(in full clash with ATLAS week ... date driven by DG availability)
- Location: University of Geneva
- Preparatory group (Steering committee) put in place

Purpose of this meeting

- Identify and discuss topics which we can work on further in preparation of the FHC-workshop 12-14 Feb 2014
(on this short notice, no detailed simulations are expected, conceptual ideas will be most valuable)
- How do we organize ourselves to channel insights from the LHC heavy ion programme and inputs of the heavy ion physics community into the FHC CDR that is foreseen for 2018?
(Our discussion should help to decide on the structure of a more widely announced meeting of the HI community.)