LHC / LC Study Group meeting – Introduction

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IPPP Durham

CERN, 11/2004

Worldwide Study of the Physics and Detectors for Future Linear $e^+ e^-$ Colliders

`www.ippp.dur.ac.uk/~georg/lhclc`

First LHC / LC Study Group report: hep-ph/0410364

hep-ph/0410364

Physics Interplay of the LHC and the ILC

The LHC / LC Study Group

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122 authors from 75 institutions, 472 pages

Next steps:

- Submission as CERN Yellow Report
- Submission to *Physics Reports*

Work doesn't stop with the completion of our first report

- LHC / ILC interplay is a very rich field, we have only scratched the surface so far

  The first report contains many ideas for possible LHC / ILC interplay that need to be worked out in detailed studies

- As input for studying LHC / ILC synergy we need detailed information on how well LHC and ILC can measure wide variety of observables in different scenarios

  $\Rightarrow$ make use of the many new results that will come out of the ongoing ATLAS, CMS and ILC physics studies (full simulations, new scenarios)

LHC $\otimes$ ILC analyses

- Many of the analyses so far were mainly LHC analyses where at the very end some ILC input was injected (or the other way round)

  Aim should be LHC / ILC analyses that make use of the interplay from the start

  $\Rightarrow$ Need to build up framework for coherent LHC / ILC analyses to maximise physics benefit from both machines

Dates for the diary

- Les Houches Workshop: Physics at TeV Colliders
  Meeting: May 2–20, 2005

- Snowmass Workshop: August 14–27, 2005

- Next LHC / LC Study Group meeting: *date to be fixed*

LHC / LC or LHC / ILC?

Should we call ourselves LHC / ILC Study Group from now on?