DESY Seminar

Tuesday, 18.12.2007, 17h

DESY Hörsaal

LHC upgrade scenarios

- physics, machine and detector -

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The construction and installation efforts for the Large Hadron Collider and its detectors at CERN are almost finalized. The commissioning of components is ongoing since some time in several areas. First proton-proton collisions at the unprecedented center-of-mass energy of 14 TeV should start in summer 2008 and after some time, the luminosity shall reach its design value of 10^{34} $cm^{-2}s^{-1}$. To further extend the physics potential of LHC for discoveries as well as for precision measurements, an increase in the luminosity by about one of order of magnitude is presently being considered. Given the timescales involved in the design and the construction of the LHC as well as of the detectors, it is clear that studies for possible upgrades have to be pursued now. In this talk an overview of possibilities for extending the physics potential of LHC will be given, followed by a discussion of scenarios for upgrades of the accelerator. The ever more so demanding conditions on the detectors of such a luminosity upgrade will then be assessed and ideas and plans for upgrades of parts of the multi-purpose LHC detectors will be presented.

- **Tea and cookies will be served at 16.45h in the lobby**
- **After the seminar there is a chance for private discussions with the speaker over wine and pretzels**