Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday, 5.11.2019

(16:00 in Room 459/30b)

High Luminosity LHC: performance, layout and operational scenarios

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Abstract

The Large Hadron Collider (LHC) has been in operation since 2010 and a major upgrade will be taking place after 2024. This will allow the LHC to reach a factor five higher instantaneous luminosity (rate of collisions) and a factor ten integrated luminosity (total collisions created) beyond the original design value. The new configuration, known as High Luminosity LHC (HL-LHC), relies on a number of accelerator technology innovations such as Nb3Sn superconducting magnets and advanced operation modes such crab crossing, luminosity levelling and reduced beam spot size in collisions. The seminar illustrates the key features of the machine layout and the operational scenarios that are designed to reach the performance goals. of beam coupling impedance.

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