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Status and prospects of the HL-LHC project

Thursday 18 July 2024 14:30 (18 minutes)

The High-Luminosity LHC project aims to increase the integrated luminosity by an order of magnitude and enable its operation until the early 2040s. This presentation will give an overview of the current status of the project, for which several achievements can be reported, from the completion of the civil engineering to the successful demonstration of new key technologies such as the Nb3Sn magnets and MgB2 based sc links.
Preparing the LHC machine for a targeted integrated luminosity of 3000 fb-1 requires not only new, more radiation-tolerant and larger aperture triplet magnets but developments in several other key areas of accelerator technology, including crab-cavities, beam optics, collimation, beam instrumentation, magnet protection systems and high accuracy high current power converters. The HL-LHC project is therefore not only an upgrade of the LHC machine, but also a technology driver that develops technologies that will impact future accelerator projects like the FCC and EIC.

Alternate track

I read the instructions above

Yes

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