

Progress of the HL-LHC accelerator and contribution from IHEP

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The High-Luminosity LHC (HL-LHC) is a crucial upgrade of the Large Hadron Collider (LHC). Its aim is to raise the LHC's collision rate by 5 times. The construction of the HL-LHC accelerator needs several technological breakthroughs. Key among them are new superconducting magnets placed on either side of the ATLAS and CMS detectors, can create a much stronger magnetic field than present ones. In 2018, IHEP signed agreement with CERN to join the HL-LHC collaboration with in-kind contribution of developing CCT superconducting magnets for the project. As of 2025, the HL-LHC string test is underway. In total 10 CCT magnets from IHEP have been delivered to CERN. All of them passed the performance test carried out at CERN. This talk will briefly introduce the background of the project, then focus on the latest progress of the contribution from IHEP, and plan for future regarding to the collaboration on accelerator technology between IHEP and CERN will also be presented.

Primary author: XU, Qingjin (高能所)

Presenter: XU, Qingjin (高能所)

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