

CMS upgrade plan for high-luminosity era and prospect on heavy-ion physics

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The CMS Collaboration has a major detector upgrade plan during the long shutdown 3 (LS3) to prepare the high-luminosity runs. It includes the new tracking system, the muon system, the electromagnetic and hadronic calorimeters, and the trigger system. This upgrade will significantly enhance the physics performance of the CMS detector not only for proton-proton collisions, but also heavy-ion collisions in high-luminosity environment. In this presentation we, firstly, give an overview of the CMS upgrade plan during LS3. Then, we present the impact of the detector upgrade to the various physics observables for heavy-ion physics to better understand the interaction of quarks and gluons in hot, dense medium.

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