The CMS-TOTEM Upgrade Programme

Tuesday, 29 April 2014 16:30 (25 minutes)

After the first LHC Long Shutdown, TOTEM and CMS will join forces to create a combined apparatus with the largest rapidity coverage and with a very performing two-arm proton spectrometer. Focussing on the process of central diffraction opens unique opportunities for exploring QCD in new phase space regions, for performing competitive electroweak measurements, and for the search for new physics.

First studies of central diffraction and, in particular, diffractive dijet production in special runs in 2012 have provided the proof of concept, but demonstrate that even at moderate luminosities a key issue to be overcome in physics with leading protons is the pileup of several events per bunch crossing.

This talk will outline the physics programme, the operational challenges and the strategy for increasing the reachable integrated luminosity and rendering the apparatus capable of resolving event pileup.

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