The CMS-TOTEM Precision Proton Spectrometer

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The CT-PPS (CMS-TOTEM Precision Proton Spectrometer) detector system consists of silicon tracking stations as well as timing detectors to measure both the position and direction of protons and their time-of-flight with precision of the order of 20 ps. They are located at around 200 m from the interaction point in the very forward region on both sides of the CMS experiment. CT-PPS is built to study Central Exclusive Production (CEP) in proton-proton collisions at LHC, including photon-photon production of W and Z boson pairs, high-mass diphoton and dilepton production, high-pT jet production, as well as searches for anomalous couplings and new resonances.

In 2016 the CT-PPS detector has taken data at high luminosity while fully integrated to the CMS data acquisition system. The total data collected correspond to around 15° fb⁻¹. In this presentation an overview of the CT-PPS project is given. The CT-PPS operation during 2016 and the new detector systems installed in 2017 are discussed. The expected performance and sensitivity to different physics processes are outlined.

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