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Detector performance of the CMS Precision Proton Spectrometer during LHC Run2 and its upgrades for run3

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The CMS Precision Proton Spectrometer (PPS) 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 high precision. Special devices called Roman Pots are used to insert the detectors inside the LHC beam pipe to allow the detection of scattered protons close to the beam itself. They are located at around 200 m from the interaction point in the very forward region on both sides of the CMS experiment. The tracking system consists of 3D pixel silicon detectors while the timing system is made of Diamond pixel detectors and Ultra Fast Silicon Detectors.
PPS has taken data at high luminosity while fully integrated to the CMS experiment. The total data collected correspond to around 100 /fb during the LHC Run2.
In this presentation, the PPS detector operation, commissioning and performance are discussed, as well as the upgrades foreseen for Run3.

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