

# The Run 3 timing detector of the CMS Precision Proton Spectrometer: status and performance

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The CMS Precision Proton Spectrometer (PPS) detector system measures the positions and time-of-flights (ToF) of protons that remain intact in the collision in the very forward region at the LHC. The detector system consists of movable tracking and timing stations around 200 m on both sides of the interaction point of the CMS. The detectors can be moved to a few millimetres from the circulating beam and the detectors will be exposed to highly non-uniform irradiation. For Run3 the ToF measurement system was upgraded with the aim of improving the radiation tolerance and obtaining a time resolution of less than 30 ps. It uses 500  $\mu\text{m}$  thick single crystal CVD diamond sensors in double-diamond configuration. The detectors have been operated in high luminosity conditions during Run3. The PPS timing detector and its performance in Run3 will be presented, with focus on the testing of the diamond sensors.

## Collaboration

## Role of Submitter

I am the presenter

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