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Operation and performance of the CMS pixel detector

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The CMS tracker detector comprises two tracking devices utilizing semiconductor technology: the pixel and strip detectors. They are operating in a high-occupancy and high-radiation environment created by the beam interactions in the Large Hadron Collider (LHC). The pixel occupies the innermost region of the CMS detector providing the closest measurement points for charged particles produced in the LHC collisions. After introducing the detector, the presentation will describe the operational experiences collected during the first three years of LHC running. It will include operational challenges encountered during data taking. Some details will be given on the performance at high occupancy with respect to local observables, such as cluster properties and hit reconstruction efficiency, and on performance degradation due to radiation effects.

Presenter: VESZPREMI, Viktor (Wigner RCP, Budapest (HU))