

Abstract Submitted  
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**Phase 1 Upgrade of the CMS Pixel Detector: Module Assembly and Testing** ASHISH KUMAR, SUNY at Buffalo, CMS COLLABORATION — The CMS pixel detector is the innermost component of the all-silicon tracking system located closest to the interaction point and thus operates in a high-occupancy/high-radiation environment created by particle collisions. The performance of the current pixel detector has been excellent during Run 1 of the LHC. However, the foreseen increases of the instantaneous and integrated luminosities at the LHC necessitate an upgrade of the pixel detector in order to maintain the excellent tracking and physics performance of the CMS detector. The new pixel detector is expected to be installed during the extended end-of-year shutdown in 2016/17. The main new features of the upgraded pixel detector would be ultra-light mechanical design with four barrel layers and three end-caps on either side of the interaction point, digital readout chip with higher rate capability and new cooling system. These and other design improvements, along with the current status on module assembly and testing, will be discussed.

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