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Module Testing for CMS FPIX Upgrade

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The pixel detector is an integral part of the CMS silicon tracker, designed to measure the position and momentum of charged particles produced in high-energy collisions at the Large Hadron Collider (LHC). Over the coming years, the LHC will deliver increased instantaneous luminosity to the CMS detector, soon reaching double the design luminosity. The phase 1 upgrade of the CMS pixel detector will replace the existing pixel detector at the end of 2016 during an extended technical stop. This upgrade will include four barrel layers and three forward disks, providing robust tracking and vertexing to avoid performance degradation under extreme pileup conditions. The CMS group from UIC is responsible for X-ray testing of pixel modules at UIC and full calibration at Fermilab's SiDet Facility. Module testing and qualification procedures of the phase I upgrade are described.

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