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## The Pixel Luminosity Telescopes a Dedicated Luminosity Monitor for CMS

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The Pixel Luminosity Telescopes (PLT) will be the first dedicated luminosity monitor installed in the CMS experiment at CERN's Large Hadron Collider. It is designed to measure the bunch-by-bunch relative luminosity to high precision. It consists of a set of small angle telescopes each with three planes of pixel sensors. The full PLT will be installed in CMS for the first full energy operation of the LHC in September 2014. In the 2012-2013 LHC run a pilot PLT detector was installed consisting of both single-crystal diamond and silicon sensors giving a first look at their performance in a continuous high-rate environment. This was the first operation of a diamond pixel tracking detector in a high energy physics experiment and is providing the first data on diamond pixel sensors under high particle rate in a high radiation environment. We will report on the design, construction, testing, and installation status for the 2014 installation as well as report the findings of the single-crystal diamond based pilot detector. In addition we will discuss high-rate studies of polycrystalline diamond sensors for potential use in the PLT for the 2014 installation.

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