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## Diamond Pixel Detector Systems in High Energy Physics

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With the first three years of the LHC running complete, ATLAS and CMS are planning to upgrade their innermost tracking layers with more radiation hard technologies. Chemical Vapor Deposition (CVD) diamond is one such technology. CVD diamond has been used extensively in beam condition monitors as the innermost detectors in the highest radiation areas of BaBar, Belle, CDF and all LHC experiments. More recently the first diamond based hybrid pixel detector system with state-of-art front-end electronics, the ATLAS FE-I4 pixel chip, was built and installed into ATLAS. This talk will describe the lessons learned in constructing diamond-based pixel systems in high energy physics, specifically the ATLAS Diamond Beam Monitor (DBM) and the CMS Precision Luminosity Telescope (PLT).

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