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History and Current Status of Hamamatsu Si detectors

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We have been developing various types of SSDs (Silicon Strip Detectors).
Hamamatsu SSDs has been used as tracking detector in many collider experiments [CELPHI, CDF, ZEUS, ATLAS, CMS, BELLE, etc.] and space experiments [FGST(GLAST), AGILE, etc.].
For LHC, we have developed SSD which have high radiation tolerance and good quality of low bad channel rate. We delivered 15,500 SSDs to ATLAS from 1999 to 2002 year and delivered 24,000 pieces of SSDs to CMS from 2002 to 2005 year.
In addition, 140000pcs of Hamamatsu APDs (Avalanche Photo Diodes) are also used as photo detector of PWO4 scintillator in the CMS electromagnetic calorimeter. These APDs have high blue sensitivity and low noise characteristics.
The MPPC (Multi-Pixel Photon Counter, Hamamatsu trade mark) is a solid state device made up of multiple APD pixels operated in Geiger mode. MPPC is well matched to detect the week emission light of scintillators for High Energy Physics or medical applications. For example, T2K experiment adopted MPPCs and is using 60,000 pieces of 1.3x1.3mm-MPPCs. MPPC will be expected and evaluated for Cherenkov light detection.
We are continuing to develop Si detectors for next experiments like HL-LHC (High Luminosity-LHC) that requires enhanced radiation hardness of 5 times or more.

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