Industry meets Academia: Beam Monitoring Instrumentation and Quality Assurance



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Beam Profilometry with Crystalline Silicon Detectors

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Particle and nuclear physics experiments have been pushing the development of position sensitive semiconductor detectors, notably based on Silicon and with a pixelized layout.

Available systems and dedicated detectors resulting from the same background knowledge have been recently commissioned for beam profilometry in a broad sense, ranging from a modern, digital equivalent of the alumina scintillator screens to devices capable of providing quantitative information on the beam parameters. The review will essentially address results based on 3 extremely complementary approaches and technologies:

- a hybrid pixel detector based on the MEDIPIX counting chip
- a hybrid pixel detector based on the LHCb vertex detector technology
- a dedicated monolithic active pixel detector with moderate granularity, high dynamic range and high frame rate.

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