

## Fast timing silicon tracking detectors

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The last few years has seen the emergence of fast timing silicon detectors, first pioneered for the HL-LHC at CERN, as an option for deployment in large tracking arrays. These silicon detectors are based on the Low Gain Avalanche Detector (LGAD) concept, and are being made by a large number of vendors and labs. In addition a significant amount of R&D worldwide is happening to try and improve on the initial devices for many other applications. The device now most tested is the AC-LGAD with a goal of providing 4-dim tracking, that is position resolution  $<15$  microns and timing measurement  $<15$  picoseconds for each individual measurement. I will present the status of the LGAD family of devices and in the backup slides a number of interesting physics applications proposed.

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