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ATLAS HGTD Upgrade

Saturday, 1 December 2018 09:25 (15 minutes)

In 2014-2025 the ATLAS detector at LHC (CERN, Geneva) will be upgraded to withstand the high pileup expected at HL-LHC. The inner tracker will be completely renewed with the ITk project and other parts detectors will be upgraded. HGTD will probably be included in the list of upgrades, it consist in 4 (yet to be confirmed) layers of pixel LGADs detectors in the pseudorapidity region of 2.4 to 4.2. LGADs (low gain avalanche detectors) are silicon detector with an additional multiplication layer with gain of ~10, thanks to the high rise of the signal pulse these detector can reach the exceptional time resolution of 30ps. In the talk a brief summary of the HGTD project will be given alongside the physics motivations, a part of the talk will be dedicated to LGAD technology.

Session

Works in Progress (15+5 min)

Primary authors: SIMONE MICHELE, Mazza (UCSC); Mr ZHAO, Yuzhan (UCSC)

Presenter: Mr ZHAO, Yuzhan (UCSC)

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