

Development of Ultra-Fast Silicon Detector for 4D tracking

Nicolo Cartiglia

INFN Torino

In this seminar I will review the progress towards the development of a new type of silicon detectors suited for picosecond tracking, the so called Ultra-Fast Silicon Detectors . UFSD are based on the concept of Low-Gain Avalanche Detectors, which are silicon detectors with an internal multiplication mechanism so that they exhibit a signal which is a factor of ~ 10 larger than standard silicon detectors. This increased signal makes LGAD ideal for many applications, ranging from experiments requiring very low material budgets, to very high radiation environment, to applications that need very precise timing.

I will report on first measurements and the plan for future productions.