

Status of the Freiburg ALIBAVA systems on the laser and beta setups

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There are two setups in Freiburg with the new ALIBAVA system as a replacement for the binary ATLAS SCT DAQ for testing silicon strip detectors (planar and 3D detectors). The first setup is a beta setup with a radioactive source (Sr90) for charge collection efficiency measurements and the second one is a laser setup with an infrared pulsed PicoQuant laser to investigate the space-resolved electric field and the charge collection efficiency. Some laser scans were performed on various parts of a planar reference detector with ALIBAVA. In the future we want to learn more about the electric field distribution and space-resolved charge collection efficiency of the detectors with this measurement. Measuring highly irradiated detectors requires an efficient cooling system to reduce leakage current and prevent thermal runaway. Standard cooling systems as used (e.g. on ATLAS module tests) circulating a cooled liquid are not sufficient. Therefore in the near future a new cooling system based on liquid nitrogen will be installed in Freiburg to cool down to deep temperatures.

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