

## 8th Beam Telescopes and Test Beams Workshop



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# Overview of beam tests for the ATLAS ITk planar sensor market survey

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After the upgrade of the LHC to the HL-LHC, the experiments will need to cope with new, more challenging conditions. The higher luminosity and particle flux of the HL-LHC will cause a higher occupancy and radiation dose. Therefore, a new tracking system for the ATLAS experiment is required: the Inner Tracker (ITk). It will consist of several types of silicon sensors. For the pixel detector there are different technologies foreseen, like 3D and planar pixel sensors with different thicknesses.

Due to the large volume of the sensor production for ITk, a global market survey was started to identify vendors to invite to tender. As part of the market survey process a group of institutes test the delivered sensors' functionality and quality. These tests include measurements in the lab as well as beam tests.

This talk presents an overview of the testbeam campaigns at DESY for the ATLAS ITk planar sensor market survey. The recorded data is reconstructed with EUTelescope and analysed with TBMon2. To ensure comparable results of different beam tests fixed values for some of the parameters used in the reconstruction and analysis are chosen. The choice of these values for EUTelescope as well as for TBMon2 is explained exemplarily. In addition, first results of different measurements are presented.

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