Contribution ID: **17** Type: **not specified**

Test beam studies on n-in-p planar pixel sensors

Thursday 4 February 2016 09:40 (20 minutes)

Pixel modules composed by n-in-p sensors interconnected to ATLAS FE-I4 chips and irradiated up to a fluence of 5e15 were measured at testbeam campaigns at DESY and CERN. The AIDA-Telescopes at both sides together with the EuTelescope softwaere were used in order to study the performance after irradiation in terms of hit efficiency of different pixel cell designs. Different resolutions were obtained from the two test beams which will be discussed and compared. Measurements of charge collection at different depths in the pixel sensor bulk have been obtained with the grazing angle technique for n-in-p pixel sensors. This analysis also allows for the determination of hit efficiency with small pixel pitches in the high pseudo-rapidity range of the new pixel systems at HL-LHC. Furthermore not irradiated modules with thin sensors (100 um) were tested with the FEI4-Telescope at CERN and reconstructed with the Judith and EuTelescope software. The results will be discussed and compared.

Primary author: SAVIC, Natascha (MPI)

Co-authors: MACCHIOLO, Anna (MPI); NISIUS, Richard (MPI); TERZO, Stefano (MPI)

Presenter: SAVIC, Natascha (MPI)

Session Classification: Data analysis