

Irradiated n-in-p planar pixel sensors of different thicknesses and active edge designs

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We present results of the characterization of n-in-p planar pixel modules employing 100 and 200 μm thin sensors with active edges produced at VTT, Finland, and 150 μm thin sensors produced at MPP/HLL. These are interconnected with bump bonding to either FE-I3 or FE-I4 ATLAS read-out chips and irradiated up to a fluence of $1\text{e}16$.

A comparison of the performance of the different sensor thicknesses and studies of the edge properties for the VTT sensors have been performed with radioactive sources in the laboratory and using precise beam test measurements with 120 GeV pions at CERN SpS and 4 GeV electrons at DESY, Hamburg.

Primary author: TERZO, Stefano (Max-Planck-Institut fuer Physik (Werner-Heisenberg-Institut) (D))

Co-author: MACCHIOLO, Anna (Max-Planck-Institut fuer Physik (Werner-Heisenberg-Institut) (D))

Presenter: TERZO, Stefano (Max-Planck-Institut fuer Physik (Werner-Heisenberg-Institut) (D))

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