

## Characterization of thin high irradiated n-in-p planar pixel sensor

*Friday, 16 November 2012 10:00 (20 minutes)*

Silicon pixel modules employing n-in-p planar sensors with an active thickness ranging from 75 $\mu$ m to 285 $\mu$ m were assembled with both FE-I3 and FE-I4 ATLAS chips.

The thinned sensors are designed to avoid the signal degradation and ensure the radiation hardness even after high fluences, moreover the n-in-p technology requires a single side processing and is a cost-effective alternative to n-in-n sensors for larger radii of the silicon pixel tracker.

In this talk we present and compare results of the characterization of these pixel modules after high irradiation up to a fluence of  $1e16 \text{ n}_{eq} \text{ cm}^{-2}$ .

High precision beam test measurements have been performed with high energy pions at the SpS CERN and compared to results from laboratory obtained using a radioactive Sr90 source.

Cluster proprieties, charge collection and tracking efficiency of the devices have been investigated.

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