

## The ALICE Inner Tracking System: performance with proton and lead beams

The Inner Tracking System (ITS) of the ALICE experiment consists of six cylindrical layers of silicon detectors, exploiting three different technologies: pixel detectors for the innermost 2 layers, drift detectors for the two central layers and double sided strip detectors for the last two layers. Each layer has hermetic structure in  $r$ - $\phi$  and it is coaxial with the beam pipe. The ITS covers the pseudorapidity range  $|\eta| < 0.9$  and its distance from the nominal beam line ranges from 3.9 cm for the innermost layer up to 43 cm for the outermost. The overall number of independent sensors is 2198 and the spatial alignment of the ITS requires the determination of about 13000 parameters. The ITS main functions are those of providing both primary and secondary vertices reconstruction, of improving the ALICE barrel tracking capabilities in the vicinity of the interaction point and of improving the momentum resolution at high  $p_T$ . Furthermore, as a standalone tracker, the ITS recovers particles which are missed by the external barrel detector, due to acceptance limitations.

After a short summary on the status of spatial alignment and detector calibration, this talk will cover the ITS performance with p-p and Pb-Pb collisions in 2010 for what concerns vertexing and tracking.

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