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## Tracking and vertexing performance of the ATLAS Inner Detector at the LHC

The ATLAS experiment at the LHC is equipped with a charged particle tracking system, the Inner Detector, built on three subdetectors, which provide high precision measurements made from a fine detector granularity. The Pixel and microstrip (SCT) subdetectors, which use the silicon technology, are complemented with the Transition Radiation Tracker.

In this talk, the performance of the track reconstruction of the ATLAS Inner Detector in terms of tracking efficiency and track parameter resolution is presented, using data taken at center-of-mass energy of 7 TeV. The reconstruction of known particle decays is an important tool to understand the track and vertex reconstruction and particle identification capabilities of the ATLAS Inner Detector. Several different particle decays such as  $K^0$ ,  $\Lambda$ ,  $D$ ,  $K$  etc. have been reconstructed and their properties compared to MC predictions. Different approaches for primary vertex reconstruction are compared in terms of their reconstruction efficiency and capability to identify events with several pile up collisions.

(Abstract submitted by the ATLAS Inner Detector Speaker Committee.  
The speaker will be defined later)

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