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Tracking and vertexing in the ALICE experiment at the LHC

In this talk we will give an overview of the methods for track and vertex reconstruction being used in the ALICE experiment at the LHC.

In response to the challenge of high charged-particle multiplicities (up to $dN/dy \sim 2000$) and relative softness of particle momentum spectra observed in Pb-Pb collisions, ALICE has implemented a few specific algorithmic approaches allowing for substantial improvements in the reconstruction efficiency and precision.

With the coming upgrade of the main detectors, the experiment is going to increase its event-recording rate by about two orders of magnitude.

The differences in the reconstruction strategy between the current and future data taking scenarios, in particular the track-to-vertex association under conditions of continuous readout, will be discussed in this presentation as well.

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