



Contribution ID: 623

Type: Parallel talk

## The new Inner Tracking System for the ALICE Upgrade

*Thursday 11 July 2019 09:45 (15 minutes)*

ALICE (A Large Ion Collider Experiment) is the CERN LHC experiment optimized for the study of the strongly interacting matter produced in heavy-ion collisions, in particular the characterization of the quark-gluon plasma. ALICE is preparing a major upgrade of its detector to be installed during the second long LHC shutdown (LS2). The main objective is to increase the readout capabilities to allow the readout and recording of Pb–Pb minimum bias events at rates in excess of 50 kHz, the expected Pb–Pb interaction rate at the LHC after LS2. This increase in readout speed, together with the deployment of a new data acquisition system capable of recording all collisions, will imply an increase by about two orders of magnitude in the collectible minimum-bias statistics compared to the present ALICE set-up. One of the key components of the LS2 upgrade programme is the replacement of the current Inner Tracking System (ITS) with an entirely new one (ITS2) which will bring about an increased vertexing and tracking performance, especially for particles with low transverse momentum ( $p_T < 1$  GeV/c). The new ITS consists of seven approximately-cylindrical detector layers based on CMOS Monolithic Active Pixel Sensors (MAPS) with the sensor matrix and readout integrated in a single chip, named ALPIDE (ALice Pixel DEtector), covering a  $10\text{ m}^2$  area with about 12.5 billion pixels. This talk will present the motivations, the requirements and the overall layout of the ITS2 as well as the construction and commissioning status.

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**Session Classification:** Detector R&D and Data Handling

**Track Classification:** Detector R&D and Data Handling