

# Quark Matter 2019 - the XXVIIIth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions



Contribution ID: 200

Type: Oral Presentation

## Upgrading the Inner Tracking System and the Time Projection Chamber of ALICE

*Tuesday, 5 November 2019 18:20 (20 minutes)*

The ALICE experiment at CERN is undergoing a major upgrade during the Long Shutdown 2 (LS2) of the LHC during 2019-2020. The key elements regarding the central barrel are the installation of a new Inner Tracking System (ITS) and the upgrade of the large Time Projection Chamber (TPC).

The TPC, the main tracking and PID device of ALICE, is currently being upgraded with a new readout system, including new GEM-based Readout Chambers and new front-end electronics. This will enable to operate the TPC in continuous mode, recording the full minimum-bias interaction rate of 50 kHz in Pb-Pb, as anticipated at the LHC in Run 3 and beyond.

The new ITS based on CMOS Monolithic Active Pixel Sensors, will significantly improve the impact parameter resolution and the tracking efficiency, especially for particles with low transverse momenta, as well as the readout rate capability. The ITS will cover a total surface area of 10 m<sup>2</sup> containing 12.5 billion pixels of about 29 × 27 μm<sup>2</sup> achieving a material budget of 0.35 % X<sub>0</sub> for the three innermost layers.

This talk will summarize the motivation and concept of these upgrades as well as report on the status of the assembly and commissioning at the surface.

Furthermore, an outlook

will be given on plans for the installation and the upgrade of the ITS foreseen for the third long shutdown of the LHC in 2024-2026. For the following upgrade, the three innermost layers will be replaced by cylindrical detector layers, made of curved wafer-scale-sized CMOS sensors, to even further lower the material budget and to improve the pointing resolution.

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**Session Classification:** Parallel Session - Future facilities

**Track Classification:** Future facilities and instrumentation