



Contribution ID: 194

Type: **Talk**

ALICE upgrades

Friday 2 September 2022 12:00 (20 minutes)

To understand properties of strongly interacting matter especially in a heavy flavor sector or thermal radiation of plasma the ALICE experiment has significantly upgraded its detectors. In order to improve the pointing resolution and readout rates, a completely new silicon-pixel Inner Tracking System (ITS) was installed and extended to cover the acceptance of the forward muon detectors with a brand new Muon Forward Tracker (MFT), and the readout chambers of the Time Projection Chamber (TPC) were replaced with chambers using GEM foils to reduce ion backflow. In addition the Fast Interaction Trigger (FIT) has been modified and the Data Acquisition system has been redesigned.

After Run 3 the Forward Calorimeter (FOCAL) will be installed and further improvements of the inner most layers of the ITS are planned. The expected integrated luminosity collected by the ALICE detector during Run 3 and 4 will be 50 times more the recorded luminosity for minimum bias events from Run 1 and 2 and are $L^{\text{Pb-Pb}} = 13/\text{nb}$ and $L^{\text{O-O}} = 0.5/\text{nb}$ for lead and oxygen nuclei, respectively. For Run 5 and 6, a complete replacement of the ALICE detector with an all-silicon tracker with large rapidity coverage and a retractable inner tracking system that provides unique pointing resolution at mid-rapidity, complemented by modern particle-identification detectors is proposed.

The target luminosity for Run 5 and 6 is $L^{\text{Pb-Pb}} = 35/\text{nb}$ for lead collisions. Perspectives for selected new results like photon initiated interactions in ultra-peripheral collisions, heavy flavor production or measurements at small Bjorken- x will be presented.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

ALICE, <https://alice-collaboration.web.cern.ch/>

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

Yes

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