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## Synchronous and Asynchronous Data Quality Control of the ALICE Inner Tracking System in the LHC Run 3

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The Inner Tracking System (ITS) of the ALICE experiment at the CERN Large Hadron Collider (LHC) is the largest Monolithic Active Pixel Sensor technology application in high-energy physics.

The updated version of the tracking system, called ITS2, consists of seven concentric layers of ALPIDE monolithic active pixel sensors produced in the 180 nm CMOS process, covering a total sensitive area of about 10 m<sup>2</sup>.

The sensor features a pixel pitch of  $27 \mu\text{m} \times 29 \mu\text{m}$  and a position resolution of about  $5 \mu\text{m}$ . The very low material budget, 0.36%  $X_0$ /layer for the three innermost layers and 1.10%  $X_0$ /layer for the outer layers, in combination with the small radial distance of only 23 mm from the beam, leads to an excellent impact parameter resolution at low transverse momentum. This makes the detector well suited for experimentally challenging physics measurements such as the reconstruction of low transverse momentum heavy-flavor particles in the heavy-ion collision environment.

The contribution provides an overview of the ITS2 data Quality Control system (QC), a framework designed to synchronously monitor the detector operating parameters and provide asynchronous reconstruction of the collected data, with the goal of guaranteeing a stable and efficient data taking.

The monitoring for fake-hit rate, front-end electronics status, data integrity, cluster and track distributions, will be presented, together with a preview of the ITS2 performance during the recent Run 3 pp and Pb-Pb data taking campaigns, as extracted from the QC asynchronous reconstruction.

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