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Commissioning of the continuous readout TPC in the ALICE experiment

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The largest gaseous time projection chamber (TPC) in the world, the ALICE TPC, has been upgraded with gas electron multiplier (GEM) readout for continuous operation. The new readout chambers consist of stacks of 4 GEM foils combining different hole pitch. In addition to a low ion backflow, other key requirements such as energy resolution and operational stability were met. New readout electronics sends the continuous data stream to the new ALICE online computing farm with a rate of 3.5 TByte/s. The detector has been optimised to read all minimum bias Pb-Pb events that the LHC will deliver in the high-luminosity heavy-ion era, at the anticipated peak interaction rate of 50 kHz. We will report on the commissioning of the ALICE GEM TPC and the first operational experience.

Collaboration

ALICE

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