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The ATLAS RPC Phase II upgrade for High Luminosity LHC era

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Resistive Plate Chamber detectors play a crucial role in triggering events with muons in the ATLAS central region. In view of the HL-LHC program, this system is facing a significant upgrade. In the next few years, 306 triplets of new generation RPCs will be installed in the innermost region of the ATLAS Muon Barrel Spectrometer, increasing the number of tracking layers from 6 to 9, doubling the trigger lever arm and increasing the coverage. The new BI-RPC have an improved rate capability up to 10 kHz/cm^2 to withstand the HL-LHC conditions. This contribution will present an overview of the ATLAS RPC Phase II project, the qualification of gas volumes and read out planes, the present status of RPC singlets production and tests.

Primary experiment

ATLAS Muon Spectrometer

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