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## A new generation of RPCs for the ALICE Muon Identifier

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A Large Ion Collider Experiment (ALICE) is one of the four large experiments at the CERN Large Hadron Collider (LHC) and it is designed to study the physics of Quark Gluon Plasma (QGP) using ultra-relativistic Pb-Pb collisions. To study the muonic decays of heavy quarks, ALICE is equipped with a Muon Spectrometer located at forward rapidity, which includes the Muon Identifier (MID), a system of 72 Resistive Plate Chambers (RPCs) arranged in four detection planes, covering a total area of about 140 m<sup>2</sup>.

The peak interaction rate of Pb-Pb collisions increased from < 10 kHz to ~ 50 kHz between Run 2 and Run 3. To cope with the new running conditions, the front-end and readout electronics were upgraded. However, the RPCs currently operating are still, by a large fraction, the ones installed before the LHC Run 1, in 2006. Some of these RPCs have integrated a non-negligible charge, compared to their certified life-time (50 mC/cm<sup>2</sup>). To prevent any degradation of the system performance, a new generation of RPCs is needed to replace the ones currently operating if needed.

In 2021, after several interactions with the manufacturing company, a new production of spare RPCs was launched, using a new type of bakelite laminates. These new RPCs are now undergoing full characterization in the INFN Torino laboratory and a few of them have been already installed in the ALICE cavern.

In this talk the first results of tests on a significant number of spare RPCs will be presented, along with the performance of those that are already operating in the experiment.

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