

Study of J/ψ polarization in pp collisions at 8 TeV / Performance of a new front-end electronics for the muon trigger system of ALICE.

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Part 1

The measurement of J/ψ polarization in pp collisions at 8 TeV with the ALICE experiment would help in setting new constraints to theoretical models on quarkonia production mechanism, which so far, fail to describe simultaneously the experimental results on the cross section and polarization of quarkonia states. This study is performed through the J/ψ dimuon decay channel at forward rapidity with the ALICE Muon Spectrometer. A brief introduction about polarization concepts, motivations and a general description of the ALICE detector will be presented, together with the main steps of the analysis procedure. The first preliminary measurements of J/ψ polarization will be shown as well as the comparison with previous experimental results.

Part 2

The ALICE detector has been designed for the study and characterisation of the Quark-Gluon Plasma, a state of nuclear matter produced at high temperature and energy density, conditions that can be reached in relativistic heavy ion collisions such as those produced at the LHC. A major upgrade of the ALICE detector is foreseen during the next LHC long shutdown (2019-2020) in order to cope with collision rates as high as 50 kHz in Pb-Pb and 200 kHz in pp and p-Pb collisions. Among the upgrade strategies, a replacement of the front-end electronics of the Resistive Plate Chambers (RPC) of the Muon Trigger system has been proposed. A pre-series of the new front-end cards has been installed on one (over 72) of the RPCs in February 2015 and its performance will be monitored during LHC Run 2. In this talk the first results of the performance study during pp at 13 TeV collisions data from the beginning of Run 2 will be discussed.

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Classification de Session: Ions lourds, saveurs lourdes