

Centrality dependence of muon tracking efficiency in the ALICE Forward Muon Spectrometer for Pb-Pb collisions at 2.76 TeV.

The study of the J/ψ production and open heavy flavors in central Pb-Pb collisions is a promising tool to probe the properties of QGP in ALICE experiment at LHC.

To conduct this experimental study, it is necessary to know well the response function of the detectors used, in particular, the forward muon spectrometer to detect quarkonium and heavy flavour in their muonic channel. In this sense, the tracking efficiency integrated on the five stations of the spectrometer is a critical variable. Indeed, for cross-section calculations we have to apply a correction factor $Acc \cdot \epsilon$. We use, for to evaluate this factor, realistic Monte Carlo simulations run by run. In heavy ions collisions, one of the main parameters is the centrality of the collision, directly related to the multiplicity and the occupancy of the detector. It is therefore crucial to know the centrality dependence of muon tracking efficiency.

Another aspect of J/ψ study is to obtain its contribution to the single muon spectrum. Simulations using J/ψ measured cross-section, p_t and y distributions, allow to obtain this contribution. Similar evaluation will be done for the vector meson in order to get rid of the resonance contribution to the single muon spectrum.

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Track Classification: Heavy flavor and quarkonia production