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Measurements of J/psi to ee with ALICE at the LHC

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The ALICE detector provides excellent capabilities to study quarkonium production at the Large Hadron Collider (LHC). Quarkonia, bound states of heavy (charm or bottom) quark anti-quark pairs such as the J/psi, are expected to be produced by initial hard processes. Thus they will provide insight into the earliest and hottest stages of A-A collisions where the formation of a Quark-Gluon Plasma (QGP) is expected. Furthermore, high-precision data from pp collisions represent an essential baseline for the measurement of nuclear modifications in heavy-ions and serve also as a crucial test for several models of quarkonium hadroproduction. In addition, the study of pA collisions allows to investigate nuclear modifications due to cold nuclear matter effects.
In ALICE, J/psi have been measured in pp, p-Pb and Pb-Pb down to pT = 0 via their di-electron decay channel in the central barrel (|y| < 0.9). Results on the nuclear modification factor (RAA) at central rapidities in Pb-Pb collisions at sqrt{sNN} = 2.76 TeV, as well as a first look into p-Pb data at sqrt{s} = 5.02 TeV will be shown and their implications discussed. A separation of the prompt and non-prompt components is also possible down to a pT of the J/psi of a few GeV/c, which allows to study the beauty hadron nuclear modification factor down to almost zero pT.

Primary author: FIONDA, Fiorella (Universita e INFN (IT))

Presenter: FIONDA, Fiorella (Universita e INFN (IT))

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