A technique for studying J/ ψ -hadron interactions using femtoscopic correlations

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Interactions with hadrons contribute to the suppression of quarkonium production observed in heavy-ion collisions. It is difficult to disentangle such cold nuclear matter effect from the effect of Debye-like screening of color charges in QGP, created in these collisions. Femtoscopic correlations of J/ψ -hadron allow to directly measure both elastic and inelastic scattering cross sections for these interactions.

We present a new method of estimating the J/ ψ -h elastic and inelastic interaction cross sections using Lednicky-Lyuboshitz model in order to extract the strong interaction parameters. We also present feasibility studies for such measurement in LHCb and STAR experiments. These studies are already possible at LHCb and in the future, other LHC experiments as well.

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