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Overview of Upsilon production studies performed with the STAR experiment

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The Υ states are a clean probe of the properties of quark-gluon plasma, which can be created in heavy-ion collisions. Each of the Υ states dissociates at a different temperature in the plasma due to Debye-like screening of color charges. In order to understand the Cold Nuclear Matter effects, the Υ production has to be studied in small colliding systems such as p+Au and d+Au collisions. Measurements of Υ production cross section in p+p collisions allow to study the production mechanism while the dependence on charged particle multiplicity provides information on the interplay of hard vs. soft QCD processes.

In this talk, we will present an overview of the measurements on the production of Υ states done by the STAR experiment. The rapidity spectra in p+p collisions at $\sqrt{s} = 200$ GeV and $\sqrt{s} = 500$ GeV, and p_T spectra of different states at $\sqrt{s} = 500$ GeV will be presented. Nuclear modification factors measured in p+Au, d+Au, Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV will also be shown.

Secondary track (number)

Primary author: Dr KOSARZEWSKI, Leszek (Czech Technical University in Prague)

Presenter: Dr KOSARZEWSKI, Leszek (Czech Technical University in Prague)

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