

Charmonium production with Remler generalized coalescence model

Friday 4 December 2020 11:20 (20 minutes)

Two of the most important observables for understanding Quark-Gluon Plasma (QGP) physics are quarkonia suppression and the energy loss process. Although quarkonia are compound objects, it is usually advocated that their production at intermediate \sqrt{s} follows a behavior similar to the one of single particles, like for instance D mesons. Ultimately, this kind of study will bring more information about the way in which the QGP thermalize the energy during the hadronization process. We will be focus in explore the production of charmonia employing a relativistic phase space coalescence model born from the Remler formalism, to track the production probability time evolution at mid-rapidity in central collision for lead-lead and proton-proton cases. The model allows as to compute and study the several observables likes (\sqrt{s} , flow coefficient, and RAA), through their relationship with the charmonium formation probability. Those observables are quite susceptible to suppression and energy loss of charmonium in the medium.

Authors: ARREBATO VILLAR, Denys Yen (IMT Atlantique, Subatech, Nantes, France); Prof. GOUSSIAUX, Pol Bernard (IMT Atlantique, Subatech, Nantes, France); Prof. AICHELIN, Joerg (IMT Atlantique, Subatech, Nantes, France)

Presenter: ARREBATO VILLAR, Denys Yen (IMT Atlantique, Subatech, Nantes, France)