Contribution ID: **690** Type: **Poster Presentation**

Production of J/ψ meson in jets at mid-rapidity in pp collisions at $\sqrt{s}$ = 13 TeV with ALICE

Monday, 4 November 2019 17:40 (20 minutes)

The production of quarkonia in hadron-hadron collisions occurs at the transition between the perturbative and nonperturbative regimes of QCD, resulting in a rich phenomenology that remains far from being fully understood. J/ψ hadronization dynamics can be studied by measuring the p_T fraction, $z \equiv p_{T,J/\psi}/p_{T,jet}$, carried by the J/ψ meson detected inside a jet. The distribution of this quantity, also called fragmentation function, gives us an opportunity to investigate the dominant subprocesses responsible for J/ψ production. In addition, the production of non-prompt J/ψ, coming from b hadron decays, inside a jet should be sensitive to the fragmentation functions of quarks and gluons into b hadrons. The fragmentation of high p_T jets containing a J/ψ meson was measured in pp collisions by LHCb and CMS Collaborations, respectively. The results surprisingly show that non-prompt J/ψ in jets are well described by models, but that prompt J/ψ tend to be produced at much lower z than the model predicted.

In this contribution, we present the measurements of the fragmentation of jets into J/ψ in pp collisions at $\sqrt{s}$ = 13 TeV using the data collected by ALICE, with the J/ψ being measured at mid-rapidity in the di-electron decay channel by the central barrel detectors. Prompt and non-prompt components will be separated using the pseudo-proper decay length.

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Session Classification: Poster Session

Track Classification: Heavy flavor and quarkonium