Abstract Submitted
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Heavy flavor electrons in $\sqrt{s}$ = 2.76 TeV p-p collisions using the ALICE detector[1] BERNARD HICKS, Yale University — Recent measurements from RHIC and the LHC seem to confirm T.D.Lee's hypothesis that a hot and dense strongly interacting matter, the quark-gluon plasma (QGP), could be formed in heavy-ion collisions at high energies. Perturbative QCD predicts that high energy partons passing through a QGP will loose a fraction of their energy (jet quenching) proportional to the density and the traversed distance in the medium. Moreover, for quarks, the amount of the energy lost to the medium depends on their flavor and is inversely proportional to their mass. Heavy quarks (b and c) being formed in the early stages of heavy-ion collisions, are a good probe for the properties of the QGP and allow to study the predicted flavor dependence of jet quenching. Consequently, the spectrum of electrons from the semi-leptonic decays of heavy quarks at intermediate/high p_T can provide additional constraints to the theoretical descriptions of the energy loss mechanism. Electrons are identified using the ALICE Electro-Magnetic Calorimeter (EMCal) in conjunction with the mid-rapidity tracking detectors, the Inner Silicon Tracker (ITS) and the Time Projection Chamber (TPC). The major sources of background electrons, such as those from photonic decays, are identified and then subtracted to produce a non-photonic electron spectrum. We present studies towards the crucial reference measurement of the production cross-sections of electrons from b and c decays from pp collisions at $\sqrt{s}$=2.76 TeV at the LHC reconstructed in ALICE.

[1]on behalf of the ALICE collaboration

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