

Suppression of high p_T hadrons in PbPb Collisions at LHC

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Nuclear modification factor $R_{AA}(p_T)$ for large transverse momentum pion spectra in $Pb + Pb$ collisions at $\sqrt{s} = 2.76$ TeV is predicted within the NLO perturbative QCD parton model. Effect of jet quenching is incorporated through medium modified fragmentation functions within the higher-twist approach. The jet transport parameter that controls medium modification is proportional to the initial parton density and the coefficient is fixed by the RHIC data on suppression of large p_T hadron spectra. Data on charged hadron multiplicity $dN_{ch}/d\eta = 1584 \pm 80$ in central $Pb + Pb$ collisions from the ALICE Experiment at the LHC are used to constrain the initial parton density both for determining the jet transport parameter and the 3+1D ideal hydrodynamic evolution of the bulk matter that is employed for the calculation of $R_{PbPb}(p_T)$ for neutral pions

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