

Jet quenching and heavy flavor production in ATLAS

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Measurements of inclusive jet and heavy quark jet suppression in relativistic heavy ion collisions are presented. The measurements were performed using Pb+Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV recorded with the ATLAS detector at the LHC during the 2010 Pb ion run. Results are obtained using calorimetrically reconstructed jets using the anti-kt algorithm with a per-event background subtraction procedure. Measurements of the single inclusive jet spectrum with jet radius parameters $R = 0.2, 0.3, 0.4$ and 0.5 , are presented. The spectra are unfolded to correct for the finite energy resolution introduced by both detector effects and underlying event fluctuations. Single jet production, through the central-to-peripheral ratio RCP, is presented as a function of jet p_T , centrality and jet radius. Measurements of the single inclusive muons are also presented over the range $4 < p_T < 14$ GeV, where the production is dominated by the semi-leptonic decays of open heavy flavor hadrons. The muon spectra and RCP are presented as a function of p_T and centrality, which provide sensitivity to the quenching of heavy quarks.

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