

Measurement of fully-reconstructed inclusive jet  
production in Au+Au collisions at  
 $\sqrt{s_{\text{NN}}} = 200$  GeV by the STAR experiment

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The STAR Collaboration reports the measurements of both charged and fully-reconstructed inclusive jet production in central (0-10%) and peripheral (60-80%) Au+Au collisions at  $\sqrt{s_{\text{NN}}} = 200$  GeV. The charged jet analysis utilizes a dataset corresponding to  $70 \mu\text{b}^{-1}$  recorded in 2011 using a Minimum Bias trigger, while the new fully-reconstructed jet analysis utilizes a dataset recorded in 2014. Charged jets are reconstructed using charged-particle tracks in the Time Projection Chamber with  $p_{\text{T}} > 0.2$  GeV/ $c$ , while neutral energy, measured by the Barrel Electromagnetic Calorimeter, with  $E_{\text{T}} > 0.2$  GeV is additionally used for the fully-reconstructed jets. Jet reconstruction is carried out using the anti- $k_{\text{T}}$  algorithm with resolution parameter  $R = 0.2, 0.3$  and  $0.4$ . Effects of the large background in heavy-ion collisions are suppressed by requiring high- $p_{\text{T}}$  leading charged or neutral radiation in accepted jet candidates. The bias imposed by this requirement is assessed, and the  $p_{\text{T}}$ -region in which this bias is negligible is identified. Charged jet and fully-reconstructed jet inclusive distributions are reported in central and peripheral Au+Au collisions for  $p_{\text{T}}^{\text{jet}} > 10$  GeV/ $c$ . Yield suppression, corresponding to medium-induced parton energy loss, is observed for central Au+Au collisions relative to both peripheral Au+Au collisions and vacuum reference. Medium-induced jet broadening is measured using the  $R$ -dependence of yields. The results are compared to jet measurements at the LHC and theoretical calculations.