¹ Search for large-angle jet deflection using ² semi-inclusive γ_{dir} +jet and π^0 +jet correlations in ³ p + p and Au+Au collisions at $\sqrt{s_{NN}} = 200 \text{ GeV}$ ⁴ with STAR

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The measurement of jet deflection in heavy-ion collisions promises to 6 provide unique and incisive insight into the physics of jet quenching and the 7 quasi-particle nature of the QGP. However, observation of large-angle jet 8 deflection favors using low transverse momenta $(p_{\rm T})$ jets, which is challeng-9 ing in the high-background environment of heavy-ion collisions. The semi-10 inclusive approach to coincidence measurements, with data-driven back-11 ground removal, is the only established analysis technique that can carry out 12 such measurements with precision estimation of systematic uncertainties. In 13 this poster, the STAR experiment at RHIC reports the first measurement of 14 semi-inclusive γ_{dir} +jet and π^0 +jet azimuthal correlations in p + p and cen-15 tral Au+Au collisions at $\sqrt{s_{\rm NN}}=200$ GeV. Charged-particle recoil jets are 16 reconstructed using the anti- $k_{\rm T}$ algorithm with R = 0.2 and 0.5, and uncor-17 related recoil jet contributions are corrected using a Mixed Event technique. 18 Azimuthal distributions are reported for recoil jets with $p_{\rm T,jet} > 5 \text{ GeV}/c$. 19 The distributions in p+p collisions are compared to NLO pQCD calculations 20 including Sudakov broadening, and those in Au+Au collisions are compared 21 to theoretical model calculations incorporating jet quenching. 22

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