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Jet Flavor Tomography at RHIC and LHC

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Jet Flavor Tomography is a powerful tool used to probe the properties of Quark Gluon Plasma formed in heavy ion collisions at RHIC and LHC. A new Monte Carlo model of jet quenching developed at Columbia University, CUJET1.0, was applied to predict the jet flavor and centrality dependence of some of the main phenomenological observables, the nuclear modification factor R_{AA} and the elliptic flow v_2. The predictions for fragments $f = \pi, D, B, e$, derived from quenched jet flavors g, u, c, b in central and peripheral collisions at RHIC and LHC, exhibit novel features such as a level crossing pattern in R_{AA} over a broad transverse momentum range which can test jet-medium dynamics in quark gluon plasmas and help discriminating between current energy loss models.

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