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A Running Coupling Explanation of the Surprisingly Transparency of the QGP at LHC

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The CUJET1.0 Monte Carlo Jet Energy loss model is applied to predict the jet flavor, centrality and density dependence of the nuclear modification factor R_{AA} and the elliptic flow v_2 at RHIC and LHC. Running coupling effects due to combined x , k_{\perp} and q_{\perp} evolution are included for the first time in the dynamical DGLV opacity expansion framework and are shown to provide a natural dynamical QCD tomographic solution to the surprising transparency¹ of the quark gluon plasma produced at LHC as suggested by $p_T > 10$ GeV R_{AA} data from ALICE, ATLAS, and CMS.

(Ref: 1: W.H.Horowitz et al, NPA872(2011)265, A.Buzzatti et al, PRL108(2012)022301, B.Betz et al arXiv:1201.0281 [nucl-th])

Primary author: BUZZATTI, Alessandro (Columbia University)

Co-author: GYULASSY, Miklos (Columbia University)

Presenter: BUZZATTI, Alessandro (Columbia University)

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