

Bayesian inference of the magnetic field and chemical potential on holographic jet quenching in heavy ion collisions

We employ the AdS/CFT correspondence to study the jet quenching effect in Quark-gluon plasma in heavy-ion collisions under magnetic field and chemical potential. The nuclear modification factor R_{AA} and elliptic flow parameter v_2 are studied in different-centrality collisions at RHIC and LHC. Our numerical results agree with data. Magnetic field and chemical potential of the medium are also considered for the observable evaluations. It is found that magnetic field and chemical potential both enhance the jet energy loss. Meanwhile, we conducted a comprehensive Bayesian analysis of the single inclusive hadron spectrum data at the BNL Relativistic Heavy Ion Collider and CERN Large Hadron Collider energies. Independently, we extracted the range of variations in the magnetic field and chemical potential for different collision systems and centralities.

Collaboration

Category

Theory

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