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Numerical predictions of DREENA-C and DREENA-B frameworks

We here present two frameworks that allow generating a wide range of predictions from the dynamical energy loss formalism [1,2]. In distinction to majority of other methods, the dynamical energy loss formalism takes into account a realistic medium composed of dynamical scattering centers. The first framework (DREENA-C) [1] applies to the medium with constant temperature, while the second framework applies to evolving medium modeled by Bjorken 1+1D expansion (DREENA-B) [2]. We here present joint R_{AA} and v_2 predictions for light and heavy flavor, for different systems, centralities and collision energies. DREENA-C (constant temperature) predictions overestimate v_2. For DREENA-B (Bjorken expansion) we obtain a good agreement with both R_{AA} and v_2 data. Introducing medium evolution has a larger effect on v_2, but for precision predictions it also has to be taken into account for R_{AA}. These results argue the dynamical energy loss formalism can provide a basis for a state of the art QGP tomography tool.
[1] D. Zigic, I. Salom, J. Auvinen, M. Djordjevic and M. Djordjevic, arXiv:1805.03494 [nucl-th]
[2] D. Zigic, I. Salom, M. Djordjevic and M. Djordjevic, arXiv:1805.04786 [nucl-th]

Summary

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