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Typ: **Poster**

Identifying quenched jets with machine learning

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Measurements of jet substructure in ultra-relativistic heavy ion collisions suggest that the jet showering process is modified by the interaction with quark gluon plasma. Modifications of the hard substructure of jets can be explored with modern data-driven techniques. In this study, a machine learning approach to the identification of quenched jets is designed. Jet showering processes are simulated with a jet quenching model Jewel and a non-quenching model Pythia 8. Sequential substructure variables are extracted from the jet clustering history following an angular-ordered sequence and are used in the training of a neural network built on top of a long short-term memory network. We show that this approach successfully identifies the quenching effect in the presence of the large uncorrelated background of soft particles created in heavy ion collisions.

based on arXiv: 2206.01628

Experiment/Theory

Other

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Sitzung Einordnung: Poster Session

Track Klassifizierung: Jets and their modification in QCD matter