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Machine learning approach to QCD kinetic theory

The effective kinetic theory of QCD provides a possible picture of various non-equilibrium processes in heavy- and light-ion collisions. While there have been substantial advances in simulating the EKT in simple systems with enhanced symmetry, eventually, event-by-event simulations will be required to test this physical picture. As of now, these simulations are prohibitively expensive due to the numerical complexity of the Monte Carlo evaluation of the collision kernels. In this talk, we show how the evaluation of the collision kernels can be performed using neural networks paving the way to full event-by-event simulations.

Category

Theory

Collaboration (if applicable)

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