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Target jet substructure and correlation

Tuesday 5 September 2023 17:30 (2h 10m)

We discuss the reconstruction of target jet and the framework of quantifying its internal substructure. Due to momentum and charge conservation, target and current correlation can be exploited which significantly constrains the event-wide particle distributions. We demonstrate this method using Pythia simulations of electron-proton collisions in the context of determining the flavor and substructure of the struck quark jet. Extensions to electron-ion collisions and target tagging using BeAGLE simulations will be discussed. This study will provide novel physics cases for forward detector designs and promote the synergy with nuclear physics.

Category

Theory

Collaboration (if applicable)

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