

Studying minijets and multiple parton interactions with rapidity correlations

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A short review of phenomenological models of Multiple Parton Interactions (MPI) implemented in the three main Monte Carlo generators: Herwig, Pythia, and Sherpa will be given. New observables which are sensitive to different mechanisms of mini-jet production and MPI physics will be introduced. The observables measure how the transverse momenta of hadrons produced in association with various trigger objects are balanced against it as a function of rapidity. It will be demonstrated that the Monte Carlo generators show significantly different predictions for the proposed observables. Finally, a measurement of the proposed rapidity correlations performed by the CMS Collaboration will be discussed

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