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Multiple parton interaction in jets from forward-backward multiplicity correlations

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Forward-backward multiplicity correlations have been studied in different colliding system, for all them, the difference with experimental results reveals physical phenomenon not well understood. In this work we present a study of forward backward multiplicity correlations on jets produced in proton-proton collisions using the PYTHIA event generator from UA5 to LHC energías. The analysis is done event by event and event classes according to a jet classification.
We show that color reconnection and multiple parton interaction produce effects which will take into account to explain the experimental data. Furthermore, is shown that from measurements of multiplicity correlations is possible to extract the average number of multiple parton interactions in the event producing these correlations, and albeit model depending, to predict the strength of these correlations, not yet measured, for higher energy collisions.

Collaboration (if applicable)

Track

Jets and High Momentum Hadrons

Contribution type

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Primary authors: DOMINGUEZ ROSAS, Edgar (Universidad Nacional Autonoma (MX)); CUAUTLE FLORES, Eleazar (Universidad Nacional Autonoma (MX))

Presenter: DOMINGUEZ ROSAS, Edgar (Universidad Nacional Autonoma (MX))

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