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Constraining MPI models using sigma_effective and recent Tevatron and LHC Underlying Event data

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We review the modelling of multiple interactions in the event generator Herwig++ and study implications of recent tuning efforts to Tevatron and LHC data. It is often said that measurements of the effective cross section for double-parton scattering, sigma_effective, are in contradiction with models of the final state of multi-parton interactions, but we show that the Herwig++ model is consistent with both and gives stable predictions for underlying event observables at 14 TeV.

Author: SIODMOK, Andrzej Konrad (University of Manchester (GB))

Co-author: SEYMOUR, Mike (University of Manchester (GB))

Presenter: SIODMOK, Andrzej Konrad (University of Manchester (GB))

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