11th International Workshop on Multiple Partonic Interactions at the LHC

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Simulating Double Parton Scattering with dShower

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In this talk, a new Monte-Carlo simulation of double parton scattering (DPS) at parton level is presented. In this simulation, the dynamics of the $1\rightarrow 2$ perturbative splittings is consistently included, with the impact-parameter dependence taken into account. The evolution is performed using an angular-ordered parton shower which is combined with a set of double parton distributions that depend explicitly on the inter-parton distance. We present some results from an illustrative study in the context of same-sign WW production at the LHC. In several distributions we see differences compared to DPS models in Herwig, Pythia, and the DPS "pocket formula".

Authors: CABOUAT, Baptiste (University of Manchester); GAUNT, Jonathan Richard (CERN)
Presenters: CABOUAT, Baptiste (University of Manchester); GAUNT, Jonathan Richard (CERN)
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