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Color reconnection studies in underlying event observables at the LHC

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Studies of the effects of different color reconnection (CR) choices for three different models implemented in Pythia 8 event generator is shown. Validation plots for the new tunes for the three main Pythia CR model, the MPI-based scheme, the new more QCD-based and the gluon-move model are shown. Four different Rivet validated analysis are presented, the CMS_2011_S9215166 which investigates the agreement of the tunes in the forward region, CMS_2012_PAS_QCD_11_010, which investigates the agreement of the tunes for strange particles, CMS_2015_I1356998 that investigates the agreement of the tunes for diffractive observables and ATLAS_2010_S8894728 which investigates the agreement of the tunes for UE observables.

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