

XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



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tW and tZ' production at hadron colliders

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We present theoretical results with soft-gluon corrections for two separate processes: (1) the production of a single top quark in association with a W boson in the Standard Model; and (2) the production of a single top quark in association with a heavy Z' boson in new physics models with or without anomalous couplings. We show that the higher-order corrections from soft-gluon emission are dominant for a wide range of collider energies. Results are shown for the total cross sections and top-quark transverse-momentum and rapidity distributions for tW and tZ' production at LHC and future collider energies up to 100 TeV. The uncertainties from scale dependence and parton distribution functions are also analyzed.

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