## **Top Quark Phenomenology with D-Dimensional Generalized Unitarity**

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The production of top quark pairs at hadron colliders is an important process for understanding QCD dynamics and is sensitive to new physics. The data collected at the Tevatron and the sizable cross section at the Large Hadron Collider allow for precision measurements. To match the experimental precision, radiative corrections must be included in the theory predictions.

We present results for the NLO QCD corrections to the production and decay of top quark pairs, retaining all spin correlations. The calculation is done within the novel method of D-dimensional generalized unitarity and implemented in a numerical program which allows detailed studies of differential distributions. Furthermore, we present preliminary NLO results for the production and decay of top quark pairs in addition with a hard jet.

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