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## Effective field theory for top quark physics at NLO accuracy

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Top quark processes potentially suffer from a large uncertainty at leading order in QCD. To search for new physics in top quark processes, it is desirable to have a model-independent approach at the NLO accuracy. Effective field theory provides a framework in which the radiative corrections to new interactions can be consistently included, but the analysis can be complicated due to operator mixing effects. I will discuss the effective field theory approach to top-quark physics, with a focus on NLO calculation. In particular, our work aims at providing NLO results for top-quark decay processes, as well as automatic tool for top-quark FCNC production processes, in the presence of dimension-six operators.

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