

Off-shell $t\bar{t}j$ production and top quark mass measurement

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We present a NLO QCD calculation of $t\bar{t}j$ production at the LHC in the dilepton channel, where all non-resonant diagrams, interferences and off-shell effects of the top quark are included. We investigate different choice of dynamical scales in order to stabilize the perturbative convergence of the differential distributions far away from the threshold. We will also discuss the application of our calculation to the top quark mass measurement study and compare them with different theoretical predictions.

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