

# Precise predictions for $t\bar{t}A/t\bar{t}$ cross section ratios at the LHC

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With the goal of increasing the precision of NLO QCD prediction for  $pp \rightarrow t\bar{t}A$  in the dilepton decay channel we study cross section ratios. Our analysis is based on fully realistic matrix elements including off-shell effects and interferences between resonance and continuum contributions. Focusing on the LHC at 13 TeV we present numerical results for inclusive and differential ratios and a detailed study of theoretical uncertainties stemming from renormalization/factorization scales as well as the impact of the parton distribution functions.

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