

Abstract Submitted  
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**Probing EFT models with top-antitop quark production associated with boosted Z or Higgs boson.** BRYAN CARAWAY, Baylor University, CMS COLLABORATION COLLABORATION — A data sample containing top-antitop quark pair associated with a boosted Z or Higgs boson is used to search for signs of new physics within the framework of effective field theory (EFT). The samples correspond to an integrated luminosity of  $137 \text{ fb}^1$  of proton-proton collisions produced in 2016, 2017, and 2018 at a center-of-mass energy of 13 TeV at the LHC and collected by the CMS experiment. The sample is selected by requiring events with a single lepton, jets identified as bottom quarks, and a jet with high transverse momentum ( $p_T$ ). A template is constructed from event kinematics centered around the boosted Z/H candidate, and a neural network trained to discriminate  $t\bar{t}Z$  and  $t\bar{t}H$  from  $t\bar{t}$  events. To probe EFT effects directly, a parameterization of the signal rate in terms of the Wilson coefficients of the EFT operators is derived, and a fit is performed simultaneously of the 9 Wilson coefficients to the data. Limits on the values of the Wilson coefficients are presented.

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