Contribution ID: **118** Type: **talk**

Discovery potential for T' -> tZ in the trilepton channel at the LHC

Saturday 25 July 2015 10:20 (12 minutes)

The LHC discovery potential of heavy top partners decaying into a top quark and a Z boson is studied in the trilepton channel at 13 TeV in the single production mode. The clean multilepton final state allows to strongly reduce the background contaminations and to reconstruct the T' mass. We show that a simple cut-and-count analysis probes the parameter space of a simplified model as efficiently as a dedicated multivariate analysis. The trilepton signature finally turns out to be as sensitive in the low T' mass region as the complementary channel with a fully hadronic top quark, and more sensitive in the large mass domain. The reinterpretation in terms of the top-Z-quark anomalous coupling is shown.

additional information

Based on
"Discovery potential for T′⟶ tZ in the trilepton channel at the LHC",
Lorenzo Basso, Jeremy Andrea (Strasbourg, IPHC).
Published in JHEP 1502 (2015) 032.
arXiv:1411.7587

Author: BASSO, Lorenzo (Institut Pluridisciplinaire Hubert Curien (FR))

Co-author: ANDREA, Jeremy (Institut Pluridisciplinaire Hubert Curien (FR))

Presenter: BASSO, Lorenzo (Institut Pluridisciplinaire Hubert Curien (FR))

Session Classification: Higgs and New Physics

Track Classification: Higgs and New Physics