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Search for $t\bar{t}$ production in the $H \rightarrow b\bar{b}$ decay channel with leptonic $t\bar{t}$ decays in proton-proton collisions at $\sqrt{s}=13$ TeV

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Abstract

A search is presented for the associated production of a standard model Higgs boson with a top quark-antiquark pair ($t\bar{t}H$), in which the Higgs boson decays into a b quark-antiquark pair, in proton-proton collisions at a centre-of-mass energy $\sqrt{s}=13$ TeV. The data correspond to an integrated luminosity of 35.9 fb^{-1} recorded with the CMS detector at the CERN LHC. Candidate $t\bar{t}H$ events are selected that contain either one or two electrons or muons from the t decays and are categorised according to the number of jets. Multivariate techniques are employed to further classify the events and eventually discriminate between signal and background. The results are characterised by an observed $t\bar{t}H$ signal strength relative to the standard model cross section, $\mu = \sigma/\sigma(\text{SM})$, under the assumption of a Higgs boson mass of 125 GeV. A combined fit of multivariate discriminant distributions in all categories results in an observed (expected) upper limit on μ of 1.5 (0.9) at 95% confidence level, and a best fit value of $0.72 \pm 0.24(\text{stat}) \pm 0.38(\text{syst})$, corresponding to an observed (expected) signal significance of 1.6 (2.2) standard deviations above the background-only hypothesis.

Keywords

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Cited References: 104**Showing 30 of 104** [View All in Cited References page](#)*(from Web of Science Core Collection)*

1. [Measurement of the Inelastic Proton-Proton Cross Section at root s=13 TeV with the ATLAS Detector at the LHC](#) Times Cited: 63
 By: Aaboud, M.; Aad, G.; Abbott, B.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICAL REVIEW LETTERS Volume: 117 Issue: 18 Article Number: 182002 Published: OCT 26 2016
2. [Measurements of fiducial cross-sections for t\(t\)over-bar production with one or two additional b-jets in pp collisions at root s=8 TeV using the ATLAS detector](#) Times Cited: 16
 By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaboration
 EUROPEAN PHYSICAL JOURNAL C Volume: 76 Issue: 1 Article Number: 11 Published: JAN 7 2016
3. [Search for the Standard Model Higgs boson produced in association with top quarks and decaying into in collisions at with the ATLAS detector](#) Times Cited: 68
 By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaboration
 EUROPEAN PHYSICAL JOURNAL C Volume: 75 Issue: 7 Article Number: 349 Published: JUL 29 2015
4. [Evidence for the Higgs-boson Yukawa coupling to tau leptons with the ATLAS detector](#) Times Cited: 105
 By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaboration
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 4 Article Number: 117 Published: APR 21 2015
5. [Combined Measurement of the Higgs Boson Mass in pp Collisions at root s=7 and 8 TeV with the ATLAS and CMS Experiments](#) Times Cited: 597
 By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 PHYSICAL REVIEW LETTERS Volume: 114 Issue: 19 Article Number: 191803 Published: MAY 14 2015
6. [Search for the associated production of the Higgs boson with a top quark pair in multilepton final states with the ATLAS detector](#) Times Cited: 58
 By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICS LETTERS B Volume: 749 Pages: 519-541 Published: OCT 7 2015
7. [Measurements of Higgs boson production and couplings in diboson final states with the ATLAS detector at the LHC](#) Times Cited: 333
 By: Aad, G.; Abajyan, T.; Abbott, B.; et al.

Group Author(s): ATLAS Collaboration
 PHYSICS LETTERS B Volume: 726 Issue: 1-3 Pages: 88-119 Published: OCT 2013

8. **Evidence for the spin-0 nature of the Higgs boson using ATLAS data** Times Cited: 310
 By: Aad, G.; Abajyan, T.; Abbott, B.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICS LETTERS B Volume: 726 Issue: 1-3 Pages: 120-144 Published: OCT 2013

9. **Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC** Times Cited: 5,175
 By: Aad, G.; Abajyan, T.; Abbott, B.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICS LETTERS B Volume: 716 Issue: 1 Pages: 1-29 Published: SEP 17 2012

10. **A precision measurement of the mass of the top quark** Times Cited: 212
 By: Abazov, VM; Abbott, B; Abdesselam, A; et al.
 Group Author(s): DO Collaboration
 NATURE Volume: 429 Issue: 6992 Pages: 638-642 Published: JUN 10 2004

11. **GEANT4-a simulation toolkit** Times Cited: 10,564
 By: Agostinelli, S; Allison, J; Amako, K; et al.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 506 Issue: 3 Pages: 250-303 Published: JUL 1 2003

12. **HATHOR - HAdronic Top and Heavy quarks crOss section calculator** Times Cited: 325
 By: Aliev, M.; Lacker, H.; Langenfeld, U.; et al.
 COMPUTER PHYSICS COMMUNICATIONS Volume: 182 Issue: 4 Pages: 1034-1046 Published: APR 2011

13. Title: [not available] Times Cited: 4
 By: ALIOLI S
 JHEP Volume: 9 Published: 2009

14. **A general framework for implementing NLO calculations in shower Monte Carlo programs: the POWHEG BOX** Times Cited: 901
 By: Alioli, Simone; Nason, Paolo; Oleari, Carlo; et al.
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 6 Article Number: 043 Published: JUN 2010

15. **NLO single-top production matched with shower in POWHEG: s- and t-channel contributions** Times Cited: 231
 By: Alioli, Simone; Nason, Paolo; Oleari, Carlo; et al.
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 9 Article Number: 111 Published: SEP 2009

16. **The automated computation of tree-level and next-to-leading order differential cross sections, and their matching to parton shower simulations** Times Cited: 1,999
 By: Alwall, J.; Frederix, R.; Frixione, S.; et al.
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 7 Article Number: 079 Published: JUL 17 2014

17. **Evidence for the $H \rightarrow b\bar{b}$ decay with the ATLAS detector** Times Cited: 31
 Group Author(s): ATLAS collaboration
 JHEP Volume: 12 Article Number: 024 Published: 2017

18. **Evidence for the associated production of the Higgs boson and a top quark pair with the ATLAS detector** Times Cited: 14
 Group Author(s): ATLAS collaboration
 Phys. Rev. Volume: D97 Article Number: 072003 Published: 2018

19. **Search for the standard model Higgs boson produced in association with top quarks and decaying into a $b\bar{b}$ pair in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector** Times Cited: 17
 Group Author(s): ATLAS Collaboration
 Phys. Rev. D Volume: 97 Article Number: 072016 Published: 2018

20. **Percent-Level-Precision Physics at the Tevatron: Next-to-Next-to-Leading Order QCD Corrections to $q\bar{q} \rightarrow t\bar{t} + X$** Times Cited: 252

By: Baernreuther, Peter; Czakon, Michal; Mitov, Alexander

PHYSICAL REVIEW LETTERS Volume: 109 Issue: 13 Article Number: 132001 Published: SEP 25 2012

21. **Parton distributions for the LHC run II** Times Cited: 656
By: Ball, Richard D.; Bertone, Valerio; Carrazza, Stefano; et al.
Group Author(s): NNPDF Collaboration
JOURNAL OF HIGH ENERGY PHYSICS Issue: 4 Article Number: 040 Published: APR 8 2015
22. **FITTING USING FINITE MONTE-CARLO SAMPLES** Times Cited: 183
By: BARLOW, R; BEESTON, C
COMPUTER PHYSICS COMMUNICATIONS Volume: 77 Issue: 2 Pages: 219-228 Published: OCT 1993
23. **Hadronic top-quark pair production with NNLL threshold resummation** Times Cited: 144
By: Beneke, M.; Falgari, P.; Klein, S.; et al.
NUCLEAR PHYSICS B Volume: 855 Issue: 3 Pages: 695-741 Published: FEB 21 2012
24. **Hadron production with massive bottom quarks with PowHel** Times Cited: 3
By: Bevilacqua, G.; Garzelli, M. V.; Kardos, A.
arXiv:1709.06915
25. **Multivariate Analysis Methods in Particle Physics** Times Cited: 27
By: Bhat, Pushpalatha C.
ANNUAL REVIEW OF NUCLEAR AND PARTICLE SCIENCE, VOL 61 Book Series: Annual Review of Nuclear and Particle Science Volume: 61 Pages: 281-309 Published: 2011
26. **STATISTICAL MODEL FOR ELECTRON-POSITRON ANNIHILATION INTO HADRONS** Times Cited: 293
By: BJORKEN, JD; BRODSKY, SJ
PHYSICAL REVIEW D Volume: 1 Issue: 5 Pages: 1416-& Published: 1970
27. **Large hadron collider tests of the little Higgs model (vol 90, art no 241802, 2003)** Times Cited: 35
By: Burdman, G; Perelstein, M; Pierce, A
PHYSICAL REVIEW LETTERS Volume: 92 Issue: 4 Article Number: 049903 Published: JAN 30 2004
28. **Large Hadron Collider tests of the little Higgs model** Times Cited: 105
By: Burdman, G; Perelstein, M; Pierce, A
PHYSICAL REVIEW LETTERS Volume: 90 Issue: 24 Article Number: 241802 Published: JUN 20 2003
29. **Electroweak symmetry breaking from a holographic fourth generation** Times Cited: 45
By: Burdman, Gustavo; Da Rold, Leandro
JOURNAL OF HIGH ENERGY PHYSICS Issue: 12 Article Number: 086 Published: DEC 2007
30. **FastJet user manual** Times Cited: 1,641
By: Cacciari, Matteo; Salam, Gavin P.; Soyez, Gregory
EUROPEAN PHYSICAL JOURNAL C Volume: 72 Issue: 3 Article Number: 1896 Published: MAR 2012

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