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Search for Dark Matter Particles Produced in Association with a Top Quark Pair at $\sqrt{s}=13$ TeV (Article) [\(Open Access\)](#)

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Abstract

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A search is performed for dark matter particles produced in association with a top quark pair in proton-proton collisions at $\sqrt{s}=13$ TeV. The data correspond to an integrated luminosity of 35.9 fb⁻¹ recorded by the CMS detector at the LHC. No significant excess over the standard model expectation is observed. The results are interpreted using simplified models of dark matter production via spin-0 mediators that couple to dark matter particles and to standard model quarks, providing constraints on the coupling strength between the mediator and the quarks. These are the most stringent collider limits to date for scalar mediators, and the most stringent for pseudoscalar mediators at low masses. © 2019 CERN, for the CMS Collaboration.

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References (61)

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-
- 1 Bertone, G., Hooper, D., Silk, J.
Particle dark matter: Evidence, candidates and constraints
(2005) *Physics Reports*, 405 (5-6), pp. 279-390. Cited 2372 times.
doi: 10.1016/j.physrep.2004.08.031
[View at Publisher](#)
-
- 2 Feng, J.L.
Dark matter candidates from particle physics and methods of detection
(2010) *Annual Review of Astronomy and Astrophysics*, 48, pp. 495-545. Cited 484 times.
doi: 10.1146/annurev-astro-082708-101659
[View at Publisher](#)
-
- 3 Porter, T.A., Johnson, R.P., Graham, P.W.
Dark matter searches with astroparticle data
(2011) *Annual Review of Astronomy and Astrophysics*, 49, pp. 155-194. Cited 57 times.
doi: 10.1146/annurev-astro-081710-102528
[View at Publisher](#)
-
- 4 Bertone, G., Bozorgnia, N., Kim, J.S., Liem, S., McCabe, C., Otten, S., De Austri, R.R.
Identifying WIMP dark matter from particle and astroparticle data
(2018) *Journal of Cosmology and Astroparticle Physics*, 2018 (3), art. no. 026. Cited 8 times.
<http://iopscience.iop.org/article/10.1088/1475-7516/2018/03/026/pdf>
doi: 10.1088/1475-7516/2018/03/026
[View at Publisher](#)
-
- 5 Haisch, U., Kahlhoefer, F., Unwin, J.
The impact of heavy-quark loops on LHC dark-matter searches
(2013) *Journal of High Energy Physics*, 2013 (7), art. no. 125. Cited 68 times.
doi: 10.1007/JHEP07(2013)125
[View at Publisher](#)
-
- 6 Lin, T., Kolb, E.W., Wang, L.-T.
Probing dark matter couplings to top and bottom quarks at the LHC
(2013) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 88 (6), art. no. 063510. Cited 80 times.
<http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.88.063510&component=fulltext&description=markup&format=xml>
doi: 10.1103/PhysRevD.88.063510
[View at Publisher](#)
-

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(2018) *Physical Review D*

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7 Buckley, M.R., Feld, D., Gonçalves, D.

Scalar simplified models for dark matter

(2015) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 91 (1), art. no. 015017. Cited 124 times.

<http://harvest.aps.org/bagit/articles/10.1103/PhysRevD.91.015017/apsxml>

doi: 10.1103/PhysRevD.91.015017

[View at Publisher](#)

8 Haisch, U., Re, E.

Simplified dark matter top-quark interactions at the LHC [\(Open Access\)](#)

(2015) *Journal of High Energy Physics*, 2015 (6), art. no. 78. Cited 55 times.

<http://link.springer.com/journal/13130>

doi: 10.1007/JHEP06(2015)078

[View at Publisher](#)

9 Arina, C., Backović, M., Conte, E., Fuks, B., Guo, J., Heisig, J., Hespel, B., (...), Vryonidou, E.

A comprehensive approach to dark matter studies: exploration of simplified top-philic models [\(Open Access\)](#)

(2016) *Journal of High Energy Physics*, 2016 (11), art. no. 111. Cited 29 times.

<http://link.springer.com/journal/13130>

doi: 10.1007/JHEP11(2016)111

[View at Publisher](#)

10 Aad, G., Abbott, B., Abdallah, J., Abdel Khalek, S., Abidinov, O., Aben, R., Abi, B., (...), Zwalinski, L.

Search for new phenomena in final states with an energetic jet and large missing transverse momentum in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector [\(Open Access\)](#)

(2015) *European Physical Journal C*, 75 (7), art. no. 299. Cited 162 times.

<http://link.springer-ny.com/link/service/journals/10052/index.htm>

doi: 10.1140/epjc/s10052-015-3517-3

[View at Publisher](#)

11 Erratum

(2015) *Eur. Phys. J. C*, 75, p. 408. Cited 5 times.

ATLAS Collaboration

12 The CMS collaboration, Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., (...), Woods, N.

Search for dark matter in proton-proton collisions at 8 TeV with missing transverse momentum and vector boson tagged jets [\(Open Access\)](#)

(2016) *Journal of High Energy Physics*, 2016 (12), art. no. 83. Cited 14 times.

<http://link.springer.com/journal/13130>

doi: 10.1007/JHEP12(2016)083

[View at Publisher](#)

- 13 Aaboud, M., Aad, G., Abbott, B., Abdallah, J., Abidinov, O., Abeloos, B., Aben, R., (...), Zwalinski, L.
Search for new phenomena in final states with an energetic jet and large missing transverse momentum in pp collisions at $\sqrt{s}=13$ TeV using the ATLAS detector (Open Access)
- (2016) *Physical Review D*, 94 (3), art. no. 032005. Cited 129 times.
<http://harvest.aps.org/bagit/articles/10.1103/PhysRevD.94.032005/apsxml>
doi: 10.1103/PhysRevD.94.032005
- [View at Publisher](#)
-
- 14 Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., Brondolin, E., (...), Woods, N.
Search for dark matter produced with an energetic jet or a hadronically decaying W or Z boson at $\sqrt{s}=13$ TeV (Open Access)
- (2017) *Journal of High Energy Physics*, 2017 (7), art. no. 14. Cited 43 times.
<http://link.springer.com/journal/13130>
doi: 10.1007/JHEP07(2017)014
- [View at Publisher](#)
-
- 15 Sirunyan, A.M., Tumasyan, A., Adam, W., Ambrogio, F., Asilar, E., Bergauer, T., Brandstetter, J., (...), Woods, N.
Search for new physics in final states with an energetic jet or a hadronically decaying W or Z boson and transverse momentum imbalance at $\sqrt{s}=13$ TeV (Open Access)
- (2018) *Physical Review D*, 97 (9), art. no. 092005. Cited 34 times.
<http://harvest.aps.org/v2/bagit/articles/10.1103/PhysRevD.97.092005/apsxml>
doi: 10.1103/PhysRevD.97.092005
- [View at Publisher](#)
-
- 16 The CMS collaboration, Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Woods, N.
Search for the production of dark matter in association with top-quark pairs in the single-lepton final state in proton-proton collisions at $\sqrt{S}=8$ TeV (Open Access)
- (2015) *Journal of High Energy Physics*, 2015 (6), art. no. 121. Cited 22 times.
<http://link.springer.com/journal/13130>
doi: 10.1007/JHEP06(2015)121
- [View at Publisher](#)
-
- 17 Aad, G., Abbott, B., Abdallah, J., Abdel Khalek, S., Abidinov, O., Aben, R., Abi, B., (...), Zwalinski, L.
Search for dark matter in events with heavy quarks and missing transverse momentum in pp collisions with the ATLAS detector (Open Access)
- (2015) *European Physical Journal C*, 75 (2), art. no. 92. Cited 47 times.
<http://link.springer-ny.com/link/service/journals/10052/index.htm>
doi: 10.1140/epjc/s10052-015-3306-z
- [View at Publisher](#)
-
- 18 Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., Brondolin, E., (...), Woods, N.
Search for dark matter produced in association with heavy-flavor quark pairs in proton-proton collisions at $\sqrt{s}=13$ TeV (Open Access)
- (2017) *European Physical Journal C*, 77 (12), art. no. 845. Cited 18 times.
<http://link.springer-ny.com/link/service/journals/10052/index.htm>
doi: 10.1140/epjc/s10052-017-5317-4
- [View at Publisher](#)

- 19 Bhawandee, U., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., (...), Woods, N.

The CMS trigger system (Open Access)

(2017) *Journal of Instrumentation*, 12 (1), art. no. P01020. Cited 103 times.
<http://iopscience.iop.org/article/10.1088/1748-0221/12/01/P01020/pdf>
doi: 10.1088/1748-0221/12/01/P01020

[View at Publisher](#)

- 20 Chatrchyan, S., Hmayakyan, G., Khachatryan, V., Sirunyan, A.M., Adam, W., Bauer, T., Bergauer, T., (...), Yuldashev, B.S.

The CMS experiment at the CERN LHC (Open Access)

(2008) *Journal of Instrumentation*, 3 (8), art. no. S08004. Cited 2516 times.
<http://www.iop.org/E/journal/1748-0221>
doi: 10.1088/1748-0221/3/08/S08004

[View at Publisher](#)

- 21 Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., Brondolin, E., (...), Woods, N.

Particle-flow reconstruction and global event description with the CMS detector (Open Access)

(2017) *Journal of Instrumentation*, 12 (10), art. no. P10003. Cited 138 times.
<http://iopscience.iop.org/article/10.1088/1748-0221/12/10/P10003/pdf>
doi: 10.1088/1748-0221/12/10/P10003

[View at Publisher](#)

- 22 Cacciari, M., Salam, G.P., Soyez, G.

The anti- k_r jet clustering algorithm (Open Access)

(2008) *Journal of High Energy Physics*, 2008 (4), art. no. 063. Cited 2954 times.
doi: 10.1088/1126-6708/2008/04/063

[View at Publisher](#)

- 23 Cacciari, M., Salam, G.P., Soyez, G.

FastJet user manual: (For version 3.0.2) (Open Access)

(2012) *European Physical Journal C*, 72 (3), art. no. 1896, pp. 1-54. Cited 1655 times.
<http://link.springer-ny.com/link/service/journals/10052/index.htm>
doi: 10.1140/epjc/s10052-012-1896-2

[View at Publisher](#)

- 24 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Weinberg, M.

Determination of jet energy calibration and transverse momentum resolution in CMS (Open Access)

(2011) *Journal of Instrumentation*, 6 (11), art. no. P11002. Cited 332 times.
http://iopscience.iop.org/1748-0221/6/11/P11002/pdf/1748-0221_6_11_P11002.pdf
doi: 10.1088/1748-0221/6/11/P11002

[View at Publisher](#)

- 25 Cacciari, M., Salam, G.P., Soyez, G.
The catchment area of jets (Open Access)
(2008) *Journal of High Energy Physics*, 2008 (4), art. no. 005. Cited 369 times.
doi: 10.1088/1126-6708/2008/04/005
View at Publisher
-
- 26 (2017) *Jet Algorithms Performance in 13 TeV Data, CMS Physics Analysis Summary*. Cited 3 times.
CMS Collaboration, CERN Report No. CMS-PAS-JME-16-003
<https://cds.cern.ch/record/2256875>
-
- 27 Sirunyan, A.M., Tumasyan, A., Adam, W., Ambrogi, F., Asilar, E., Bergauer, T., Brandstetter, J., (...), Woods, N.
Identification of heavy-flavour jets with the CMS detector in pp collisions at 13 TeV (Open Access)
(2018) *Journal of Instrumentation*, 13 (5), art. no. P05011. Cited 63 times.
<http://iopscience.iop.org/article/10.1088/1748-0221/13/05/P05011/pdf>
doi: 10.1088/1748-0221/13/05/P05011
View at Publisher
-
- 28 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., Erö, J., (...), Woods, N.
Performance of electron reconstruction and selection with the CMS detector in proton-proton collisions at $\sqrt{s} = 8$ TeV (Open Access)
(2015) *Journal of Instrumentation*, 10 (6), art. no. P06005. Cited 174 times.
http://iopscience.iop.org/1748-0221/10/06/P06005/pdf/1748-0221_10_06_P06005.pdf
doi: 10.1088/1748-0221/10/06/P06005
View at Publisher
-
- 29 Nason, P.
A new method for combining NLO QCD with shower Monte Carlo algorithms
J. High Energy Phys., 2004 (11), p. 040. Cited 188 times.
-
- 30 Frixione, S., Nason, P., Oleari, C.
Matching NLO QCD computations with parton shower simulations: The POWHEG method (Open Access)
(2007) *Journal of High Energy Physics*, 2007 (11), art. no. 070. Cited 1179 times.
doi: 10.1088/1126-6708/2007/11/070
View at Publisher
-
- 31 Alioli, S., Nason, P., Oleari, C., Re, E.
A general framework for implementing NLO calculations in shower Monte Carlo programs: The POWHEG BOX (Open Access)
(2010) *Journal of High Energy Physics*, 2010 (6), art. no. 043. Cited 1064 times.
doi: 10.1007/JHEP06(2010)043
View at Publisher

- 32 Oleari, C.
The POWHEG BOX
(2010) *Nuclear Physics B - Proceedings Supplements*, 205-206 (C), pp. 36-41. Cited 16 times.
doi: 10.1016/j.nuclphysbps.2010.08.016
[View at Publisher](#)
-
- 33 Alwall, J., Frederix, R., Frixione, S., Hirschi, V., Maltoni, F., Mattelaer, O., Shao, H.-S., (...), Zaro, M.
The automated computation of tree-level and next-to-leading order differential cross sections, and their matching to parton shower simulations ([Open Access](#))
(2014) *Journal of High Energy Physics*, 2014 (7), art. no. 079. Cited 2136 times.
<http://link.springer.com/journal/13130>
doi: 10.1007/JHEP07(2014)079
[View at Publisher](#)
-
- 34 Denner, A., Dittmaier, S., Kasprzik, T., Mück, A.
Electroweak corrections to W + jet hadroproduction including leptonic W-boson decays ([Open Access](#))
(2009) *Journal of High Energy Physics*, 2009 (8), art. no. 075. Cited 52 times.
doi: 10.1088/1126-6708/2009/08/075
[View at Publisher](#)
-
- 35 Denner, A., Dittmaier, S., Kasprzik, T., Mück, A.
Electroweak corrections to dilepton + jet production at hadron colliders
(2011) *Journal of High Energy Physics*, 2011 (6), art. no. 069. Cited 62 times.
doi: 10.1007/JHEP06(2011)069
[View at Publisher](#)
-
- 36 Denner, A., Dittmaier, S., Kasprzik, T., Mück, A.
Electroweak corrections to monojet production at the Tevatron and the LHC
(2013) *European Physical Journal C*, 73 (2), art. no. 2297, pp. 1-15. Cited 32 times.
<http://link.springer-ny.com/link/service/journals/10052/index.htm>
doi: 10.1140/epjc/s10052-013-2297-x
[View at Publisher](#)
-
- 37 Kühn, J.H., Kulesza, A., Pozzorini, S., Schulze, M.
Electroweak corrections to hadronic photon production at large transverse momenta ([Open Access](#))
(2006) *Journal of High Energy Physics*, (3), pp. 1423-1442. Cited 35 times.
doi: 10.1088/1126-6708/2006/03/059
[View at Publisher](#)
-
- 38 Kallweit, S., Lindert, J.M., Maierhöfer, P., Pozzorini, S., Schönherr, M.
NLO electroweak automation and precise predictions for W + multijet production at the LHC ([Open Access](#))
(2015) *Journal of High Energy Physics*, 2015 (4), art. no. 12. Cited 62 times.
<http://link.springer.com/journal/13130>
doi: 10.1007/JHEP04(2015)012
[View at Publisher](#)

- 39 Kallweit, S., Lindert, J.M., Maierhöfer, P., Pozzorini, S., Schönherr, M.
NLO QCD+EW predictions for V + jets including off-shell vector-boson decays and multijet merging (Open Access)
(2016) *Journal of High Energy Physics*, 2016 (4), art. no. 21. Cited 66 times.
<http://link.springer.com/journal/13130>
doi: 10.1007/JHEP04(2016)021
View at Publisher
-
- 40 Ball, R.D., Bertone, V., Carrazza, S., Deans, C.S., Del Debbio, L., Forte, S., Guffanti, A., (...), Ubiali, M.
Parton distributions for the LHC run II (Open Access)
(2015) *Journal of High Energy Physics*, 2015 (4), art. no. 40, pp. 1-148. Cited 585 times.
<http://link.springer.com/journal/13130>
doi: 10.1007/JHEP04(2015)040
View at Publisher
-
- 41 Sjöstrand, T., Mrenna, S., Skands, P.
A brief introduction to PYTHIA 8.1
(2008) *Computer Physics Communications*, 178 (11), pp. 852-867. Cited 2443 times.
doi: 10.1016/j.cpc.2008.01.036
View at Publisher
-
- 42 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., (...), Woods, N.
Event generator tunes obtained from underlying event and multiparton scattering measurements (Open Access)
(2016) *European Physical Journal C*, 76 (3), art. no. 155. Cited 226 times.
<http://link.springer-ny.com/link/service/journals/10052/index.htm>
doi: 10.1140/epjc/s10052-016-3988-x
View at Publisher
-
- 43 Agostinelli, S., Allison, J., Amako, K., Apostolakis, J., Araujo, H., Arce, P., Asai, M., (...), Zschesche, D.
GEANT4 - A simulation toolkit
(2003) *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 506 (3), pp. 250-303. Cited 11645 times.
doi: 10.1016/S0168-9002(03)01368-8
View at Publisher
-
- 44 Abercrombie, D.
Dark Matter Benchmark Models for Early LHC Run-2 Searches: Report of the ATLAS/CMS Dark Matter Forum. Cited 73 times.
-
- 45 Albert, A., Bauer, M., Brooke, J., Buchmueller, O., Cerdeño, D.G., Citron, M., Davies, G., (...), Wardle, N.
Towards the next generation of simplified Dark Matter models
(2017) *Physics of the Dark Universe*, 16, pp. 49-70. Cited 19 times.
<http://www.journals.elsevier.com/physics-of-the-dark-universe/>
doi: 10.1016/j.dark.2017.02.002
View at Publisher

- 46 Harris, P., Khoze, V.V., Spannowsky, M., Williams, C.
Constraining dark sectors at colliders: Beyond the effective theory approach ([Open Access](#))
(2015) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 91 (5), art. no. 055009. Cited 86 times.
<http://harvest.aps.org/bagit/articles/10.1103/PhysRevD.91.055009/apsxml>
doi: 10.1103/PhysRevD.91.055009
[View at Publisher](#)
-
- 47 Bai, Y., Cheng, H.-C., Gallicchio, J., Gu, J.
Stop the top background of the stop search ([Open Access](#))
(2012) *Journal of High Energy Physics*, 2012 (7), art. no. 110. Cited 84 times.
doi: 10.1007/JHEP07(2012)110
[View at Publisher](#)
-
- 48 Lester, C.G., Summers, D.J.
Measuring masses of semi-invisibly decaying particle pairs produced at hadron colliders
(1999) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 463 (1), pp. 99-103. Cited 459 times.
<http://www.sciencedirect.com/science/journal/03702693>
doi: 10.1016/S0370-2693(99)00945-4
[View at Publisher](#)
-
- 49 Burns, M., Kong, K., Matchev, K.T., Park, M.
Using subsystem M_{T2} for complete mass determinations in decay chains with missing energy at hadron colliders ([Open Access](#))
(2009) *Journal of High Energy Physics*, 2009 (3), art. no. 143. Cited 105 times.
doi: 10.1088/1126-6708/2009/03/143
[View at Publisher](#)
-
- 50 Cheng, H.-C., Han, Z.
Minimal kinematic constraints and m_{T2} ([Open Access](#))
(2008) *Journal of High Energy Physics*, 2008 (12). Cited 125 times.
<http://link.springer.com/journal/13130>
doi: 10.1088/1126-6708/2008/12/063
[View at Publisher](#)
-
- 51 Patrignani, C., Agashe, K., Aielli, G., Amsler, C., Antonelli, M., Asner, D.M., Baer, H., (...), Schaffner, P.
Review of particle physics
(2016) *Chinese Physics C*, 40 (10), art. no. 100001. Cited 3245 times.
<http://iopscience.iop.org/article/10.1088/1674-1137/40/10/100001/pdf>
doi: 10.1088/1674-1137/40/10/100001
[View at Publisher](#)
-
- 52 Moneta, L., Belasco, K., Cranmer, K.S., Kreiss, S., Lazzaro, A., Piparo, D., Schott, G., (...), Wolf, M.
The RooStats project
(2010) *Proceedings of Science*, 93, art. no. 057. Cited 33 times.
<http://pos.sissa.it/>
-

- 53 (2017) *CMS Luminosity Measurements for the 2016 Data Taking Period, CMS Physics Analysis Summary* CMS Collaboration, CERN Report No. CMS-PAS-LUM-17-001 <https://cds.cern.ch/record/2257069>
-
- 54 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., (...), Woods, N.
Measurement of differential cross sections for top quark pair production using the lepton+jets final state in proton-proton collisions at 13 TeV ([Open Access](#))

(2017) *Physical Review D*, 95 (9), art. no. 092001. Cited 42 times.
<http://harvest.aps.org/bagit/articles/10.1103/PhysRevD.95.092001>
doi: 10.1103/PhysRevD.95.092001

View at Publisher
-
- 55 Junk, T.
Confidence level computation for combining searches with small statistics

(1999) *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 434 (2), pp. 435-443. Cited 914 times.
doi: 10.1016/S0168-9002(99)00498-2

View at Publisher
-
- 56 Read, A.L.
Presentation of search results: The CL_s technique

(2002) *Journal of Physics G: Nuclear and Particle Physics*, 28 (10), pp. 2693-2704. Cited 1323 times.
doi: 10.1088/0954-3899/28/10/313

View at Publisher
-
- 57 Cowan, G., Cranmer, K., Gross, E., Vitells, O.
Asymptotic formulae for likelihood-based tests of new physics ([Open Access](#))

(2011) *European Physical Journal C*, 71 (2). Cited 904 times.
<http://link.springer-ny.com/link/service/journals/10052/index.htm>
doi: 10.1140/epjc/s10052-011-1554-0

View at Publisher
-
- 58 Cowan, G., Cranmer, K., Gross, E., Vitells, O.
Erratum
(2011) *Eur. Phys. J. C*, 73, p. 2501. Cited 180 times.
-
- 59 Sirunyan, A.M., Tumasyan, A., Adam, W., Ambroggi, F., Asilar, E., Bergauer, T., Brandstetter, J., (...), Woods, N.
Search for top squarks and dark matter particles in opposite-charge dilepton final states at $s = 13$ TeV ([Open Access](#))

(2018) *Physical Review D*, 97 (3), art. no. 032009. Cited 18 times.
<http://harvest.aps.org/v2/bagit/articles/10.1103/PhysRevD.97.032009/apsxml>
doi: 10.1103/PhysRevD.97.032009

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-

- 60 Aaboud, M., Aad, G., Abbott, B., Abdinov, O., Abeloos, B., Abidi, S.H., AbouZeid, O.S., (...), Zwalinski, L.
Search for top-squark pair production in final states with one lepton, jets, and missing transverse momentum using 36 fb^{-1} of $\sqrt{s}=13 \text{ TeV}$ pp collision data with the ATLAS detector (Open Access)

(2018) *Journal of High Energy Physics*, 2018 (6), art. no. 108. Cited 12 times.
<http://link.springer.com/journal/13130>
doi: 10.1007/JHEP06(2018)108

[View at Publisher](#)

- 61 Aaboud, M., Aad, G., Abbott, B., Abdinov, O., Abeloos, B., Abidi, S.H., AbouZeid, O.S., (...), Zwalinski, L.
Search for dark matter produced in association with bottom or top quarks in $\sqrt{s}=13 \text{ TeV}$ pp collisions with the ATLAS detector (Open Access)

(2018) *European Physical Journal C*, 78 (1), art. no. 18. Cited 15 times.
<http://link.springer-ny.com/link/service/journals/10052/index.htm>
doi: 10.1140/epjc/s10052-017-5486-1

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