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Volume 2017, Issue 7, 1 July 2017Search for  $t\bar{t}$  resonances in highly boosted lepton+jets and fully hadronic final states in proton-proton collisions at  $\sqrt{s}=13$  TeV (Article)The CMS collaboration, Sirunyan, A.M.<sup>a</sup>, Tumasyan, A.<sup>a</sup>, Adam, W.<sup>b</sup>, Asilar, E.<sup>b</sup>, Bergauer, T.<sup>b</sup>, Brandstetter, J.<sup>b</sup>, Brondolin, E.<sup>b</sup>, Dragicevic, M.<sup>b</sup>, Erö, J.<sup>b</sup>, Flechl, M.<sup>b</sup>, Friedl, M.<sup>b</sup>, Frühwirth, R.<sup>bgs</sup>, Gheze, V.M.<sup>b</sup>, Hartl, C.<sup>b</sup>, Hörmann, N.<sup>b</sup>, Hrubec, J.<sup>b</sup>, Jeitler, M.<sup>bgs</sup>, König, A.<sup>b</sup>, Krätschmer, I.<sup>b</sup>, Liko, D.<sup>b</sup>,[View additional authors](#) [v](#)<sup>a</sup>Yerevan Physics Institute, Yerevan, Armenia<sup>b</sup>Institut für Hochenergiephysik, Wien, Austria<sup>c</sup>Institute for Nuclear Problems, Minsk, Belarus[View additional affiliations](#) [v](#)

## Abstract

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A search for the production of heavy resonances decaying into top quark-antiquark pairs is presented. The analysis is performed in the lepton+jets and fully hadronic channels using data collected in proton-proton collisions at  $\sqrt{s}=13$  TeV using the CMS detector at the LHC, corresponding to an integrated luminosity of  $2.6\text{ fb}^{-1}$ . The selection is optimized for massive resonances, where the top quarks have large Lorentz boosts. No evidence for resonant  $t\bar{t}$  production is found in the data, and upper limits on the production cross section of heavy resonances are set. The exclusion limits for resonances with masses above 2 TeV are significantly improved compared to those of previous analyses at  $\sqrt{s}=8$  TeV. [Figure not available: see fulltext.]. © 2017, The Author(s).

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## References (79)

[View in search results format >](#) All [Export](#) [Print](#) [E-mail](#) [Save to PDF](#) [Create bibliography](#) 1 Rosner, J.L.Prominent decay modes of a leptophobic  $Z'$ (1996) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 387 (1), pp. 113-117. Cited 46 times.

doi: 10.1016/0370-2693(96)01022-2

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Social Media and Citations  
beyond Scopus.

## Cited by 4 documents

B-decay anomalies in Pati-Salam  $SU(4)$ Barbieri, R., Tesi, A.  
(2018) *European Physical Journal C*Extra Higgs boson and  $Z'$  as  
portals to signatures of heavy  
neutrinos at the LHCAccomando, E., Rose, L.D.,  
Moretti, S.  
(2018) *Journal of High Energy  
Physics*

A generic anti-QCD jet tagger

Aguilar-Saavedra, J.A., Collins, J.,  
Mishra, R.K.  
(2017) *Journal of High Energy  
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□ 2 Lynch, K.R., Mrenna, S., Narain, M., Simmons, E.H.

### Finding $Z'$ bosons coupled preferentially to the third family at CERN LEP and the Fermilab Tevatron

(2001) *Physical Review D*, 63 (3), art. no. 035006. Cited 47 times.  
doi: 10.1103/PhysRevD.63.035006

[View at Publisher](#)

□ 3  $Z'$  gauge bosons at the Tevatron

(2004) *Phys. Rev. D*

M. Carena, A. Daleo, B.A. Dobrescu and T.M.P. Tait093009 [ ] [ ]

□ 4 Hill, C.T.

### Topcolor: top quark condensation in a gauge extension of the standard model

(1991) *Physics Letters B*, 266 (3-4), pp. 419-424. Cited 475 times.  
doi: 10.1016/0370-2693(91)91061-Y

[View at Publisher](#)

□ 5 Harris, R.M., Jain, S.

Cross sections for leptophobic topcolor  $Z'$  decaying to top-antitop  
(2012) *Eur. Phys. J.*, 100, p. 2072. Cited 9 times.  
arXiv:1112.4928 [INSPIRE]

□ 6 Hill, C.T., Parke, S.J.

### Top quark production: Sensitivity to new physics

(1994) *Physical Review D*, 49 (9), pp. 4454-4462. Cited 259 times.  
doi: 10.1103/PhysRevD.49.4454

[View at Publisher](#)

□ 7 Hill, C.T.

### Topcolor assisted technicolor

(1995) *Physics Letters B*, 345 (4), pp. 483-489. Cited 629 times.  
doi: 10.1016/0370-2693(94)01660-5

[View at Publisher](#)

□ 8 Frampton, P.H., Glashow, S.L.

### Chiral color: An alternative to the standard model

(1987) *Physics Letters B*, 190 (1-2), pp. 157-161. Cited 268 times.  
doi: 10.1016/0370-2693(87)90859-8

[View at Publisher](#)

□ 9 Choudhury, D., Godbole, R.M., Singh, R.K., Wagh, K.

### Top production at the Tevatron/LHC and nonstandard, strongly interacting spin one particles

(2007) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 657 (1-3), pp. 69-76. Cited 57 times.  
doi: 10.1016/j.physletb.2007.09.057

[View at Publisher](#)

Ovcharova, Ana , et al  
*RWTH Aachen University*

Search for  $\overline{\mathit{t}}\mathit{t}$  resonances in highly boosted lepton+jets and fully hadronic final states in proton-proton collisions at  $\sqrt{s}=13$  TeV

Ovcharova, Ana , et al  
*RWTH Aachen University*

Search for  $\overline{\mathit{t}}\mathit{t}$  resonances in highly boosted lepton+jets and fully hadronic final states in proton-proton collisions at  $\sqrt{s}=13$  TeV

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## Related documents

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Sirunyan, A.M. , Tumasyan, A. , Adam, W.  
(2017) *Journal of High Energy Physics*

Search for pair production of vector-like T and B quarks in single-lepton final states using boosted jet substructure in proton-proton collisions at  $\sqrt{s}=13$  TeV

Sirunyan, A.M. , Tumasyan, A. , Adam, W.  
(2017) *Journal of High Energy Physics*

Search for resonant  $t\bar{t}$  production in proton-proton collisions at  $\sqrt{s}=8$  TeV SEARCH for RESONANT  $t\bar{t}$  PRODUCTION in ... V. KHACHATRYAN et al.

Khachatryan, V. , Sirunyan, A.M. , Tumasyan, A.  
(2016) *Physical Review D*

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[Authors >](#) [Keywords >](#)

10 (2008) *Philadelphia, Pennsylvania*  
R.M. Godbole and D. Choudhury, Nonstandard, strongly interacting spin one tt resonances, in the proceedings of the 34<sup>th</sup> International Conference on High Energy Physic[]

---

11 Dicus, D., Stange, A., Willenbrock, S.  
**Higgs decay to top quarks at hadron colliders**  
(1994) *Physics Letters B*, 333 (1-2), pp. 126-131. Cited 75 times.  
doi: 10.1016/0370-2693(94)91017-0  
  
View at Publisher

---

12 Agashe, K., Belyaev, A., Krupovnickas, T., Perez, G., Virzi, J.  
**CERN LHC signals from warped extra dimensions**  
(2008) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 77 (1), art. no. 015003. Cited 241 times.  
[http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.77.015003&metadataPrefix=oai\\_apsmeta\\_2](http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.77.015003&metadataPrefix=oai_apsmeta_2)  
doi: 10.1103/PhysRevD.77.015003  
  
View at Publisher

---

13 Agashe, K., Davoudiasl, H., Gopalakrishna, S., Han, T., Huang, G.-Y., Perez, G., Si, Z.-G., (...), Soni, A.  
**CERN LHC signals for warped electroweak neutral gauge bosons**  
(2007) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 76 (11), art. no. 115015. Cited 147 times.  
[http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.76.115015&metadataPrefix=oai\\_apsmeta\\_2](http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.76.115015&metadataPrefix=oai_apsmeta_2)  
doi: 10.1103/PhysRevD.76.115015  
  
View at Publisher

---

14 Davoudiasl, H., Hewett, J.L., Rizzo, T.G.  
**Phenomenology of the randall-sundrum gauge hierarchy model**  
(2000) *Physical Review Letters*, 84 (10), pp. 2080-2083. Cited 343 times.  
doi: 10.1103/PhysRevLett.84.2080  
  
View at Publisher

---

15 Randall, L., Sundrum, R.  
**Large mass hierarchy from a small extra dimension**  
(1999) *Physical Review Letters*, 83 (17), pp. 3370-3373. Cited 6365 times.  
doi: 10.1103/PhysRevLett.83.3370  
  
View at Publisher

---

16 Randall, L., Sundrum, R.  
**An alternative to compactification**  
(1999) *Physical Review Letters*, 83 (23), pp. 4690-4693. Cited 5303 times.  
doi: 10.1103/PhysRevLett.83.4690  
  
View at Publisher

---

- 17 Aaltonen, T., Alvarez González, B., Amerio, S., Amidei, D., Anastassov, A., Annovi, A., Antos, J., (...), Zucchelli, S.

Search for resonant production of  $t\bar{t}$  pairs in 4.8fb<sup>-1</sup> of integrated luminosity of  $p\bar{p}$  collisions at  $\sqrt{s}=1.96\text{TeV}$

(2011) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 84 (7), art. no. 072004. Cited 25 times.

<http://oai.aps.org/filefetch?>

[identifier=10.1103/PhysRevD.84.072004&component=fulltext&description=markup&format=xml](http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.84.072004&component=fulltext&description=markup&format=xml)

doi: 10.1103/PhysRevD.84.072004

[View at Publisher](#)

- 18 Abazov, V.M., Abbott, B., Acharya, B.S., Adams, M., Adams, T., Alexeev, G.D., Alkhalaf, G., (...), Zivkovic, L.  
Search for a narrow  $t\bar{t}$  resonance in  $p\bar{p}$  collisions at  $\sqrt{s}=1.96\text{TeV}$

(2012) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 85 (5), art. no. 051101. Cited 32 times.

<http://oai.aps.org/filefetch?>

[identifier=10.1103/PhysRevD.85.051101&component=fulltext&description=markup&format=xml](http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.85.051101&component=fulltext&description=markup&format=xml)

doi: 10.1103/PhysRevD.85.051101

[View at Publisher](#)

- 19 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Swanson, J.  
Search for anomalous  $t\bar{t}$  production in the highly-boosted all-hadronic final state

(2012) *Journal of High Energy Physics*, 2012 (9), art. no. 029. Cited 39 times.

doi: 10.1007/JHEP09(2012)029

[View at Publisher](#)

- 20 Search for anomalous  $t\bar{t}$  production in the highly-boosted all-hadronic final state  
(2014) *JHEP*, 3, p. 132. Cited 3 times.  
[arXiv:1204.2488] [INSPIRE]

- 21 Aad, G., Abajyan, T., Abbott, B., Abdallah, J., Abdel Khalek, S., Abdelalim, A.A., Abdinov, O., (...), Zwalinski, L.  
Search for resonances decaying into top-quark pairs using fully hadronic decays in  $pp$  collisions with ATLAS at  $\sqrt{s}=7\text{ TeV}$

(2013) *Journal of High Energy Physics*, 2013 (1), art. no. 116. Cited 46 times.

doi: 10.1007/JHEP01(2013)116

[View at Publisher](#)

- 22 Aad, G., Abajyan, T., Abbott, B., Abdallah, J., Abdel Khalek, S., Abdelalim, A.A., Abdinov, O., (...), Zwalinski, L.  
Search for  $t\bar{t}$  resonances in the lepton plus jets final state with ATLAS using 4.7 fb<sup>-1</sup> of  $pp$  collisions at  $\sqrt{s} = 7\text{ TeV}$

(2013) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 88 (1), art. no. 012004. Cited 32 times.

<http://oai.aps.org/filefetch?>

[identifier=10.1103/PhysRevD.88.012004&component=fulltext&description=markup&format=xml](http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.88.012004&component=fulltext&description=markup&format=xml)

doi: 10.1103/PhysRevD.88.012004

[View at Publisher](#)

- 23 Aad, G., Abajyan, T., Abbott, B., Abdallah, J., Abdel Khalek, S., Abdelalim, A.A., Abdinov, O., (...), Zwalinski, L.  
A search for  $t\bar{t}$  resonances in lepton+jets events with highly boosted top quarks collected in  $pp$  collisions at  $\sqrt{s} = 7\text{TeV}$  with the ATLAS detector

(2012) *Journal of High Energy Physics*, 2012 (9), art. no. 041. Cited 30 times.

doi: 10.1007/JHEP09(2012)041

[View at Publisher](#)

- 24 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Aguilo, E., Bergauer, T., (...), Swanson, J.  
Search for resonant  $\tau\tau$  production in lepton+jets events in pp collisions at  $\sqrt{s}=7$  TeV

(2012) *Journal of High Energy Physics*, 2012 (12), art. no. 015. Cited 19 times.  
doi: 10.1007/JHEP12(2012)015

[View at Publisher](#)

- 25 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Aguilo, E., Bergauer, T., (...), Swanson, J.  
Search for  $Z'$  resonances decaying to  $\tau\tau$  in dilepton+jets final states in pp collisions at  $\sqrt{s}=7$  TeV

(2013) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 87 (7), art. no. 072002. Cited 23 times.

<http://oai.aps.org/filefetch?>

[identifier=10.1103/PhysRevD.87.072002&component=fulltext&description=markup&format=xml](http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.87.072002&component=fulltext&description=markup&format=xml)

doi: 10.1103/PhysRevD.87.072002

[View at Publisher](#)

- 26 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Swanson, J.  
Searches for new physics using the  $\tau\tau$  invariant mass distribution in pp collisions at  $\sqrt{s}=8$  TeV

(2013) *Physical Review Letters*, 111 (21), art. no. 211804. Cited 49 times.

<http://oai.aps.org/filefetch?>

[identifier=10.1103/PhysRevLett.111.211804&component=fulltext&description=markup&format=xml](http://oai.aps.org/filefetch?identifier=10.1103/PhysRevLett.111.211804&component=fulltext&description=markup&format=xml)

doi: 10.1103/PhysRevLett.111.211804

[View at Publisher](#)

- 27 The ATLAS collaboration, Aad, G., Abbott, B., Abdallah, J., Abdinov, O., Aben, R., Abolins, M., (...), Zwalinski, L.  
A search for  $\tau\tau$  resonances using lepton-plus-jets events in proton-proton collisions at  $\sqrt{s}=8$  TeV with the ATLAS detector

(2015) *Journal of High Energy Physics*, 2015 (8), art. no. 148. Cited 45 times.

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

doi: 10.1007/JHEP08(2015)148

[View at Publisher](#)

- 28 Search for resonant  $\tau\tau^-$  production in proton-proton collisions at  $\sqrt{s}=8$  TeV  
(2016) *Phys. Rev. D*  
CMS collaboration012001 [ ].

- 29 Altarelli, G., Mele, B., Ruiz-Altaba, M.  
Searching for new heavy vector bosons in p {Mathematical expression} colliders

(1989) *Zeitschrift für Physik C Particles and Fields*, 45 (1), pp. 109-121. Cited 159 times.

doi: 10.1007/BF01556677

[View at Publisher](#)

- 30 Altarelli, G., Mele, B., Ruiz-Altaba, M.  
Searching for new heavy vector bosons in {Mathematical expression} colliders

(1990) *Zeitschrift für Physik C Particles and Fields*, 47 (4), p. 676. Cited 39 times.

doi: 10.1007/BF01552335

[View at Publisher](#)

- 
- 31 *The CMS experiment at the CERN LHC.* Cited 88 times.  
CMS collaboration2008 JINST 3 S08004 [□](#) [□](#)
- 
- 32 Particle-flow event reconstruction in CMS and performance for jets, taus and MET  
(2009) *CMS-PAS-PFT*
- 
- 33 Commissioning of the particle-flow event reconstruction with the first LHC collisions recorded in the CMS detector  
(2010) *CMS-PAS-PFT*
- 
- 34 *Description and performance of track and primary-vertex reconstruction with the CMS tracker.* Cited 10 times.  
CMS collaboration2014 JINST 9 P10009 [□](#) [□](#)
- 
- 35 *Performance of CMS muon reconstruction in pp collision events at  $\sqrt{s}=7$  TeV.* Cited 17 times.  
CMS collaboration2012 JINST 7 P10002 [□](#) [□](#)
- 
- 36 *Performance of electron reconstruction and selection with the CMS detector in proton-proton collisions at  $\sqrt{s}=8$  TeV.* Cited 17 times.  
CMS collaboration2015 JINST 10 P06005 [□](#) [□](#)
- 
- 37 Cacciari, M., Salam, G.P., Soyez, G.  
**The anti- $k_r$  jet clustering algorithm**  
  
(2008) *Journal of High Energy Physics*, 2008 (4), art. no. 063. Cited 2312 times.  
doi: 10.1088/1126-6708/2008/04/063  
  
[View at Publisher](#)
- 
- 38 Cacciari, M., Salam, G.P., Soyez, G.  
FastJet user manual  
(2012) *Eur. Phys. J.*, 100, p. 1896. Cited 490 times.  
arXiv:1111.6097 [INSPIRE]
- 
- 39 Cacciari, M., Salam, G.P., Soyez, G.  
**The catchment area of jets**  
  
(2008) *Journal of High Energy Physics*, 2008 (4), art. no. 005. Cited 301 times.  
doi: 10.1088/1126-6708/2008/04/005  
  
[View at Publisher](#)
- 
- 40 *Determination of jet energy calibration and transverse momentum resolution in CMS.* Cited 41 times.  
CMS collaboration2011 JINST 6 P11002 [□](#) [□](#)
- 
- 41 *Identification of b-quark jets with the CMS experiment.* Cited 23 times.  
CMS collaboration2013 JINST 8 P04013 [□](#) [□](#)
-

- 
- 42 Identification of b quark jets at the CMS experiment in the LHC Run 2  
(2015) *CMS-PAS-BTV*
- 
- 43 Top tagging with new approaches  
(2015) *CMS-PAS-JME*
- 
- 44 Dokshitzer, Yu.L., Leder, G.D., Moretti, S., Webber, B.R.  
**Better jet clustering algorithms**  
(1997) *Journal of High Energy Physics*, 1 (8), pp. 1-32. Cited 207 times.
- 
- 45 *Hadronization corrections to jet cross-sections in deep inelastic scattering*. Cited 11 times.  
M. Wobisch and T. Wengler[]
- 
- 46 Dasgupta, M., Fregoso, A., Marzani, S., Salam, G.P.  
**Towards an understanding of jet substructure**  
(2013) *Journal of High Energy Physics*, 2013 (9), art. no. 029. Cited 100 times.  
doi: 10.1007/JHEP09(2013)029  
  
View at Publisher
- 
- 47 Pileup removal algorithms  
(2014) *CMS-PAS-JME*
- 
- 48 Larkoski, A.J., Marzani, S., Soyez, G., Thaler, J.  
**Soft drop**  
(2014) *Journal of High Energy Physics*, 2014 (5), art. no. 146. Cited 64 times.  
<http://link.springer.com/journal/13130>  
doi: 10.1007/JHEP05(2014)146  
  
View at Publisher
- 
- 49 Thaler, J., Van Tilburg, K.  
**Identifying boosted objects with N-subjettiness**  
(2011) *Journal of High Energy Physics*, 2011 (3), art. no. 015. Cited 224 times.  
doi: 10.1007/JHEP03(2011)015  
  
View at Publisher
- 
- 50 Thaler, J., Van Tilburg, K.  
**Maximizing boosted top identification by minimizing N-subjettiness**  
(2012) *Journal of High Energy Physics*, 2012 (2), art. no. 093. Cited 140 times.  
doi: 10.1007/JHEP02(2012)093  
  
View at Publisher
- 
- 51 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**  
(2014) *Journal of High Energy Physics*, 2014 (7), art. no. 079. Cited 1458 times.  
<http://link.springer.com/journal/13130>  
doi: 10.1007/JHEP07(2014)079  
  
View at Publisher
-

- 52 Sjöstrand, T., Mrenna, S., Skands, P.  
**PYTHIA 6.4 physics and manual**  
(2006) *Journal of High Energy Physics*, 2006 (5), art. no. 026. Cited 5020 times.  
doi: 10.1088/1126-6708/2006/05/026  
[View at Publisher](#)
- 
- 53 Sjöstrand, T., Ask, S., Christiansen, J.R., Corke, R., Desai, N., Ilten, P., Mrenna, S., (...), Skands, P.Z.  
**An introduction to PYTHIA 8.2**  
(2015) *Computer Physics Communications*, 191 (1), pp. 159-177. Cited 385 times.  
[http://www.elsevier.com/wps/find/journaldescription.cws\\_home/706710/description#description](http://www.elsevier.com/wps/find/journaldescription.cws_home/706710/description#description)  
doi: 10.1016/j.cpc.2015.01.024  
[View at Publisher](#)
- 
- 54 Mangano, M.L., Moretti, M., Piccinini, F., Treccani, M.  
**Matching matrix elements and shower evolution for top-pair production in hadronic collisions**  
(2007) *Journal of High Energy Physics*, 2007 (1), art. no. 013. Cited 277 times.  
doi: 10.1088/1126-6708/2007/01/013  
[View at Publisher](#)
- 
- 55 Nason, P.  
**A new method for combining NLO QCD with shower Monte Carlo algorithms**  
(2004) *Journal of High Energy Physics*, 8 (11), pp. 1097-1124. Cited 681 times.
- 
- 56 Frixione, S., Nason, P., Oleari, C.  
**Matching NLO QCD computations with parton shower simulations: The POWHEG method**  
(2007) *Journal of High Energy Physics*, 2007 (11), art. no. 070. Cited 981 times.  
doi: 10.1088/1126-6708/2007/11/070  
[View at Publisher](#)
- 
- 57 Alioli, S., Nason, P., Oleari, C., Re, E.  
**A general framework for implementing NLO calculations in shower Monte Carlo programs: The POWHEG BOX**  
(2010) *Journal of High Energy Physics*, 2010 (6), art. no. 043. Cited 834 times.  
doi: 10.1007/JHEP06(2010)043  
[View at Publisher](#)
- 
- 58 Frixione, S., Ridolfi, G., Nason, P.  
**A positive-weight next-to-leading-order Monte Carlo for heavy flavour hadroproduction**  
(2007) *Journal of High Energy Physics*, 2007 (9), art. no. 126. Cited 150 times.  
doi: 10.1088/1126-6708/2007/09/126  
[View at Publisher](#)
- 
- 59 Re, E.  
**Single-top Wt-channel production matched with parton showers using the POWHEG method**  
(2011) *European Physical Journal C*, 71 (2). Cited 148 times.  
<http://link.springer-ny.com/link/service/journals/10052/index.htm>  
doi: 10.1140/epjc/s10052-011-1547-z  
[View at Publisher](#)



- 60 Czakon, M., Mitov, A.  
Top++: A program for the calculation of the top-pair cross-section at hadron colliders  
(2014) *Computer Physics Communications*, 185 (11), pp. 2930-2938. Cited 289 times.  
[http://www.elsevier.com/wps/find/journaldescription.cws\\_home/706710/description#description](http://www.elsevier.com/wps/find/journaldescription.cws_home/706710/description#description)  
doi: 10.1016/j.cpc.2014.06.021  
View at Publisher
- 
- 61 Li, Y., Petriello, F.  
Combining QCD and electroweak corrections to dilepton production in FEWZ  
(2012) *Phys. Rev.*, 500. Cited 24 times.  
arXiv:1208.5967 [INSPIRE]
- 
- 62 Kant, P., Kind, O.M., Kintscher, T., Lohse, T., Martini, T., Molbitz, S., Rieck, P., (...), Uwer, P.  
HatHor for single top-quark production: Updated predictions and uncertainty estimates for single top-quark production in hadronic collisions  
(2015) *Computer Physics Communications*, 191 (1), pp. 74-89. Cited 49 times.  
[http://www.elsevier.com/wps/find/journaldescription.cws\\_home/706710/description#description](http://www.elsevier.com/wps/find/journaldescription.cws_home/706710/description#description)  
doi: 10.1016/j.cpc.2015.02.001  
View at Publisher
- 
- 63 Kidonakis, N.  
NNLL threshold resummation for top-pair and single-top production  
(2014) *Physics of Particles and Nuclei*, 45 (4), pp. 714-722. Cited 47 times.  
<http://springerlink.metapress.com/content/1063-7796/>  
doi: 10.1134/S1063779614040091  
View at Publisher
- 
- 64 MCFM for the Tevatron and the LHC  
(2010) *Nucl. Phys. Proc. Suppl*  
J.M. Campbell and R.K. Ellis [ ] [ ] .
- 
- 65 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  
(2015) *Journal of High Energy Physics*, 2015 (4), art. no. 40, pp. 1-148. Cited 242 times.  
<http://link.springer.com/journal/13130>  
doi: 10.1007/JHEP04(2015)040  
View at Publisher
- 
- 66 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  
(2016) *European Physical Journal C*, 76 (3), art. no. 155. Cited 86 times.  
<http://link.springer-ny.com/link/service/journals/10052/index.htm>  
doi: 10.1140/epjc/s10052-016-3988-x  
View at Publisher
- 
- 67 Skands, P., Carrazza, S., Rojo, J.  
Tuning PYTHIA 8.1: the Monash 2013 tune  
(2014) *European Physical Journal C*, 74 (8), art. no. 3024, pp. 1-39. Cited 75 times.  
<http://link.springer-ny.com/link/service/journals/10052/index.htm>  
doi: 10.1140/epjc/s10052-014-3024-y  
View at Publisher

- 68 Müller, T.  
(2010) *A framework for template-based modeling/inference*  
Ottj, Wagner-Kuhr, theta —webpage
- 
- 69 Campbell, J.M., Ellis, R.K., Williams, C.  
Vector boson pair production at the LHC  
  
(2011) *Journal of High Energy Physics*, 2011 (7), art. no. 018. Cited 421 times.  
doi: 10.1007/JHEP07(2011)018  
  
View at Publisher
- 
- 70 Gehrman, T., Grazzini, M., Kallweit, S., Maierhöfer, P., Von Manteuffel, A., Pozzorini, S., Rathlev, D., (...), Tancredi, L.  
W production at hadron colliders in next to next to leading order QCD  
  
(2014) *Physical Review Letters*, 113 (21), art. no. 212001. Cited 100 times.  
<http://harvest.aps.org/bagit/articles/10.1103/PhysRevLett.113.212001/apsxml>  
doi: 10.1103/PhysRevLett.113.212001  
  
View at Publisher
- 
- 71 Kidonakis, N.  
Top quark production, in the proceedings of the Helmholtz International Summer School on Physics of Heavy Quarks and Hadrons (HQ 2013)  
(2014) *July*, 15-28.  
Dubna, Russia
- 
- 72 Aliev, M., Lacker, H., Langefeld, U., Moch, S., Uwer, P., Wiedermann, M.  
HATHOR - HAdronic Top and Heavy quarks crOss section calculatoR  
  
(2011) *Computer Physics Communications*, 182 (4), pp. 1034-1046. Cited 325 times.  
doi: 10.1016/j.cpc.2010.12.040  
  
View at Publisher
- 
- 73 *The PDF4LHC working group interim recommendations*. Cited 18 times.  
M. Botje et al.[]
- 
- 74 CMS luminosity measurement for the 2015 data-taking period  
(2015) *CMS-PAS-LUM*
- 
- 75 (2015) *Measurement of the inelastic proton-proton cross section*  
CMS collaboration, at  $\sqrt{s}=13$  TeV, (2015)
- 
- 76 (2004) *Kendall's Advanced Theory of Statistics. Volume 2B: Bayesian Inference*. Cited 463 times.  
A. O'Hagan and J.J. Forster, Arnold, London U.K. (2004)
- 
- 77 Barlow, R., Beeston, C.  
Fitting using finite Monte Carlo samples  
  
(1993) *Computer Physics Communications*, 77 (2), pp. 219-228. Cited 186 times.  
doi: 10.1016/0010-4655(93)90005-W  
  
View at Publisher
-

□ 78 Bonciani, R., Ježo, T., Klasen, M., Lyonnet, F., Schienbein, I.

### Electroweak top-quark pair production at the LHC with $Z'$ bosons to NLO QCD in POWHEG

(2016) *Journal of High Energy Physics*, 2016 (2), art. no. 141, pp. 1-34. Cited 2 times.

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

doi: 10.1007/JHEP02(2016)141

[View at Publisher](#)

□ 79 Gao, J., Li, C.S., Li, B.H., Zhu, H.X., Yuan, C.-P.

### Next-to-leading order QCD corrections to a heavy resonance production and decay into top quark pair at the LHC

(2010) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 82 (1), art. no. 014020. Cited 24 times.

[http://oai.aps.org/oai?](http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.82.014020&metadataPrefix=oai_apsmeta_2)

[verb=GetRecord&Identifier=oai:aps.org:PhysRevD.82.014020&metadataPrefix=oai\\_apsmeta\\_2](http://oai.aps.org/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.82.014020&metadataPrefix=oai_apsmeta_2)

doi: 10.1103/PhysRevD.82.014020

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