

## Document details

[< Back to results](#) | 1 of 1[Export](#) [Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More... >](#)[Full Text](#) [View at Publisher](#)Journal of High Energy Physics [Open Access](#)  
Volume 2017, Issue 8, 1 August 2017, Article number 73Search for top quark partners with charge  $5/3$  in proton-proton collisions at  $\sqrt{s}=13$  TeV (Article)The CMS collaboration<sup>io</sup>, 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

[v View references \(50\)](#)

A search for the production of heavy partners of the top quark with charge  $5/3$  ( $X_{5/3}$ ) decaying into a top quark and a  $W$  boson is performed with a data sample corresponding to an integrated luminosity of  $2.3 \text{ fb}^{-1}$ , collected in proton-proton collisions at a center-of-mass energy of 13 TeV with the CMS detector at the CERN LHC. Final states with either a pair of same-sign leptons or a single lepton, along with jets, are considered. No significant excess is observed in the data above the expected standard model background contribution and an  $X_{5/3}$  quark with right-handed (left-handed) couplings is excluded at 95% confidence level for masses below 1020 (990) GeV. These are the first limits based on a combination of the same-sign dilepton and the single-lepton final states, as well as the most stringent limits on the  $X_{5/3}$  mass to date.[Figure not available: see fulltext.]. © 2017, The Author(s).

## Author keywords

[Beyond Standard Model](#) [Exotics](#) [Hadron-Hadron scattering \(experiments\)](#) [Top physics](#)

## Funding details

Funding number	Funding sponsor	Acronym	Funding opportunities
	California Earthquake Authority		<a href="#">See opportunities</a>
	Secretaría de Educación Superior, Ciencia, Tecnología e Innovación		<a href="#">See opportunities</a>
	Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro		<a href="#">See opportunities</a>
	State Fund for Fundamental Research of Ukraine		<a href="#">See opportunities</a>
	CS Fund		<a href="#">See opportunities</a>
	Fuel Cycle Technologies		<a href="#">See opportunities</a>
	Joint Institute for Nuclear Research		<a href="#">See opportunities</a>
	Austrian Science Fund		<a href="#">See opportunities</a>
	Ministry of Environment		<a href="#">See opportunities</a>
	Pakistan Atomic Energy Commission		<a href="#">See opportunities</a>

[Metrics](#) [View all metrics >](#)3 Citations in Scopus  
75th Percentile2.40 Field-Weighted  
Citation Impact[PlumX Metrics](#) [v](#)Usage, Captures, Mentions,  
Social Media and Citations  
beyond Scopus.

## Cited by 3 documents

Vector-like quarks coupling  
discrimination at the LHC and  
future hadron collidersBarducci, D. , Panizzi, L.  
(2017) *Journal of High Energy  
Physics*Production of exotic composite  
quarks at the LHCPanella, O. , Leonardi, R. ,  
Pancheri, G.  
(2017) *Physical Review D*Search for pair production of  
heavy vector-like quarks decaying  
to high- $p_{TW}$  bosons and  $b$   
quarks in the lepton-plus-jets  
final state in  $pp$  collisions at  
 $\sqrt{s}=13$  TeV with the ATLAS  
detectorAaboud, M. , Aad, G. , Abbott, B.  
(2017) *Journal of High Energy  
Physics*[View all 3 citing documents](#)Inform me when this document  
is cited in Scopus:[Set citation alert >](#)[Set citation feed >](#)Related research data [?](#)Search for top quark partners  
with charge  $5/3$  in proton-proton

Funding number	Funding sponsor	Acronym	Funding opportunities
	Consejo Nacional de Ciencia y Tecnología		See opportunities <a href="#">↗</a>
	National Science and Technology Development Agency		See opportunities <a href="#">↗</a>
	Ministry of Business, Innovation and Employment		See opportunities <a href="#">↗</a>
	National Stem Cell Foundation		See opportunities <a href="#">↗</a>
	Institute for Research in Fundamental Sciences		See opportunities <a href="#">↗</a>
	Ministry of Science and Technology		See opportunities <a href="#">↗</a>
	Missouri University of Science and Technology		See opportunities <a href="#">↗</a>
	Benemérita Universidad Autónoma de Puebla		See opportunities <a href="#">↗</a>
	Hispanics in Philanthropy		See opportunities <a href="#">↗</a>
	Massachusetts Department of Fish and Game		See opportunities <a href="#">↗</a>
	Secretaría de Estado de Investigación, Desarrollo e Innovación		See opportunities <a href="#">↗</a>
	Neurosciences Research Foundation		See opportunities <a href="#">↗</a>
	Ministry of Science, ICT and Future Planning		See opportunities <a href="#">↗</a>
	Centers for Medicare and Medicaid Services		See opportunities <a href="#">↗</a>
	U.S. Department of Energy		See opportunities <a href="#">↗</a>
	Monsanto Company		See opportunities <a href="#">↗</a>
	Academy of Finland		See opportunities <a href="#">↗</a>
	Coordenação de Aperfeiçoamento de Pessoal de Nível Superior		See opportunities <a href="#">↗</a>
	National Science Council		See opportunities <a href="#">↗</a>
	Mountain Equipment Co-op		See opportunities <a href="#">↗</a>
	Türkiye Atom Enerjisi Kurumu		See opportunities <a href="#">↗</a>
	Russian Foundation for Basic Research		See opportunities <a href="#">↗</a>
	Erciyes Üniversitesi		See opportunities <a href="#">↗</a>
	Swiss Re		See opportunities <a href="#">↗</a>
	Research Promotion Foundation		See opportunities <a href="#">↗</a>
	European Research Council		See opportunities <a href="#">↗</a>
	National Stroke Foundation		See opportunities <a href="#">↗</a>
	Science and Technology Facilities Council		See opportunities <a href="#">↗</a>
	Human Growth Foundation		See opportunities <a href="#">↗</a>
	Starmed		See opportunities <a href="#">↗</a>
	Austrian Science Fund		See opportunities <a href="#">↗</a>
	Fundação de Amparo à Pesquisa do Estado de São Paulo		See opportunities <a href="#">↗</a>
	Secretaría de Educación Pública		See opportunities <a href="#">↗</a>
	Bundesministerium für Wissenschaft, Forschung und Wirtschaft		See opportunities <a href="#">↗</a>
	Fonds De La Recherche Scientifique - FNRS		See opportunities <a href="#">↗</a>
	National Academy of Sciences of Ukraine		See opportunities <a href="#">↗</a>
	Bundesministerium für Bildung und Forschung		See opportunities <a href="#">↗</a>
	National Natural Science Foundation of China		See opportunities <a href="#">↗</a>

collisions at  $\sqrt{s}=13$  TeV  
Ovcharova, Ana , et al  
*RWTH Aachen University*

Search for top quark partners with charge  $5/3$  in proton-proton collisions at  $\sqrt{s}=13$  TeV

Ovcharova, Ana , et al  
*Deutsches Elektronen-Synchrotron, DESY, Hamburg*

Data linking provided by

## Related documents

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 associated production of dark matter with a Higgs boson decaying to  $b\bar{b}$  or  $\Upsilon\Upsilon$  at  $\sqrt{s}=13$  TeV

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

Search for electroweak production of charginos and neutralinos in WH events in proton-proton collisions at  $\sqrt{s}=13$  TeV

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

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

Funding number	Funding sponsor	Acronym	Funding opportunities
	Ministry of Science, ICT and Future Planning		See opportunities↗
	Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional		See opportunities↗
	Instituto Nazionale di Fisica Nucleare		See opportunities↗
	Országos Tudományos Kutatási Alapprogramok		See opportunities↗
	Department of Atomic Energy, Government of India		See opportunities↗
	University of Montevallo		See opportunities↗
	Rochester Academy of Science		See opportunities↗
	State Atomic Energy Corporation ROSATOM		See opportunities↗
	Department of Science and Technology, Republic of South Africa		See opportunities↗
	Conselho Nacional de Desenvolvimento Científico e Tecnológico		See opportunities↗
	Russian Foundation for Basic Research		See opportunities↗
	Center for African Studies		See opportunities↗
	National Institutes of Health		See opportunities↗
	European Regional Development Fund		See opportunities↗
	General Secretariat for Research and Technology		See opportunities↗
	Fonds Wetenschappelijk Onderzoek		See opportunities↗
	Santa Fe Institute		See opportunities↗
	Ministry of Education and Science		See opportunities↗
	Louisiana Academy of Sciences		See opportunities↗
	CS Fund		See opportunities↗
	Ministerstwo Nauki i Szkolnictwa Wyższego		See opportunities↗
	European Regional Development Fund		See opportunities↗
	CS Fund		See opportunities↗
	Chulalongkorn University		See opportunities↗
	Hellenic Rheumatology Society		See opportunities↗
	Horizon 2020		See opportunities↗
	H2020 European Research Council		See opportunities↗
	Fundacja na rzecz Nauki Polskiej		See opportunities↗
	Alfred P. Sloan Foundation		See opportunities↗
	Korea Research Council for Industrial Science and Technology		See opportunities↗
	Alfred P. Sloan Foundation		See opportunities↗
	Qatar National Research Fund		See opportunities↗
	Federaal Wetenschapsbeleid		See opportunities↗
	Agentschap voor Innovatie door Wetenschap en Technologie		See opportunities↗
	National Research Program for Biopharmaceuticals		See opportunities↗
	Alexander von Humboldt-Stiftung		See opportunities↗
	A.G. Leventis Foundation		See opportunities↗
2012/07/E/ST2/01406	Ministerstvo Školství, Mládeže a Tělovýchovy		See opportunities↗

Funding number	Funding sponsor	Acronym	Funding opportunities
2014/13/B/ST2/02543	Ministerstvo Školství, Mládeže a Tělovýchovy		See opportunities↗
2014/14/M/ST2/00428	Ministerstvo Školství, Mládeže a Tělovýchovy		See opportunities↗
Opus 2014/13/B/ST2/02543	Ministerstvo Školství, Mládeže a Tělovýchovy		See opportunities↗
2014/15/B/ST2/03998	Ministerstvo Školství, Mládeže a Tělovýchovy		See opportunities↗
Sonata-bis 2012/07/E/ST2/01406	Ministerstvo Školství, Mládeže a Tělovýchovy		See opportunities↗
2015/19/B/ST2/02861	Ministerstvo Školství, Mládeže a Tělovýchovy		See opportunities↗
Harmonia 2014/14/M/ST2/00428	Ministerstvo Školství, Mládeže a Tělovýchovy		See opportunities↗
	National Center for Theoretical Sciences		See opportunities↗
675440	European Research Council		See opportunities↗
	Fonds pour la Formation à la Recherche dans l'Industrie et dans l'Agriculture		See opportunities↗
	Gobierno del Principado de Asturias		See opportunities↗
C-1845	Welch Foundation		See opportunities↗
	Chulalongkorn University		See opportunities↗
	Chulalongkorn University		See opportunities↗

#### Funding text #1

We congratulate our colleagues in the CERN accelerator departments for the excellent performance of the LHC and thank the technical and administrative staffs at CERN and at other CMS institutes for their contributions to the success of the CMS effort. In addition, we gratefully acknowledge the computing centres and personnel of the Worldwide LHC Computing Grid for delivering so effectively the computing infrastructure essential to our analyses. Finally, we acknowledge the enduring support for the construction and operation of the LHC and the CMS detector provided by the following funding agencies: BMWFW and FWF (Austria); FNRS and FWO (Belgium); CNPq, CAPES, FAPERJ, and FAPESP (Brazil); MES (Bulgaria); CERN; CAS, MoST, and NSFC (China); COL-CIENCIAS (Colombia); MSES and CSF (Croatia); RPF (Cyprus); SENESCYT (Ecuador); MoER, ERC IUT, and ERDF (Estonia); Academy of Finland, MEC, and HIP (Finland); CEA and CNRS/IN2P3 (France); BMBF, DFG, and HGF (Germany); GSRT (Greece); OTKA and NIH (Hun... View All ▾

#### Funding text #2

Individuals have received support from the Marie-Curie programme and the European Research Council and Horizon 2020 Grant, contract No. 675440 (European Union); the Leventis Foundation; the A. P. Sloan Foundation; the Alexander von Humboldt Foundation; the Belgian Federal Science Policy Office; the Fonds pour la Formation à la Recherche dans l'Industrie et dans l'Agriculture (FRIA-Belgium); the Agentschap voor Innovatie door Wetenschap en Technologie (IWT-Belgium); the Ministry of Education, Youth and Sports (MEYS) of the Czech Republic; the Council of Science and Industrial Research, India; the HOMING PLUS programme of the Foundation for Polish Science, cofinanced from European Union, Regional Development Fund, the Mobility Plus programme of the Ministry of Science and Higher Education, the National Science Center (Poland), contracts Harmonia 2014/14/M/ST2/00428, Opus 2014/13/B/ST2/02543, 2014/15/B/ST2/03998, and 2015/19/B/ST2/02861, Sonata-bis 2012/07/E/ST2/01406; the National Prioriti... View All ▾

#### Funding text #3

University and the Chulalongkorn Academic into Its 2nd Century Project (Thailand); and the Welch Foundation, contract C-1845.

ISSN: 11266708

Source Type: Journal

Original language: English



DOI: 10.1007/JHEP08(2017)073

Document Type: Article

Publisher: Springer Verlag

#### References (50)

View in search results format >

All | [Export](#) |  Print |  E-mail | [Save to PDF](#) | [Create bibliography](#)

1 De Simone, A., Matsedonskyi, O., Rattazzi, R., Wulzer, A.

### A first top partner hunter's guide

(2013) *Journal of High Energy Physics*, 2013 (4), art. no. 004. Cited 109 times.  
doi: 10.1007/JHEP04(2013)004

[View at Publisher](#)

---

2 Mrazek, J., Wulzer, A.

### A strong sector at the LHC: Top partners in same-sign dileptons

(2010) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 81 (7), art. no. 075006. Cited 66 times.

[http://oai.aps.org/oai?](http://oai.aps.org/oai?verb=GetRecord&identifier=oai:aps.org:PhysRevD.81.075006&metadataPrefix=oai_apsmeta_2)

[verb=GetRecord&identifier=oai:aps.org:PhysRevD.81.075006&metadataPrefix=oai\\_apsmeta\\_2](http://oai.aps.org/oai?verb=GetRecord&identifier=oai:aps.org:PhysRevD.81.075006&metadataPrefix=oai_apsmeta_2)

doi: 10.1103/PhysRevD.81.075006

[View at Publisher](#)

---

3 Dissertori, G., Furlan, E., Moortgat, F., Nef, P.

### Discovery potential of top-partners in a realistic composite Higgs model with early LHC data

(2010) *Journal of High Energy Physics*, 2010 (9), art. no. 019. Cited 32 times.

doi: 10.1007/JHEP09(2010)019

[View at Publisher](#)

---

4 Contino, R., Servant, G.

### Discovering the top partners at the LHC using same-sign dilepton final states

(2008) *Journal of High Energy Physics*, 2008 (6), art. no. 026. Cited 117 times.

doi: 10.1088/1126-6708/2008/06/026

[View at Publisher](#)

---

5 Azatov, A., Galloway, J.

### Light custodians and Higgs physics in composite models

(2012) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 85 (5), art. no. 055013. Cited 75 times.

[http://oai.aps.org/filefetch?](http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.85.055013&component=fulltext&description=markup&format=xml)

[identifier=10.1103/PhysRevD.85.055013&component=fulltext&description=markup&format=xml](http://oai.aps.org/filefetch?identifier=10.1103/PhysRevD.85.055013&component=fulltext&description=markup&format=xml)

doi: 10.1103/PhysRevD.85.055013

[View at Publisher](#)

---

6 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Smith, W.H.

### Search for top-quark partners with charge 5/3 in the same-sign dilepton final state

(2014) *Physical Review Letters*, 112 (17), art. no. 171801. Cited 46 times.

<http://harvest.aps.org/bagit/articles/10.1103/PhysRevLett.112.171801/apsxml>

doi: 10.1103/PhysRevLett.112.171801

[View at Publisher](#)

---

7 The ATLAS collaboration, Aad, G., Abbott, B., Abdallah, J., Abdinov, O., Aben, R., Abolins, M., (...), Zwalinski, L.

### Analysis of events with b-jets and a pair of leptons of the same charge in pp collisions at $\sqrt{s}=8$ TeV with the ATLAS detector

(2015) *Journal of High Energy Physics*, 2015 (10), art. no. 150, pp. 1-51. Cited 19 times.

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

doi: 10.1007/JHEP10(2015)150

[View at Publisher](#)

---

- 8 Aad, G., Abbott, B., Abdallah, J., Abidinov, O., Aben, R., Abolins, M., Abouzeid, O.S., (...), Zwalinski, L.  
Search for vectorlike B quarks in events with one isolated lepton, missing transverse momentum, and jets at  $\sqrt{s}=8$  TeV with the ATLAS detector
- (2015) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 91 (11), art. no. 112011. Cited 27 times.  
<http://harvest.aps.org/bagit/articles/10.1103/PhysRevD.91.112011/apsxml>  
doi: 10.1103/PhysRevD.91.112011
- [View at Publisher](#)
- 
- 9 *The CMS experiment at the CERN LHC*. Cited 88 times.  
CMS collaboration2008 JINST 3 S08004 [\[\]](#)
- 
- 10 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](#)
- 
- 11 Artoisenet, P., Frederix, R., Mattelaer, O., Rietkerk, R.  
Automatic spin-entangled decays of heavy resonances in Monte Carlo simulations
- (2013) *Journal of High Energy Physics*, 2013 (3), art. no. 015. Cited 101 times.  
doi: 10.1007/JHEP03(2013)015
- [View at Publisher](#)
- 
- 12 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](#)
- 
- 13 Czakon, M., Fiedler, P., Mitov, A.  
Total top-quark pair-production cross section at hadron colliders through  $\mathcal{O}(\alpha_s^4)$
- (2013) *Physical Review Letters*, 110 (25), art. no. 252004. Cited 528 times.  
<http://oai.aps.org/filefetch?identifier=10.1103/PhysRevLett.110.252004&component=fulltext&description=markup&format=xml>  
doi: 10.1103/PhysRevLett.110.252004
- [View at Publisher](#)
- 
- 14 Czakon, M., Mitov, A.  
NNLO corrections to top pair production at hadron colliders: The quark-gluon reaction
- (2013) *Journal of High Energy Physics*, 2013 (1), art. no. 080. Cited 175 times.  
doi: 10.1007/JHEP01(2013)080
- [View at Publisher](#)
-

- 15 Czakon, M., Mitov, A.  
NNLO corrections to top-pair production at hadron colliders: The all-fermionic scattering channels  
(2012) *Journal of High Energy Physics*, 2012 (12), art. no. 054. Cited 171 times.  
doi: 10.1007/JHEP12(2012)054  
[View at Publisher](#)
- 
- 16 Bärnreuther, P., Czakon, M., Mitov, A.  
Percent-level-precision physics at the tevatron: Next-to-next-to-leading order QCD corrections to  $q\bar{q} \rightarrow t\bar{t} + X$   
(2012) *Physical Review Letters*, 109 (13), art. no. 132001. Cited 241 times.  
<http://oai.aps.org/filefetch?identifier=10.1103/PhysRevLett.109.132001&component=fulltext&description=markup&format=xml>  
doi: 10.1103/PhysRevLett.109.132001  
[View at Publisher](#)
- 
- 17 Cacciari, M., Czakon, M., Mangano, M., Mitov, A., Nason, P.  
Top-pair production at hadron colliders with next-to-next-to-leading logarithmic soft-gluon resummation  
(2012) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 710 (4-5), pp. 612-622. Cited 233 times.  
doi: 10.1016/j.physletb.2012.03.013  
[View at Publisher](#)
- 
- 18 Alwall, J., Höche, S., Krauss, F., Lavesson, N., Lönnblad, L., Maltoni, F., Mangano, M.L., (...), Worek, M.  
Comparative study of various algorithms for the merging of parton showers and matrix elements in hadronic collisions  
(2008) *European Physical Journal C*, 53 (3), pp. 473-500. Cited 371 times.  
doi: 10.1140/epjc/s10052-007-0490-5  
[View at Publisher](#)
- 
- 19 Frederix, R., Frixione, S.  
Merging meets matching in MC@NLO  
(2012) *Journal of High Energy Physics*, 2012 (12), art. no. 061. Cited 123 times.  
doi: 10.1007/JHEP12(2012)061  
[View at Publisher](#)
- 
- 20 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.
- 
- 21 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](#)
-

- 22 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
- 
- 23 Alioli, S., Moch, S.-O., Uwer, P.  
Hadronic top-quark pair-production with one jet and parton showering  
(2012) *Journal of High Energy Physics*, 2012 (1), art. no. 137. Cited 53 times.  
doi: 10.1007/JHEP01(2012)137  
View at Publisher
- 
- 24 Sjöstrand, T., Mrenna, S., Skands, P.  
A brief introduction to PYTHIA 8.1  
(2008) *Computer Physics Communications*, 178 (11), pp. 852-867. Cited 1981 times.  
doi: 10.1016/j.cpc.2008.01.036  
View at Publisher
- 
- 25 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
- 
- 26 R.D. Ball et al., Parton distributions for the LHC Run II  
(2015) *JHEP*  
04 040
- 
- 27 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
- 
- 28 S. Agostinelli et al., GEANT4 — a simulation toolkit  
(2003) *Nucl. Instrum. Meth. A*  
506 250 []
- 
- 29 Allison, J., Amako, K., Apostolakis, J., Araujo, H., Dubois, P.A., Asai, M., Barrand, G., (...), Peirgentili, M.  
Geant4 developments and applications  
(2006) *IEEE Transactions on Nuclear Science*, 53 (1), pp. 270-278. Cited 2740 times.  
doi: 10.1109/TNS.2006.869826  
View at Publisher
- 
- 30 *submitted to JINST (2017)*  
CMS collaboration, Particle-flow reconstruction and global event description with the CMS detector[]



- 
- 31 *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 [\[\]](#) [\[\]](#)
- 
- 32 *Description and performance of track and primary-vertex reconstruction with the CMS tracker*. Cited 10 times.  
CMS collaboration2014 JINST 9 P10009 [\[\]](#) [\[\]](#)
- 
- 33 Reconstruction of electrons with the Gaussian sum filter in the CMS tracker at LHC  
(2003) *J. Phys. G* 31 (2005) N9 [*eConf C*  
W. Adam, R. Fruhwirth, A. Strandlie and T. TodorovTULT009]
- 
- 34 Cacciari, M., Salam, G.P.  
**Pileup subtraction using jet areas**  
  
(2008) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 659 (1-2), pp. 119-126. Cited 426 times.  
doi: 10.1016/j.physletb.2007.09.077  
  
[View at Publisher](#)
- 
- 35 Measurement of the Inclusive W and Z production cross sections in pp collisions at  $\sqrt{s}=7$  TeV  
(2011) *JHEP*  
10 132
- 
- 36 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](#)
- 
- 37 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](#)
- 
- 38 Salam, G.P., Soyez, G.  
FastJet user manual  
(2012) *Eur. Phys. J.*, 100, p. 1896. Cited 490 times.  
arXiv:1111.6097 [*INSPIRE*]
- 
- 39 *Jet energy scale and resolution in the CMS experiment in pp collisions at 8 TeV*. Cited 18 times.  
CMS collaboration2017 JINST 12 P02014 [\[\]](#) [\[\]](#)
-

- 40 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., (...), CMS Collaboration

Search for new physics in same-sign dilepton events in proton–proton collisions at  $\sqrt{s} = 13$  TeV

(2016) *European Physical Journal C*, 76 (8), art. no. 439. Cited 15 times.

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

doi: 10.1140/epjc/s10052-016-4261-z

[View at Publisher](#)

- 41 Search for new physics with same-sign isolated dilepton events with jets and missing transverse energy at the LHC

(2011) *Journal of High Energy Physics*, 2011 (6), art. no. 077. Cited 8 times.

doi: 10.1007/JHEP06(2011)077

[View at Publisher](#)

- 42 (2016) *Identification of b quark jets at the CMS Experiment in the LHC Run 2*. Cited 14 times.

- 43 (2016) *Top tagging with new approaches*. Cited 2 times.

- 44 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](#)

- 45 Ellis, S.D., Vermilion, C.K., Walsh, J.R.

Techniques for improved heavy particle searches with jet substructure

(2009) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 80 (5), art. no. 051501. Cited 185 times.

[http://oai.aps.org/oai?](http://oai.aps.org/oai?verb=GetRecord&identifier=oai:aps.org:PhysRevD.80.051501&metadataPrefix=oai_apsmeta_2)

[verb=GetRecord&identifier=oai:aps.org:PhysRevD.80.051501&metadataPrefix=oai\\_apsmeta\\_2](http://oai.aps.org/oai?verb=GetRecord&identifier=oai:aps.org:PhysRevD.80.051501&metadataPrefix=oai_apsmeta_2)

doi: 10.1103/PhysRevD.80.051501

[View at Publisher](#)

- 46 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](#)

- 47 (2015) *].*  
CMS collaboration, CMS luminosity measurement for the 2015 data-taking period,

- 48 Butterworth, J., Carrazza, S., Cooper-Sarkar, A., Roeck, A.D., Feltesse, J., Forte, S., Gao, J., (...), Thorne, R.  
PDF4LHC recommendations for LHC Run II

(2016) *Journal of Physics G: Nuclear and Particle Physics*, 43 (2), art. no. 023001. Cited 162 times.

<http://iopscience.iop.org/article/10.1088/0954-3899/43/2/023001/pdf>

doi: 10.1088/0954-3899/43/2/023001

[View at Publisher](#)

□ 49 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., Erö, J., (...), The ATLAS Collaboration

### Measurement of the differential cross section for top quark pair production in pp collisions at $\sqrt{s}=8$ TeV

(2015) *European Physical Journal C*, 75 (11), art. no. 542, pp. 1-39. Cited 51 times.

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

doi: 10.1140/epjc/s10052-015-3709-x

[View at Publisher](#)

□ 50 *Theta — A framework for template-based modeling and inference*

T. Müller, J. Ott, and J. Wagner-Kuhr

<http://www-ekp.physik.uni-karlsruhe.de/~ott/theta/testing/html/index.html>

© Copyright 2017 Elsevier B.V., All rights reserved.

[< Back to results](#) | 1 of 1

[^ Top of page](#)

#### About Scopus

[What is Scopus](#)  
[Content coverage](#)  
[Scopus blog](#)  
[Scopus API](#)  
[Privacy matters](#)

#### Language

[日本語に切り替える](#)  
[切换到简体中文](#)  
[切换到繁體中文](#)  
[Русский язык](#)

#### Customer Service

[Help](#)  
[Contact us](#)

**ELSEVIER**

[Terms and conditions](#) [Privacy policy](#)

Copyright © 2018 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

Cookies are set by this site. To decline them or learn more, visit our [Cookies page](#).

 RELX Group™