Document details

‹ Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More... ›

View at Publisher

Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics Open Access
Volume 791, 10 April 2019, Pages 96-129

Measurements of properties of the Higgs boson decaying to a W boson pair in pp collisions at s=13TeV (Article) (Open Access)

Sirunyan, A.M.[a], Tumasyan, A.[a], Adam, W.[b], Ambrogi, F.[b], Asilar, E.[b], Bergauer, T.[b], Brandstetter, J.[b], Dragicevic, M.[b], Erö, J.[b], Escalante Del Valle, A.[b], Flechl, M.[b], Frühwirth, R.[b], Ghete, V.M.[b], Hrubec, J.[b], Jeitler, M.[b], Krammer, N.[b], Krätschmer, I.[b], Liko, D.[b], Madlener, T.[b], Mikulec, I.[b], Rad, N.[b], Rohringer, H.[b],

View additional authors

[a]Yerevan Physics Institute, Yerevan, Armenia
[b]Institut für Hochenergiephysik, Wien, Austria
[c]Institute for Nuclear Problems, Minsk, Belarus

View additional affiliations

Abstract

View references (68)

Measurements of the production of the standard model Higgs boson decaying to a W boson pair are reported. The W^+W^- candidates are selected in events with an oppositely charged lepton pair, large missing transverse momentum, and various numbers of jets. To select Higgs bosons produced via vector boson fusion and associated production with a W or Z boson, events with two jets or three or four leptons are also selected. The event sample corresponds to an integrated luminosity of $35.9 fb^{-1}$, collected in pp collisions at s=13TeV by the CMS detector at the LHC during 2016. Combining all channels, the observed cross section times branching fraction is $1.28^{+0.18}_{-0.17}$ times the standard model prediction for the Higgs boson with a mass of 125.09GeV. This is the first observation of the Higgs boson decay to W boson pairs by the CMS experiment. © 2019 The Author(s)

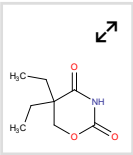
SciVal Topic Prominence

Topic: Collisions | Jets | Proton–proton collisions

Prominence percentile: 99.939

Chemistry database information

Substances



Author keywords

Higgs WW

Funding details

Metrics

View all metrics ›

15 Citations in Scopus
98th percentile

8.00 Field-Weighted Citation Impact

PlumX Metrics

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 15 documents

A search for the standard model Higgs boson decaying to charm quarks
Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2020) Journal of High Energy Physics

Search for dark matter particles produced in association with a Higgs boson in proton-proton collisions at √s = 13 TeV
Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2020) Journal of High Energy Physics

Non-standard interactions in radiative neutrino mass models
Babu, K.S. , Dev, P.S.B. , Jana, S.
(2020) Journal of High Energy Physics

View all 15 citing documents

Inform me when this document is cited in Scopus:

Set citation alert ›

Set citation feed ›

Related documents

Observation of the Higgs boson decay to a pair of τ leptons with

Funding sponsor	Funding number	Acronym
California Earthquake Authority		
European Regional Development Fund		
Ministry of Higher Education		
Joint Institute for Nuclear Research		JINR
Pakistan Atomic Energy Commission	Pakistan	
Welch Foundation See opportunities↗	C-1845	
National Science and Technology Development Agency	Thailand	
	675440	
Fundacja na rzecz Nauki Polskiej See opportunities↗		
Hispanics in Philanthropy		
Korea Research Council for Industrial Science and Technology		ISTK
California Department of Fish and Game		
Comisión Asesora de Investigación Científica y Técnica	MDM-2015-0509	CAICYT
National Research Foundation		
Secretaría de Estado de Investigación, Desarrollo e Innovación		
Qatar National Research Fund		
Ministry of Science ICT and Future Planning		MSIP

the CMS detector

Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2018) Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics

Evidence for the Higgs boson decay to a bottom quark–antiquark pair

Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2018) Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics

Search for an exotic decay of the Higgs boson to a pair of light pseudoscalars in the final state with two b quarks and two τ leptons in proton–proton collisions at s=13TeV

Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2018) Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

Funding sponsor	Funding number	Acronym
Canadian Mathematical Society See opportunities↗		
A.G. Leventis Foundation		
U.S. Department of Energy See opportunities↗		
Academy of Finland		
Coordenação de Aperfeiçoamento de Pessoal de Nível Superior		
Türkiye Atom Enerjisi Kurumu		
Ministerio de Educación y Cultura		
Research Promotion Foundation	Cyprus	
National Science Foundation		
Science and Technology Facilities Council See opportunities↗		
Austrian Science Fund		
Bundesministerium für Wissenschaft, Forschung und Wirtschaft		BMWFW
National Academy of Sciences of Ukraine		
Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional		
Instituto Nazionale di Fisica Nucleare		
Department of Atomic Energy, Government of India		

Funding sponsor	Funding number	Acronym
Department of Science and Technology, Government of Rajasthan		
Conselho Nacional de Desenvolvimento Científico e Tecnológico		CNPq
Российский Фонд Фундаментальных Исследований (РФФИ)		
Canadian Anesthesiologists' Society		
Belgian Federal Science Policy Office		
Departamento Administrativo de Ciencia, Tecnología e Innovación		COLCIENCIAS
Alexander von Humboldt-Stiftung See opportunities↗		
Ministerstvo Školství, Mládeže a Tělovýchovy		Not Available
European Commission See opportunities↗		
CERN		
	Serbia	
	NSC	
Fonds Wetenschappelijk Onderzoek		
Santa Fe Institute		
Ministry of Education and Science		
Louisiana Academy of Sciences		

Funding sponsor	Funding number	Acronym
Secretaría de Educación Superior, Ciencia, Tecnología e Innovación		
Fonds pour la Formation à la Recherche dans l'Industrie et dans l'Agriculture		FRIA
Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro		
State Fund for Fundamental Research of Ukraine	Ukraine	
CS Fund	Croatia	
Fuel Cell Technologies Program		FCT
Ministry of Education - Singapore		
Consejo Nacional de Ciencia y Tecnología		
Ministry for Business Innovation and Employment		
Weston Havens Foundation		
Institute for Research in Fundamental Sciences		
Foundation for Promotion of Material Science and Technology of Japan	Taipei	
Federación Española de Enfermedades Raras		FEDER
Alfred P. Sloan Foundation See opportunities↗		

Funding sponsor	Funding number	Acronym
Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul		
Human Growth Foundation		
Fundação de Amparo à Pesquisa do Estado de São Paulo See opportunities↗		
Secretaría de Educación Pública		
Fonds De La Recherche Scientifique - FNRS		
Bundesministerium für Bildung und Frauen		
National Natural Science Foundation of China		
Universidade de Macau		
Rochester Academy of Science		
State Atomic Energy Corporation ROSATOM		ROSATOM
	30820817	
Chulalongkorn University		CU
Agentschap voor Innovatie door Wetenschap en Technologie		
Ministerstvo Školství, Mládeže a Tělovýchovy		Not Available
European Regional Development Fund		
	2012/07/E/ST2/01406,2014/13/B/ST2/02543,2014/14/M/ST2/00428,2014/15/B/ST2/03998,2015/19/B/ST2/02861	
General Secretariat for Research and Technology	Hungary	GSRT

Funding sponsor	Funding number	Acronym
Magyar Tudományos Akadémia		MTA
Nemzeti Kutatási, Fejlesztési és Innovaciós Alap	125105,124850,123842,123959,124845	

Funding text

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 centers 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 , FAPERGS , and FAPESP (Brazil); MES (Bulgaria); CERN ; CAS , MoST , and NSFC (China); COLCIENCIAS (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 (Greec... View all

ISSN: 03702693
CODEN: PYLBA
Source Type: Journal
Original language: English

DOI: 10.1016/j.physletb.2018.12.073
Document Type: Article
Publisher: Elsevier B.V.

References (68)

View in search results format >

All | Export | Print | E-mail | Save to PDF | Create bibliography

1 Englert, F., Brout, R.
Broken symmetry and the mass of gauge vector mesons (Open Access)

(1964) *Physical Review Letters*, 13 (9), pp. 321-323. Cited 2240 times.
doi: 10.1103/PhysRevLett.13.321

View at Publisher

2 Higgs, P.W.
Broken symmetries, massless particlees and gauge fields

(1964) *Physics Letters*, 12 (2), pp. 132-133. Cited 2095 times.
doi: 10.1016/0031-9163(64)91136-9

View at Publisher

3 Higgs, P.W.
Broken symmetries and the masses of gauge bosons (Open Access)

(1964) *Physical Review Letters*, 13 (16), pp. 508-509. Cited 2290 times.
doi: 10.1103/PhysRevLett.13.508

View at Publisher

4 Guralnik, G.S., Hagen, C.R., Kibble, T.W.B.
Global conservation laws and massless particles (Open Access)

(1964) *Physical Review Letters*, 13 (20), pp. 585-587. Cited 1688 times.
doi: 10.1103/PhysRevLett.13.585

View at Publisher

5 Higgs, P.W.
Spontaneous symmetry breakdown without massless bosons (Open Access)

(1966) *Physical Review*, 145 (4), pp. 1156-1163. Cited 1326 times.
doi: 10.1103/PhysRev.145.1156

View at Publisher

6 Kibble, T.W.B.
Symmetry breaking in n-Abelian gauge theories

(1967) *Physical Review*, 155 (5), pp. 1554-1561. Cited 849 times.
doi: 10.1103/PhysRev.155.1554

View at Publisher

7 Aad, G., Abajyan, T., Abbott, B., Abdallah, J., Abdel Khalek, S., Abdelalim, A.A., Abdinov, O., (...), Zwalinski, L.
Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC (Open Access)

(2012) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 716 (1), pp. 1-29. Cited 5453 times.
http://www.sciencedirect.com.ezproxy.um.edu.my/science/journal/03702693
doi: 10.1016/j.physletb.2012.08.020

View at Publisher

8 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Aguilo, E., Bergauer, T., (...), Wenman, D.
Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC (Open Access)

(2012) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 716 (1), pp. 30-61. Cited 5486 times.
http://www.sciencedirect.com.ezproxy.um.edu.my/science/journal/03702693
doi: 10.1016/j.physletb.2012.08.021

View at Publisher

9 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Swanson, J.
Observation of a new boson with mass near 125 GeV in pp collisions at √=7 and 8 TeV (Open Access)

(2013) *Journal of High Energy Physics*, 2013 (6), art. no. 081. Cited 330 times.
doi: 10.1007/JHEP06(2013)081

View at Publisher

10 Aad, G., Abbott, B., Abdallah, J., Abdinov, O., Aben, R., Abolins, M., AbouZeid, O.S., (...), ATLAS Publications

Measurements of the Higgs boson production and decay rates and coupling strengths using pp collision data at √S=7 and 8 TeV in the ATLAS experiment (Open Access)

(2016) *European Physical Journal C*, 76 (1), art. no. 6, pp. 1-51. Cited 171 times.
https://www-springer-com.ezproxy.um.edu.my/physics/particle+and+nuclear+physics/journal/10052
doi: 10.1140/epjc/s10052-015-3769-y

View at Publisher

11 Aad, G., Abajyan, T., Abbott, B., Abdallah, J., AbdelKhalek, S., Abdinov, O., Aben, R., (...), Zwalinski, L.

Evidence for the spin-0 nature of the Higgs boson using ATLAS data (Open Access)

(2013) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 726 (1-3), pp. 120-144. Cited 314 times.
doi: 10.1016/j.physletb.2013.08.026

View at Publisher

12 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., Erö, J., (...), The CMS Collaboration

Precise determination of the mass of the Higgs boson and tests of compatibility of its couplings with the standard model predictions using proton collisions at 7 and 8 TeV (Open Access)

(2015) *European Physical Journal C*, 75 (5), art. no. 212. Cited 448 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-015-3351-7

View at Publisher

13 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., Erö, J., (...), Woods, N.

Constraints on the spin-parity and anomalous HVV couplings of the Higgs boson in proton collisions at 7 and 8 TeV (Open Access)

(2015) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 92 (1), art. no. 012004. Cited 169 times.
http://harvest.aps.org.ezproxy.um.edu.my/bagit/articles/10.1103/PhysRevD.92.012004/apsxml
doi: 10.1103/PhysRevD.92.012004

View at Publisher

14 Aad, G., Abbott, B., Abdallah, J., Abdinov, O., Aben, R., Abolins, M., Abouzeid, O.S., (...), Woods, N.

Combined Measurement of the Higgs Boson Mass in pp Collisions at s =7 and 8 TeV with the ATLAS and CMS Experiments (Open Access)

(2015) *Physical Review Letters*, 114 (19), art. no. 191803. Cited 810 times.
http://harvest.aps.org.ezproxy.um.edu.my/bagit/articles/10.1103/PhysRevLett.114.191803/apsxml
doi: 10.1103/PhysRevLett.114.191803

View at Publisher

15 The ATLAS collaboration, Aad, G., Abbott, B., Abdallah, J., Abdinov, O., Abeloos, B., Aben, R., (...), Woods, N.

Measurements of the Higgs boson production and decay rates and constraints on its couplings from a combined ATLAS and CMS analysis of the LHC pp collision data at √s = 7 and 8 TeV (Open Access)

(2016) *Journal of High Energy Physics*, 2016 (8), art. no. 45. Cited 496 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP08(2016)045

View at Publisher

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

Observation and measurement of Higgs boson decays to WW*with the ATLAS detector (Open Access)

(2015) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 92 (1), art. no. 012006. Cited 77 times.
http://harvest.aps.org.ezproxy.um.edu.my/bagit/articles/10.1103/PhysRevD.92.012006/apsxml
doi: 10.1103/PhysRevD.92.012006

View at Publisher

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

Study of (W/Z)H production and Higgs boson couplings using H→ W W* decays with the ATLAS detector (Open Access)

(2015) *Journal of High Energy Physics*, 2015 (8), art. no. 137. Cited 27 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP08(2015)137

View at Publisher

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

Measurement of Higgs boson production and properties in the WW decay channel with leptonic final states (Open Access)

(2014) *Journal of High Energy Physics*, 2014 (1), art. no. 096. Cited 169 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP01(2014)096

View at Publisher

19 Aad, G., Abbott, B., Abdallah, J., Abdinov, O., Aben, R., Abolins, M., AbouZeid, O.S., (...), Zwalinski, L.

Constraints on the off-shell Higgs boson signal strength in the high-mass ZZ and WW final states with the ATLAS detector (Open Access)

(2015) *European Physical Journal C*, 75 (7), art. no. 335, pp. 1-34. Cited 55 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-015-3542-2

View at Publisher

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

Search for Higgs boson off-shell production in proton-proton collisions at 7 and 8 TeV and derivation of constraints on its total decay width (Open Access)

(2016) *Journal of High Energy Physics*, 2016 (9), art. no. 51. Cited 19 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP09(2016)051

View at Publisher

21 The ATLAS collaboration, Aad, G., Abbott, B., Abdallah, J., Abdinov, O., Abeloos, B., Aben, R., (...), Zwalinski, L.

Measurement of fiducial differential cross sections of gluon-fusion production of Higgs bosons decaying to WW *→eνμν with the ATLAS detector at √s=8 TeV (Open Access)

(2016) *Journal of High Energy Physics*, 2016 (8), art. no. 104. Cited 21 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP08(2016)104

View at Publisher

22 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., (...), Woods, N.

Measurement of the transverse momentum spectrum of the Higgs boson produced in pp collisions at √s=8 TeV using H → WW decays (Open Access)

(2017) *Journal of High Energy Physics*, 2017 (3), art. no. 32. Cited 8 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP03(2017)032

View at Publisher

23 Measurements of gluon-gluon fusion and vector-boson fusion Higgs boson production cross-sections in the H→WW * →eνμν decay channel in pp collisions at s=13TeV with the ATLAS detector
(2018)

24 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 4531 times.
http://www.iop.org.ezproxy.um.edu.my/EJ/journal/1748-0221
doi: 10.1088/1748-0221/3/08/S08004

View at Publisher

25 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 897 times.

26 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 1338 times.
doi: 10.1088/1126-6708/2007/11/070

View at Publisher

27 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. 43. Cited 1226 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP06(2010)043

View at Publisher

28 Bagnaschi, E., Degrassi, G., Slavich, P., Vicini, A.

Higgs production via gluon fusion in the POWHEG approach in the SM and in the MSSM (Open Access)

(2012) *Journal of High Energy Physics*, 2012 (2), art. no. 088. Cited 116 times.
doi: 10.1007/JHEP02(2012)088

View at Publisher

29 Hamilton, K., Nason, P., Re, E., Zanderighi, G.
NNLOPS simulation of Higgs boson production (Open Access)

(2013) *Journal of High Energy Physics*, 2013 (10), art. no. 222. Cited 104 times.
doi: 10.1007/JHEP10(2013)222

View at Publisher

30 Luisoni, G., Nason, P., Oleari, C., Tramontano, F.
HW±/HZ + 0 and 1 jet at NLO with the POWHEG BOX interfaced to GoSam and their merging within MiNLO

(2013) *Journal of High Energy Physics*, 2013 (10), art. no. 83. Cited 71 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP10(2013)083

View at Publisher

31 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. 79. Cited 2614 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP07(2014)079

View at Publisher

32 Alioli, S., Nason, P., Oleari, C., Re, E.
NLO Higgs boson production via gluon fusion matched with shower in POWHEG

(2009) *Journal of High Energy Physics*, 2009 (4), art. no. 002. Cited 189 times.
doi: 10.1088/1126-6708/2009/04/002

View at Publisher

33 Nason, P., Oleari, C.
NLO Higgs boson production via vector-boson fusion matched with shower in POWHEG

(2010) *Journal of High Energy Physics*, 2010 (2), art. no. 37. Cited 146 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP02(2010)037

View at Publisher

34 Gao, Y., Gritsan, A.V., Guo, Z., Melnikov, K., Schulze, M., Tran, N.V.
Spin determination of single-produced resonances at hadron colliders

(2010) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 81 (7), art. no. 075022. Cited 239 times.
http://oai.aps.org.ezproxy.um.edu.my/oai?verb=GetRecord&Identifier=oai:aps.org:PhysRevD.81.075022&metadataPrefix=oai_apsmeta_2
doi: 10.1103/PhysRevD.81.075022

View at Publisher

35 Bolognesi, S., Gao, Y., Gritsan, A.V., Melnikov, K., Schulze, M., Tran, N.V., Whitbeck, A.
Spin and parity of a single-produced resonance at the LHC (Open Access)

(2012) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 86 (9), art. no. 095031. Cited 165 times.
http://oai.aps.org.ezproxy.um.edu.my/filefetch?identifier=10.1103/PhysRevD.86.095031&component=fulltext&description=markup&format=xml
doi: 10.1103/PhysRevD.86.095031

View at Publisher

36 Sjöstrand, T., Mrenna, S., Skands, P.
A brief introduction to PYTHIA 8.1

(2008) *Computer Physics Communications*, 178 (11), pp. 852-867. Cited 2758 times.
doi: 10.1016/j.cpc.2008.01.036

View at Publisher

37 de Florian, D.
Handbook of LHC Higgs cross sections: 4. Deciphering the nature of the Higgs sector
(2016) . Cited 292 times.
https://doi-org.ezproxy.um.edu.my/10.23731/CYRM-2017-002

38 Andersen, J.R.
Handbook of LHC Higgs cross sections: 3. Higgs properties
(2013) . Cited 243 times.
https://doi-org.ezproxy.um.edu.my/10.5170/CERN-2013-004

39 Melia, T., Nason, P., Röntsch, R., Zanderighi, G.
W^+W^-, WZ and ZZ production in the POWHEG BOX

(2011) *Journal of High Energy Physics*, 2011 (11), art. no. 078. Cited 169 times.
doi: 10.1007/JHEP11(2011)078

View at Publisher

40 Campbell, J.M., Ellis, R.K., Williams, C.
Bounding the Higgs width at the LHC: Complementary results from H →wW

(2014) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 89 (5), art. no. 053011. Cited 47 times.
http://harvest.aps.org.ezproxy.um.edu.my/bagit/articles/10.1103/PhysRevD.89.053011/apsxml
doi: 10.1103/PhysRevD.89.053011

View at Publisher

41 Meade, P., Ramani, H., Zeng, M.
Transverse momentum resummation effects in W+W- measurements

(2014) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 90 (11), art. no. 114006. Cited 37 times.
http://harvest.aps.org.ezproxy.um.edu.my/bagit/articles/10.1103/PhysRevD.90.114006/apsxml
doi: 10.1103/PhysRevD.90.114006

View at Publisher

42 Jaiswal, P., Okui, T.
Explanation of the WW excess at the LHC by jet-veto resummation (Open Access)

(2014) *Physical Review D - Particles, Fields, Gravitation and Cosmology*, 90 (7), art. no. 073009. Cited 44 times.
http://harvest.aps.org.ezproxy.um.edu.my/bagit/articles/10.1103/PhysRevD.90.073009/apsxml
doi: 10.1103/PhysRevD.90.073009

View at Publisher

43 Caola, F., Melnikov, K., Röntsch, R., Tancredi, L.
QCD corrections to W^+W^- production through gluon fusion (Open Access)

(2016) *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, 754, pp. 275-280. Cited 43 times.
http://www.sciencedirect.com.ezproxy.um.edu.my/science/journal/03702693
doi: 10.1016/j.physletb.2016.01.046

View at Publisher

44 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 105 times.
http://www.elsevier.com.ezproxy.um.edu.my/wps/find/journaldescription.cws_home/706710/description#description
doi: 10.1016/j.cpc.2015.02.001

View at Publisher

45 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 496 times.
http://www.elsevier.com.ezproxy.um.edu.my/wps/find/journaldescription.cws_home/706710/description#description
doi: 10.1016/j.cpc.2014.06.021

View at Publisher

46 Frederix, R., Frixione, S.
Merging meets matching in MC@NLO (Open Access)

(2012) *Journal of High Energy Physics*, 2012 (12), art. no. 61. Cited 279 times.
http://link.springer.com.ezproxy.um.edu.my/journal/13130
doi: 10.1007/JHEP12(2012)061

View at Publisher

47 Ball, R.D., Bertone, V., Carrazza, S., Del Debbio, L., Forte, S., Guffanti, A., Hartland, N.P., (...), Rojo, J.
Parton distributions with QED corrections

(2013) *Nuclear Physics B*, 877 (2), pp. 290-320. Cited 242 times.
doi: 10.1016/j.nuclphysb.2013.10.010

View at Publisher

48 Ball, R.D., Bertone, V., Cerutti, F., Del Debbio, L., Forte, S., Guffanti, A., Latorre, J.I., (...), Ubiali, M.
Unbiased global determination of parton distributions and their uncertainties at NNLO and at LO

(2012) *Nuclear Physics B*, 855 (2), pp. 153-221. Cited 152 times.
doi: 10.1016/j.nuclphysb.2011.09.024

View at Publisher

49 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 308 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-016-3988-x

View at Publisher

50 Richardson, P., Wilcock, A.
Monte Carlo simulation of hard radiation in decays in beyond the standard model physics in Herwig++ (Open Access)

(2014) *European Physical Journal C*, 74 (1), art. no. 2713, pp. 1-13. Cited 4 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-014-2713-x

View at Publisher

51 Bellm, J., Gieseke, S., Grellscheid, D., Papaefstathiou, A., Platzer, S., Richardson, P., Rohr, C., (...), Zimmermann, B.
Herwig++ 2.7 release note
(2013) . Cited 42 times.

52 Agostinelli, S., Allison, J., Amako, K., Apostolakis, J., Araujo, H., Arce, P., Asai, M., (...), Zschiesche, 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 12933 times.
doi: 10.1016/S0168-9002(03)01368-8

View at Publisher

53 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 243 times.
http://iopscience.iop.org.ezproxy.um.edu.my/article/10.1088/1748-0221/12/10/P10003/pdf
doi: 10.1088/1748-0221/12/10/P10003

View at Publisher

54 Cacciari, M., Salam, G.P., Soyez, G.
The anti-k $_t$ jet clustering algorithm (Open Access)

(2008) *Journal of High Energy Physics*, 2008 (4), art. no. 063. Cited 3298 times.
doi: 10.1088/1126-6708/2008/04/063

View at Publisher

55 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 1950 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-012-1896-2

View at Publisher

56 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 √s = 8 TeV (Open Access)

(2015) *Journal of Instrumentation*, 10 (6), art. no. P06005. Cited 279 times.
http://iopscience.iop.org.ezproxy.um.edu.my/1748-0221/10/06/P06005/pdf/1748-0221_10_06_P06005.pdf
doi: 10.1088/1748-0221/10/06/P06005

View at Publisher

57 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 545 times.
doi: 10.1016/j.physletb.2007.09.077

View at Publisher

58 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

(2011) *Journal of Instrumentation*, 6 (11), art. no. P11002. Cited 350 times.
http://iopscience.iop.org.ezproxy.um.edu.my/1748-0221/6/11/P11002/pdf/1748-0221_6_11_P11002.pdf
doi: 10.1088/1748-0221/6/11/P11002

View at Publisher

59 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 143 times.
http://iopscience.iop.org.ezproxy.um.edu.my/article/10.1088/1748-0221/13/05/P05011/pdf
doi: 10.1088/1748-0221/13/05/P05011

View at Publisher

60 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 61 times.
http://harvest.aps.org.ezproxy.um.edu.my/bagit/articles/10.1103/PhysRevD.95.092001
doi: 10.1103/PhysRevD.95.092001

View at Publisher

61 Passarino, G.
Higgs CAT (Open Access)

(2014) *European Physical Journal C*, 74 (5), art. no. 2866, pp. 1-14. Cited 26 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-014-2866-7

View at Publisher

62 Procedure for the LHC Higgs Boson Search Combination in Summer 2011
(2011) . Cited 183 times.
Technical Report ATL-PHYS-PUB 2011-11, CMS NOTE 2011/005 CERN
http://cdsweb.cern.ch/record/1379837

63 Collaboration, C.M.S.
(2017)
CMS Luminosity Measurements for the 2016 Data Taking Period, CMS Physics Analysis Summary CMS-PAS-LUM-17-001
https://cds.cern.ch/record/2257069

64 Bhawandeep, 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 243 times.
http://iopscience.iop.org.ezproxy.um.edu.my/article/10.1088/1748-0221/12/01/P01020/pdf
doi: 10.1088/1748-0221/12/01/P01020

View at Publisher

65 Chatrchyan, S., Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Bergauer, T., Dragicevic, M., (...), Swanson, J.
Performance of CMS muon reconstruction in pp collision events at √s = 7TeV

(2012) *Journal of Instrumentation*, 7 (10), art. no. P10002. Cited 364 times.
http://iopscience.iop.org.ezproxy.um.edu.my/1748-0221/7/10/P10002/pdf/1748-0221_7_10_P10002.pdf
doi: 10.1088/1748-0221/7/10/P10002

View at Publisher

66 Khachatryan, V., Sirunyan, A.M., Tumasyan, A., Adam, W., Asilar, E., Bergauer, T., Brandstetter, J., (...), Woods, N.
Jet energy scale and resolution in the CMS experiment in pp collisions at 8 TeV (Open Access)

(2017) *Journal of Instrumentation*, 12 (2), art. no. P02014. Cited 220 times.
http://iopscience.iop.org.ezproxy.um.edu.my/article/10.1088/1748-0221/12/02/P02014/pdf
doi: 10.1088/1748-0221/12/02/P02014

View at Publisher

67 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 452 times.
http://iopscience.iop.org.ezproxy.um.edu.my/article/10.1088/0954-3899/43/2/023001/pdf
doi: 10.1088/0954-3899/43/2/023001

View at Publisher

68 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 1087 times.
http://link.springer-ny.com/link/service/journals/10052/index.htm
doi: 10.1140/epjc/s10052-011-1554-0

View at Publisher

Frühwirth, R.; Vienna University of Technology, Vienna, Austria