

- Free Full Text from Publisher
- Look Up Full Text
- Find PDF
- Full Text Options
- Export...
- Add to Marked List

Measurement and interpretation of differential cross sections for Higgs boson production at root s=13 TeV

By: [Sirunyan, AM](#) (Sirunyan, A. M.)^[1]; [Tumasyan, A](#) (Tumasyan, A.)^[1]; [Adam, W](#) (Adam, W.)^[2]; [Ambrogio, F](#) (Ambrogio, F.)^[2]; [Asilar, E](#) (Asilar, E.)^[2]; [Bergauer, T](#) (Bergauer, T.)^[2]; [Brandstetter, J](#) (Brandstetter, J.)^[2]; [Dragicevic, M](#) (Dragicevic, M.)^[2]; [Ero, J](#) (Ero, J.)^[2]; [Del Valle, AE](#) (Escalante Del Valle, A.)^[2]...[More](#)

[View Web of Science ResearcherID and ORCID](#)

PHYSICS LETTERS B

Volume: 792 Pages: 369-396
 DOI: 10.1016/j.physletb.2019.03.059
 Published: MAY 10 2019
 Document Type: Article
[View Journal Impact](#)

Abstract

Differential Higgs boson (H) production cross sections are sensitive probes for physics beyond the standard model. New physics may contribute in the gluon-gluon fusion loop, the dominant Higgs boson production mechanism at the LHC, and manifest itself through deviations from the distributions predicted by the standard model. Combined spectra for the H → γγ, ZZ, and H → b (b) over bar decay channels and the inclusive Higgs boson production cross section are presented, based on proton-proton collision data recorded with the CMS detector at root s = 13 TeV corresponding to an integrated luminosity of 35.9 fb⁻¹. The transverse momentum spectrum is used to place limits on the Higgs boson couplings to the top, bottom, and charm quarks, as well as its direct coupling to the gluon field. No significant deviations from the standard model are observed in any differential distribution. The measured total cross section is 61.1 ± 6.0 (stat) ± 3.7 (syst) pb, and the precision of the measurement of the differential cross section of the Higgs boson transverse momentum is improved by about 15% with respect to the H → γγ channel alone. (C) 2019 The Author(s). Published by Elsevier B.V.

Keywords

Author Keywords: Differential cross sections; Combination; Higgs boson coupling modifiers
KeyWords Plus: MASS

Author Information

Reprint Address: Sirunyan, AM (reprint author)

+ Yerevan Phys Inst, Yerevan, Armenia.

Addresses:

- + [1] Yerevan Phys Inst, Yerevan, Armenia
- + [2] Inst Hochenergiephys, Vienna, Austria
- + [3] Inst Nucl Problems, Minsk, BELARUS
- + [4] Univ Antwerp, Antwerp, Belgium
- + [5] Vrije Univ Brussel, Brussels, Belgium
- + [6] Univ Libre Bruxelles, Brussels, Belgium
- + [7] Univ Ghent, Ghent, Belgium
- + [8] Catholic Univ Louvain, Louvain La Neuve, Belgium
- + [9] Ctr Brasileiro Pesquisas Fis, Rio De Janeiro, Brazil
- + [10] Univ Estado Rio de Janeiro, Rio De Janeiro, Brazil
- + [11] Univ Estadual Paulista, Sao Paulo, Brazil
- + [12] Univ Fed ABC, Sao Paulo, Brazil
- + [13] Bulgarian Acad Sci, Inst Nucl Res & Nucl Energy, Sofia, Bulgaria
- + [14] Univ Sofia, Sofia, Bulgaria
- + [15] Beihang Univ, Beijing, Peoples R China
- + [16] Inst High Energy Phys, Beijing, Peoples R China
- + [17] Peking Univ, State Key Lab Nucl Phys & Technol, Beijing, Peoples R China
- + [18] Tsinghua Univ, Beijing, Peoples R China
- + [19] Univ Los Andes, Bogota, Colombia
- + [20] Univ Split, Fac Elect Engrg Mech Engrg & Naval Architecture, Split, Croatia
- + [21] Univ Split, Fac Sci, Split, Croatia
- + [22] Inst Rudjer Boskov, Zagreb, Croatia
- + [23] Univ Cyprus, Nicosia, Cyprus

Citation Network

In Web of Science Core Collection

5

Times Cited

Create Citation Alert

All Times Cited Counts

5 in All Databases

[See more counts](#)

57

Cited References

[View Related Records](#)

Most recently cited by:

- Sirunyan, A. M.; Tumasyan, A.; Adam, W.; et al.
[Search for a heavy Higgs boson decaying to a pair of W bosons in proton-proton collisions at root s=13 TeV.](#)
 JOURNAL OF HIGH ENERGY PHYSICS (2020)
- Grazzini, M.; Kallweit, S.; Lindert, J. M.; et al.
[NNLO QCD plus NLO EW with MATRIX plus OPENLOOPS: precise predictions for vector-boson pair production.](#)
 JOURNAL OF HIGH ENERGY PHYSICS (2020)

[View All](#)

Use in Web of Science

Web of Science Usage Count

4

23

Last 180 Days

Since 2013

[Learn more](#)

This record is from:

Web of Science Core Collection
 - Science Citation Index Expanded

Suggest a correction

If you would like to improve the quality of the data in this record, please [suggest a correction](#).

- + [24] Charles Univ Prague, Prague, Czech Republic
- + [25] Escuela Politec Nacl, Quito, Ecuador
- [26] Univ San Francisco Quito, Quito, Ecuador
- + [27] Acad Sci Res & Technol Arab Republ Egypt, Egyptian Network High Energy Phys, Cairo, Egypt
- + [28] NICPB, Tallinn, Estonia
- + [29] Univ Helsinki, Dept Phys, Helsinki, Finland
- + [30] Helsinki Inst Phys, Helsinki, Finland
- + [31] Lappeenranta Univ Technol, Lappeenranta, Finland
- + [32] Univ Paris Saclay, IRFU, CEA, Gif Sur Yvette, France
- + [33] Univ Paris Saclay, CNRS IN2P3, Ecole Polytech, Lab Leprince Ringuet, Palaiseau, France
- + [34] Univ Strasbourg, CNRS, IPHC UMR 7178, Strasbourg, France
- + [35] CNRS IN2P3, Ctr Calcul Inst Natl Phys Nucl & Phys Particules, Villeurbanne, France
- + [36] Univ Claude Bernard Lyon 1, Univ Lyon, CNRS IN2P3, Inst Phys Nucl Lyon, Villeurbanne, France
- + [37] Georgian Tech Univ, Tbilisi, Georgia
- + [38] Tbilisi State Univ, Tbilisi, Georgia
- + [39] Rhein Westfal TH Aachen, Phys Inst 1, Aachen, Germany
- + [40] Rhein Westfal TH Aachen, Phys Inst A 3, Aachen, Germany
- + [41] Rhein Westfal TH Aachen, Phys Inst B 3, Aachen, Germany
- + [42] DESY, Hamburg, Germany
- + [43] Univ Hamburg, Hamburg, Germany
- + [44] Karlsruher Inst Technol, Karlsruhe, Germany
- + [45] INPP, NCSR Demokritos, Aghia Paraskevi, Greece
- + [46] Natl & Kapodistrian Univ Athens, Athens, Greece
- + [47] Natl Tech Univ Athens, Athens, Greece
- + [48] Univ Ioannina, Ioannina, Greece
- + [49] Eotvos Lorand Univ, MTA ELTE Lendulet CMS Particle, Budapest, Hungary
- + [50] Eotvos Lorand Univ, Nucl Phys Grp, Budapest, Hungary
- + [51] Wigner Res Ctr Phys, Budapest, Hungary
- + [52] Inst Nucl Res ATOMKI, Debrecen, Hungary
- + [53] Univ Debrecen, Inst Phys, Debrecen, Hungary
- + [54] Indian Inst Sci IISc, Bangalore, Karnataka, India
- + [55] HBNI, Natl Inst Sci Educ & Res, Bhubaneswar, India
- + [56] Panjab Univ, Chandigarh, India
- + [57] Univ Delhi, Delhi, India
- + [58] Saha Inst Nucl Phys, HBNI, Kolkata, India
- + [59] Indian Inst Technol Madras, Madras, Tamil Nadu, India
- + [60] Bhabha Atom Res Ctr, Mumbai, Maharashtra, India
- + [61] Tata Inst Fundamental Res A, Mumbai, Maharashtra, India
- + [62] Tata Inst Fundamental Res B, Mumbai, Maharashtra, India
- + [63] IISER, Pune, Maharashtra, India
- [64] Inst Res Fundamental Sci IPM, Tehran, Iran
- + [65] Univ Coll Dublin, Dublin, Ireland
- + [66] INFN, Sez Bari, Bari, Italy
- + [67] Univ Bari, Bari, Italy
- + [68] Politecn Bari, Bari, Italy
- + [69] INFN, Sez Bologna, Bologna, Italy
- + [70] Univ Bologna, Bologna, Italy
- + [71] INFN, Sez Catania, Catania, Italy
- + [72] Univ Catania, Catania, Italy
- + [73] INFN, Sez Firenze, Florence, Italy
- + [74] Univ Firenze, Florence, Italy
- + [75] INFN Lab Nazl Frascati, Frascati, Italy
- + [76] INFN, Sez Genova, Genoa, Italy
- + [77] Univ Genoa, Genoa, Italy
- + [78] INFN, Sez Milano Bicocca, Milan, Italy
- + [79] Univ Milano Bicocca, Milan, Italy

- + [80] INFN, Sez Napoli, Naples, Italy
- + [81] Univ Napoli Federico 11, Naples, Italy
- + [82] Univ Basilicata, Potenza, Italy
- + [83] Univ G Marconi, Rome, Italy
- + [84] INFN, Sez Padova, Padua, Italy
- + [85] Univ Padua, Padua, Italy
- + [86] Univ Trento, Trento, Italy
- + [87] INFN, Sez Pavia, Pavia, Italy
- + [88] Univ Pavia, Pavia, Italy
- + [89] INFN, Sez Perugia, Perugia, Italy
- + [90] Univ Perugia, Perugia, Italy
- + [91] INFN, Sez Pisa, Pisa, Italy
- + [92] Univ Pisa, Pisa, Italy
- + [93] Scuola Normale Super Pisa, Pisa, Italy
- + [94] INFN, Sez Roma, Rome, Italy
- + [95] Sapienza Univ Roma, Rome, Italy
- + [96] INFN, Sez Torino, Turin, Italy
- + [97] Univ Torino, Turin, Italy
- + [98] Univ Piemonte Orientale, Novara, Italy
- + [99] INFN, Sez Trieste, Trieste, Italy
- + [100] Univ Trieste, Trieste, Italy
- + [101] Kyungpook Natl Univ, Daegu, South Korea
- + [102] Chonnam Natl Univ, Inst Univ & Elementary Particles, Kwangju, South Korea
- + [103] Hanyang Univ, Seoul, South Korea
- + [104] Korea Univ, Seoul, South Korea
- + [105] Sejong Univ, Seoul, South Korea
- + [106] Seoul Natl Univ, Seoul, South Korea
- + [107] Univ Seoul, Seoul, South Korea
- + [108] Sungkyunkwan Univ, Suwon, South Korea
- + [109] Vilnius Univ, Vilnius, Lithuania
- + [110] Univ Malaya, Natl Ctr Particle Phys, Kuala Lumpur, Malaysia
- + [111] Univ Sonora UNISON, Hermosillo, Sonora, Mexico
- + [112] Ctr Invest & Estudios Avanzados IPN, Hermosillo, Sonora, Mexico
- [113] Univ Iberoamer, Mexico City, DF, Mexico
- + [114] Benemerita Univ Autonoma Puebla, Puebla, Mexico
- + [115] Univ Autonoma San Luis Potosi, San Luis Potosi, Mexico
- [116] Univ Auckland, San Luis Potosi, Mexico
- + [117] Univ Canterbury, Christchurch, New Zealand
- + [118] Quaid I Azam Univ, Natl Ctr Phys, Islamabad, Pakistan
- + [119] Natl Ctr Nucl Res, Otwock, Poland
- + [120] Univ Warsaw, Fac Phys, Inst Expt Phys, Warsaw, Poland
- + [121] Lab Instrumentacao & Fis Expt Particulas, Lisbon, Portugal
- + [122] Joint Inst Nucl Res, Dubna, Russia
- + [123] Petersburg Nucl Phys Inst, St Petersburg, Russia
- + [124] Inst Nucl Res, Moscow, Russia
- + [125] Inst Theoret & Expt Phys, Moscow, Russia
- + [126] Moscow Inst Phys & Technol, Moscow, Russia
- + [127] Natl Res Nucl Univ Moscow Engr Phys Inst MEPhI, Moscow, Russia
- + [128] PN Lebedev Phys Inst, Moscow, Russia
- + [129] Lomonosov Moscow State Univ, Skobeltsyn Inst Nucl Phys, Moscow, Russia
- + [130] NSU, Novosibirsk, Russia
- + [131] Inst High Energy Phys Natl Res Ctr, Kurchatov Inst, Protvino, Russia
- + [132] Natl Res Tomsk Polytech Univ, Tomsk, Russia
- + [133] Univ Belgrade, Fac Phys, Belgrade, Serbia
- + [134] Vinca Inst Nucl Sci, Belgrade, Serbia
- [135] Ctr Invest Energet Medioambient & Tecnol CIEMAT, Madrid, Spain
- + [136] Univ Autonoma Madrid, Madrid, Spain

- + [137] Univ Oviedo, Oviedo, Spain
- + [138] Univ Cantabria, CSIC, Inst Fis Cantabria IFCA, Santander, Spain
- [139] Univ Ruhuna, Dept Phys, Matara, Sri Lanka
- + [140] European Org Nucl Res, CERN, Geneva, Switzerland
- + [141] Paul Scherrer Inst, Villigen, Switzerland
- + [142] Swiss Fed Inst Technol, Inst Particle Phys & Astrophys IPA, Zurich, Switzerland
- [143] Univ Zdrich, Zurich, Switzerland
- + [144] Natl Cent Univ, Chungli, Taiwan
- + [145] NTU, Taipei, Taiwan
- + [146] Chulalongkorn Univ, Dept Phys, Fac Sci, Bangkok, Thailand
- + [147] Cukurova Univ, Sci & Art Fac, Phys Dept, Adana, Turkey
- + [148] Middle Tech Univ, Phys Dept, Ankara, Turkey
- + [149] Bogazici Univ, Istanbul, Turkey
- + [150] Istanbul Tech Univ, Istanbul, Turkey
- + [151] Natl Acad Sci Ukraine, Inst Scintillat Mat, Kharkov, Ukraine
- + [152] Natl Sci Ctr, Kharkov Inst Phys & Technol, Kharkov, Ukraine
- + [153] Univ Bristol, Bristol, Avon, England
- + [154] Rutherford Appleton Lab, Didcot, Oxon, England
- + [155] Imperial Coll, London, England
- + [156] Brunel Univ, Uxbridge, Middx, England
- + [157] Baylor Univ, Waco, TX 76798 USA
- + [158] Catholic Univ Amer, Washington, DC 20064 USA
- + [159] Univ Alabama, Tuscaloosa, AL USA
- + [160] Boston Univ, Boston, MA 02215 USA
- + [161] Brown Univ, Providence, RI 02912 USA
- + [162] Univ Calif Davis, Davis, CA 95616 USA
- + [163] Univ Calif Los Angeles, Los Angeles, CA USA
- + [164] Univ Calif Riverside, Riverside, CA 92521 USA
- + [165] Univ Calif San Diego, La Jolla, CA 92093 USA
- + [166] Univ Calif Santa Barbara, Dept Phys, Santa Barbara, CA 93106 USA
- + [167] CALTECH, Pasadena, CA 91125 USA
- + [168] Carnegie Mellon Univ, Pittsburgh, PA 15213 USA
- + [169] Univ Colorado Boulder, Boulder, CO USA
- + [170] Cornell Univ, Ithaca, NY USA
- + [171] Fermilab Natl Accelerator Lab, POB 500, Batavia, IL 60510 USA
- + [172] Univ Florida, Gainesville, FL USA
- + [173] Florida Int Univ, Miami, FL 33199 USA
- + [174] Florida State Univ, Tallahassee, FL 32306 USA
- + [175] Florida Inst Technol, Melbourne, FL 32901 USA
- + [176] UIC, Chicago, IL USA
- + [177] Univ Iowa, Iowa City, IA USA
- + [178] Johns Hopkins Univ, Baltimore, MD USA
- + [179] Univ Kansas, Lawrence, KS 66045 USA
- + [180] Kansas State Univ, Manhattan, KS 66506 USA
- + [181] Lawrence Livermore Natl Lab, Livermore, CA USA
- + [182] Univ Maryland, College Pk, MD USA
- + [183] MIT, 77 Massachusetts Ave, Cambridge, MA 02139 USA
- + [184] Univ Minnesota, Minneapolis, MN USA
- + [185] Univ Mississippi, Oxford, MS USA
- + [186] Univ Nebraska Lincoln, Lincoln, NE USA
- + [187] SUNY Buffalo, Buffalo, NY USA
- + [188] Northeastern Univ, Boston, MA 02115 USA
- + [189] Northwestern Univ, Evanston, IL USA
- + [190] Univ Notre Dame, Notre Dame, IN 46556 USA
- + [191] Ohio State Univ, Columbus, OH 43210 USA
- + [192] Princeton Univ, Princeton, NJ 08544 USA

- + [193] Univ Puerto Rico, Mayaguez, PR USA
- + [194] Purdue Univ, W Lafayette, IN 47907 USA
- [195] Purdue Univ Northwest, Hammond, LA USA
- + [196] Rice Univ, Houston, TX USA
- + [197] Univ Rochester, Rochester, NY 14627 USA
- + [198] Rutgers State Univ, Piscataway, NJ USA
- + [199] Univ Tennessee, Knoxville, TN USA
- + [200] Texas A&M Univ, College Stn, TX USA
- + [201] Texas Tech Univ, Lubbock, TX 79409 USA
- + [202] Vanderbilt Univ, 221 Kirkland Hall, Nashville, TN 37235 USA
- + [203] Univ Virginia, Charlottesville, VA USA
- + [204] Wayne State Univ, Detroit, MI USA
- + [205] Univ Wisconsin Madison, Madison, WI USA
- + [206] Vienna Univ Technol, Vienna, Austria
- + [207] Univ Paris Saclay, CEA, IRFU, Gif Sur Yvette, France
- + [208] Univ Estadual Campinas, Campinas, SP, Brazil
- + [209] Univ Fed Rio Grande do Sul, Porto Alegre, RS, Brazil
- + [210] Univ Libre Bruxelles, Brussels, Belgium
- + [211] Univ Chinese Acad Sci, Beijing, Peoples R China
- + [212] Inst Theoret & Expt Phys, Moscow, Russia
- + [213] Joint Inst Nucl Res, Dubna, Russia
- + [214] Cairo Univ, Cairo, Egypt
- + [215] Helwan Univ, Cairo, Egypt
- + [216] Zewail City Sci & Technol, Zewail, Egypt
- + [217] King Abdulaziz Univ, Dept Phys, Jeddah, Saudi Arabia
- + [218] Univ Haute Alsace, Mulhouse, France
- + [219] Lomonosov Moscow State Univ, Skobeltsyn Inst Nucl Phys, Moscow, Russia
- + [220] European Org Nucl Res, CERN, Geneva, Switzerland
- + [221] Rhein Westfal TH Aachen, Phys Inst A 3, Aachen, Germany
- + [222] Univ Hamburg, Hamburg, Germany
- + [223] Brandenburg Tech Univ Cottbus, Cottbus, Germany
- + [224] Univ Debrecen, Inst Phys, Debrecen, Hungary
- + [225] Inst Nucl Res ATOMKI, Debrecen, Hungary
- + [226] Indian Inst Technol Bhubaneswar, Bhubaneswar, India
- + [227] Inst Phys, Bhubaneswar, India
- + [228] Shoolini Univ, Solan, India
- + [229] Univ Visva Bharati, Santini Ketan, W Bengal, India
- + [230] Isfahan Univ Technol, Esfahan, Iran
- + [231] Islamic Azad Univ, Sci & Res Branch, Plasma Phys Res Ctr, Tehran, Iran
- + [232] Univ Siena, Siena, Italy
- + [233] Scuola Normale & Sez INFN, Pisa, Italy
- + [234] Kyung Hee Univ, Seoul, South Korea
- + [235] Int Islamic Univ Malaysia, Kuala Lumpur, Malaysia
- + [236] MOSTI, Malaysian Nucl Agcy, Kajang, Malaysia
- [237] Consejo Nacl Ciencia & Technol, Mexico City, DF, Mexico
- + [238] Warsaw Univ Technol, Inst Elect Syst, Warsaw, Poland
- + [239] Inst Nucl Res, Moscow, Russia
- + [240] Natl Res Nucl Univ, Moscow Engr Phys Inst MEPhI, Moscow, Russia
- + [241] St Petersburg State Polytech Univ, St Petersburg, Russia
- + [242] Univ Florida, Gainesville, FL USA
- + [243] PN Lebedev Phys Inst, Moscow, Russia
- + [244] CALTECH, Pasadena, CA 91125 USA
- + [245] Budker Inst Nucl Phys, Novosibirsk, Russia
- + [246] Univ Belgrade, Fac Phys, Belgrade, Serbia
- + [247] INFN Sez Pavia, Pavia, Italy
- + [248] Univ Belgrade, Fac Phys, Belgrade, Serbia
- + [249] Natl & Kapodistrian Univ Athens, Athens, Greece

- + [250] Riga Tech Univ, Riga, Latvia
- + [251] Univ Zurich, Zurich, Switzerland
- [252] Stefan Meyer Inst Subat Phys SMI, Vienna, Austria
- + [253] Istanbul Aydin Univ, Istanbul, Turkey
- + [254] Mersin Univ, Mersin, Turkey
- + [255] Piri Reis Univ, Istanbul, Turkey
- + [256] Gaziosmanpasa Univ, Tokat, Turkey
- + [257] Adiyaman Univ, Adiyaman, Turkey
- + [258] Ozyegin Univ, Istanbul, Turkey
- + [259] Izmir Inst Technol, Izmir, Turkey
- + [260] Marmara Univ, Istanbul, Turkey
- + [261] Kafkas Univ, Kars, Turkey
- + [262] Istanbul Univ, Fac Sci, Istanbul, Turkey
- + [263] Istanbul Bilgi Univ, Istanbul, Turkey
- + [264] Hacettepe Univ, Ankara, Turkey
- + [265] Rutherford Appleton Lab, Didcot, Oxon, England
- + [266] Univ Southampton, Sch Phys & Astron, Southampton, Hants, England
- + [267] Monash Univ, Fac Sci, Clayton, Vic, Australia
- [268] Bethel Univ, St Paul, MN USA
- + [269] Karamanoglu Mehmetbey Univ, Karaman, Turkey
- [270] Utah Valley Univ, Orem, MA USA
- + [271] Purdue Univ, W Lafayette, IN 47907 USA
- + [272] Beykent Univ, Istanbul, Turkey
- + [273] Bingol Univ, Bingol, Turkey
- + [274] Sinop Univ, Sinop, Turkey
- + [275] Mimar Sinan Univ, Istanbul, Turkey
- + [276] Texas A&M Univ, Doha, Qatar
- + [277] Kyungpook Natl Univ, Daegu, South Korea

Funding

Funding Agency	Show details	Grant Number
Austrian Science Fund (FWF)		
Fonds de la Recherche Scientifique - FNRS		
FWO		
National Council for Scientific and Technological Development (CNPq)		
CAPES		
Carlos Chagas Filho Foundation for Research Support of the State of Rio de Janeiro (FAPERJ)		
Foundation for Research Support of the State of Rio Grande do Sul (FAPERGS)		
Fundacao de Amparo a Pesquisa do Estado de Sao Paulo (FAPESP)		
MES (Bulgaria)		
MOST		
National Natural Science Foundation of China		
Departamento Administrativo de Ciencia, Tecnologia e Innovacion Colciencias		
CSF (Croatia)		
SENESCYT (Ecuador)		
MoER		
European Union (EU)		
Academy of Finland		
Spanish Government		
French Atomic Energy Commission		
Centre National de la Recherche Scientifique (CNRS)		
Federal Ministry of Education & Research (BMBF)		
German Research Foundation (DFG)		
HGF (Germany)		
Greek Ministry of Development-GSRT		
NKFIA (Hungary)		

Department of Atomic Energy (DAE)	
Department of Science & Technology (India)	
IPM	
Science Foundation Ireland	
Istituto Nazionale di Fisica Nucleare	
NRF (Republic of Korea)	
MES (Latvia)	
MOE and UM (Malaysia)	
BUAP	
Consejo Nacional de Ciencia y Tecnologia (CONACyT)	
(UASLP-FAI Mexico)	
MBIE (New Zealand)	
PAEC (Pakistan)	
MSHE	
Portuguese Foundation for Science and Technology	
JINR (Dubna)	
Russian Foundation for Basic Research (RFBR)	
MESTD (Serbia)	
SEIDI	
European Union (EU)	
Swiss Funding Agencies (Switzerland)	
NSTDA	
Turkiye Bilimsel ve Teknolojik Arastirma Kurumu (TUBITAK)	
Ministry of Energy & Natural Resources - Turkey	
NASU	
United States Department of Energy (DOE)	
National Science Foundation (NSF)	
European Union (EU)	
European Research Council (ERC)	
Horizon 2020 Grant	675440
A. G. Leventis Foundation	
Alfred P. Sloan Foundation	
Alexander von Humboldt Foundation	
Belgian Federal Science Policy Office	
Fonds de la Recherche Scientifique - FNRS	
Institute for the Promotion of Innovation by Science and Technology in Flanders (IWT)	
FWO	30820817
Ministry of Education, Youth & Sports - Czech Republic	
Hungarian Academy of Sciences	123842 123959 124845 124850 125105
Council of Scientific & Industrial Research (CSIR) - India	
HOMING PLUS programme of the Foundation for Polish Science	
European Union (EU)	
National Science Centre(Poland)	Harmonia 2014/14/M/ST2/00428 2014/13/B/ST2/02543 2014/15/B/ST2/03998 2015/19/B/ST2/02861
Sonata-bis	2012/07/E/ST2/01406
National Priorities Research Program by Qatar National Research Fund	
Programa Estatal de Fomento de la Investigacion Cientifica y Tecnica de Excelencia Maria de Maeztu	MDM-2015-0509
Programa Severo Ochoa del Principado de Asturias	
Thalis	
European Union (EU)	
Greek Ministry of Development-GSRT	

Rachadapisek Sompot Fund for Postdoctoral Fellowship, Chulalongkorn University	
The Welch Foundation	C-1845
Weston Havens Foundation (USA)	

[View funding text](#)

Publisher

ELSEVIER, RADARWEG 29, 1043 NX AMSTERDAM, NETHERLANDS

Journal Information

Impact Factor: [Journal Citation Reports](#)

Categories / Classification

Research Areas: Astronomy & Astrophysics; Physics

Web of Science Categories: Astronomy & Astrophysics; Physics, Nuclear; Physics, Particles & Fields

See more data fields

◀ 4 of 75 ▶

Cited References: 57

Showing 30 of 57 [View All in Cited References page](#)

(from Web of Science Core Collection)

- [Search for the Decay of the Higgs Boson to Charm Quarks with the ATLAS Experiment](#)** Times Cited: **21**

By: Aaboud, M.; Aad, G.; Abbott, B.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICAL REVIEW LETTERS Volume: 120 Issue: 21 Article Number: 211802 Published: MAY 22 2018
- [Searches for exclusive Higgs and Z boson decays into J/psi gamma, psi \(2S\) gamma, and Upsilon\(nS\) gamma at root s=13 TeV with the ATLAS detector](#)** Times Cited: **9**

By: Aaboud, M.; Aad, G.; Abbott, B.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICS LETTERS B Volume: 786 Pages: 134-155 Published: NOV 10 2018
- [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 root s=7 and 8 TeV](#)** Times Cited: **473**

By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaborations; ATLAS Collaborations; CMS Collaborations
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 8 Article Number: 045 Published: JUL 18 2016
- [Combined Measurement of the Higgs Boson Mass in pp Collisions at root s=7 and 8 TeV with the ATLAS and CMS Experiments](#)** Times Cited: **790**

By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 PHYSICAL REVIEW LETTERS Volume: 114 Issue: 19 Article Number: 191803 Published: MAY 14 2015
- [Search for Higgs and Z Boson Decays to J/psi gamma and Upsilon\(nS\)gamma with the ATLAS Detector](#)** Times Cited: **32**

By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICAL REVIEW LETTERS Volume: 114 Issue: 12 Article Number: 121801 Published: MAR 26 2015
- [Fiducial and differential cross sections of Higgs boson production measured in the four-lepton decay channel in pp collisions at root s=8 TeV with the ATLAS detector](#)** Times Cited: **62**

By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICS LETTERS B Volume: 738 Pages: 234-253 Published: NOV 10 2014
- [Search for TeV-scale gravity signatures in final states with leptons and jets with the ATLAS detector at root s=7 TeV](#)** Times Cited: **350**

By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaboration
 PHYSICS LETTERS B Volume: 716 Issue: 1 Pages: 122-141 Published: SEP 17 2012
- [The automated computation of tree-level and next-to-leading order differential cross sections, and their matching to parton shower simulations](#)** Times Cited: **2,566**

By: Alwall, J.; Frederix, R.; Frixione, S.; et al.
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 7 Article Number: 079 Published: JUL 17 2014
- Title: [not available] Times Cited: **1**

By: ANDERL S
 J HIGH ENERGY PHYS Published: 2015
- Title: [not available] Times Cited: **2**

Group Author(s): ATLAS Collaboration
J. High Energy Phys. Volume: 10 Pages: 132 Published: 2017

11. Title: [not available] Times Cited: 2
Group Author(s): ATLAS Collaboration
J. High Energy Phys. Volume: 08 Pages: 104 Published: 2016
12. **Measurements of fiducial and differential cross sections for Higgs boson production in the diphoton decay channel at $\sqrt{s} = 8$ TeV with ATLAS** Times Cited: 64
Group Author(s): ATLAS collaboration
JHEP Volume: 09 Pages: 112 Published: 2001
TNSTTRE
13. **Combined measurement of differential and total cross sections in the $H \rightarrow \gamma\gamma$ and the $H \rightarrow ZZ^*\gamma$ decay channels at $\sqrt{s} = 13$ TeV with the ATLAS detector** Times Cited: 1
Group Author(s): ATLAS Collaboration
Phys. Lett. B Volume: 786 Pages: 114 Published: 2018
14. **Measurements of Higgs boson properties in the diphoton decay channel with 36 fb⁻¹ of pp collision data at $\sqrt{s} = 13$ TeV with the ATLAS detector** Times Cited: 2
Group Author(s): ATLAS Collaboration
Phys. Rev. D Volume: 98 Article Number: 052005 Published: 2018
15. **Measurements of the total and differential Higgs boson production cross sections combining the $H \rightarrow \gamma\gamma$ and $H \rightarrow ZZ$ decay channels at $\sqrt{s} = 8$ TeV with the ATLAS detector** Times Cited: 2
Group Author(s): ATLAS Collaboration
Phys. Rev. Lett. Volume: 115 Article Number: 091801 Published: 2015
16. **Procedure for the LHC Higgs boson search combination in summer 2011** Times Cited: 2
Group Author(s): ATLAS Collaboration, CMS Collaborations, the LHC Higgs Combination Group
Technical Report CMS-NOTE-2011-005 and ATL-PHYS-PUB-2011-11 Published: 2011
17. **Parton distributions for the LHC run II** Times Cited: 913
By: Ball, Richard D.; Bertone, Valerio; Carrazza, Stefano; et al.
Group Author(s): NNPDF Collaboration
JOURNAL OF HIGH ENERGY PHYSICS Issue: 4 Article Number: 040 Published: APR 8 2015
18. **Quark masses in Higgs production with a jet veto** Times Cited: 43
By: Banfi, Andrea; Monni, Pier Francesco; Zanderighi, Giulia
JOURNAL OF HIGH ENERGY PHYSICS Issue: 1 Article Number: 097 Published: JAN 17 2014
19. **Drell-Yan production at small $q(T)$, transverse parton distributions and the collinear anomaly** Times Cited: 192
By: Becher, Thomas; Neubert, Matthias
EUROPEAN PHYSICAL JOURNAL C Volume: 71 Issue: 6 Article Number: 1665 Published: JUN 2011
20. **The anti- $k(t)$ jet clustering algorithm** Times Cited: 2,574
By: Cacciari, Matteo; Salam, Gavin P.; Soyez, Gregory
JOURNAL OF HIGH ENERGY PHYSICS Issue: 4 Article Number: 063 Published: APR 2008
21. **Observation of a new boson with mass near 125 GeV in pp collisions at $\sqrt{s} = 7$ and 8 TeV** Times Cited: 404
By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al.
Group Author(s): CMS Collaboration
JOURNAL OF HIGH ENERGY PHYSICS Issue: 6 Article Number: 081 Published: JUN 2013
22. **The CMS experiment at the CERN LHC** Times Cited: 2,855
By: Chatrchyan, S.; Hmayakyan, G.; Khachatryan, V.; et al.
Group Author(s): CMS Collaboration
JOURNAL OF INSTRUMENTATION Volume: 3 Article Number: S08004 Published: AUG 2008
23. **Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC** Times Cited: 5,617
By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al.
Group Author(s): CMS Collaboration
PHYSICS LETTERS B Volume: 716 Issue: 1 Pages: 30-61 Published: SEP 17 2012
24. **Measurement of inclusive and differential Higgs boson production cross sections in the diphoton decay channel in proton-proton collisions at $\sqrt{s} = 13$ TeV** Times Cited: 5
Group Author(s): CMS collaboration
JHEP Volume: 01 Pages: 183 Published: 2019
arXiv:1807.03825 INSPIRE
25. **Combined measurements of Higgs boson couplings in proton-proton collisions at $\sqrt{s} = 13$ TeV** Times Cited: 3
Group Author(s): CMS Collaborations
Eur. Phys. J. C Published: 2018

Submitted to

26. **Measurement of the transverse momentum spectrum of the Higgs boson p produced in pp collisions at $s = 8$ TeV using H&RARR;WW decays** Times Cited: 7
By: collaboration, CMS.
Group Author(s): CMS collaboration
JHEP Volume: 03 Article Number: 032 Published: 2017
IN SPIRE

27. **Asymptotic formulae for likelihood-based tests of new physics** Times Cited: 1,108
By: Cowan, Glen; Cranmer, Kyle; Gross, Eilam; et al.
EUROPEAN PHYSICAL JOURNAL C Volume: 71 Issue: 2 Article Number: 1554 Published: FEB 2011

28. **Towards an understanding of jet substructure** Times Cited: 197
By: Dasgupta, Mrinal; Fregoso, Alessandro; Marzani, Simone; et al.
JOURNAL OF HIGH ENERGY PHYSICS Issue: 9 Article Number: 029 Published: SEP 5 2013

29. **SOFTLY BROKEN SUPERSYMMETRY AND SU(5)** Times Cited: 1,756
By: DIMOPOULOS, S; GEORGI, H
NUCLEAR PHYSICS B Volume: 193 Issue: 1 Pages: 150-162 Published: 1981

30. **Thinking outside the ROCs: Designing Decorrelated Taggers (DDT) for jet substructure** Times Cited: 34
By: Dolen, James; Harris, Philip; Marzani, Simone; et al.
JOURNAL OF HIGH ENERGY PHYSICS Issue: 5 Article Number: 156 Published: MAY 26 2016

Showing 30 of 57 [View All in Cited References page](#)

Clarivate

Accelerating innovation

© 2020 Clarivate [Copyright notice](#) [Terms of use](#) [Privacy statement](#) [Cookie policy](#)

Sign up for the Web of Science newsletter [Follow us](#)

