

Free Full Text from Publisher [Look Up Full Text](#) [Find PDF](#) Full Text Options Export... Add to Marked List

Search for light bosons in decays of the 125 GeV Higgs boson in proton-proton collisions at root s=8 TeV

By: [Khachatryan, V \(Khachatryan, V.\)^{\[1\]}](#); [Sirunyan, AM \(Sirunyan, A. M.\)^{\[1\]}](#); [Tumasyan, A \(Tumasyan, A.\)^{\[1\]}](#); [Adam, W \(Adam, W.\)^{\[2\]}](#); [Asilar, E \(Asilar, E.\)^{\[2\]}](#); [Bergauer, T \(Bergauer, T.\)^{\[2\]}](#); [Brandstetter, J \(Brandstetter, J.\)^{\[2\]}](#); [Brondolin, E \(Brondolin, E.\)^{\[2\]}](#); [Dragicevic, M \(Dragicevic, M.\)^{\[2\]}](#); [Ero, J \(Ero, J.\)^{\[2\]}](#) ...[More](#)

Group Author(s): [CMS Collaboration](#)

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

JOURNAL OF HIGH ENERGY PHYSICS

Issue: 10

Article Number: 076

DOI: 10.1007/JHEP10(2017)076

Published: OCT 11 2017

Document Type: Article

[View Journal Impact](#)

Abstract

A search is presented for decays beyond the standard model of the 125 GeV Higgs bosons to a pair of light bosons, based on models with extended scalar sectors. Light boson masses between 5 and 62.5 GeV are probed in final states containing four tau leptons, two muons and two b quarks, or two muons and two tau leptons. The results are from data in proton-proton collisions corresponding to an integrated luminosity of 19.7 fb⁻¹, accumulated by the CMS experiment at the LHC at a center-of-mass energy of 8TeV. No evidence for such exotic decays is found in the data. Upper limits are set on the product of the cross section and branching fraction for several signal processes. The results are also compared to predictions of two-Higgs-doublet models, including those with an additional scalar singlet.

Keywords

Author Keywords: [Hadron-Hadron scattering \(experiments\)](#); [Higgs physics](#); [Supersymmetry](#)

KeyWords Plus: [SYMMETRY-BREAKING](#); [CP CONSERVATION](#); [MASS](#); [PAIR](#); [WEAK](#)

Author Information

Reprint Address: [Khachatryan, V \(reprint author\)](#)

+ [Yerevan Phys Inst, Yerevan, Armenia.](#)

Addresses:

- + [1] [Yerevan Phys Inst, Yerevan, Armenia](#)
- + [2] [Inst Hochenergiephys, Vienna, Austria](#)
- + [3] [Inst Nucl Problems, Minsk, BELARUS](#)
- + [4] [Natl Ctr Particle & High Energy Phys, Minsk, BELARUS](#)
- + [5] [Univ Antwerp, Antwerp, Belgium](#)
- + [6] [Vrije Univ Brussel, Brussels, Belgium](#)
- + [7] [Univ Libre Bruxelles, Brussels, Belgium](#)
- + [8] [Univ Ghent, Ghent, Belgium](#)
- + [9] [Catholic Univ Louvain, Louvain La Neuve, Belgium](#)
- + [10] [Univ Mons, Mons, Belgium](#)
- + [11] [Ctr Brasileiro Pesquisas Fis, Rio De Janeiro, Brazil](#)
- + [12] [Univ Estado Rio de Janeiro, Rio De Janeiro, Brazil](#)
- + [13] [Univ Estadual Paulista, Sao Paulo, Brazil](#)
- + [14] [Univ Fed ABC, Sao Paulo, Brazil](#)
- + [15] [Inst Nucl Energy Res, Sofia, Bulgaria](#)

Citation Network

In Web of Science Core Collection

11

Times Cited

[Create Citation Alert](#)

All Times Cited Counts

[11 in All Databases](#)

[See more counts](#)

94

Cited References

[View Related Records](#)

Most recently cited by:

[Sirunyan, A. M.; Tumasyan, A.; Adam, W.; et al.](#)

[Search for an exotic decay of the Higgs boson to a pair of light pseudoscalars in the final state with two muons and two b quarks in pp collisions at 13 TeV.](#) PHYSICS LETTERS B (2019)

[Bagnaschi, Emanuele; Bahl, Henning; Fuchs, Elina; et al.](#) MSSM Higgs boson searches at the LHC: benchmark scenarios for Run 2 and beyond. EUROPEAN PHYSICAL JOURNAL C (2019)

[View All](#)

Use in Web of Science

Web of Science Usage Count

2

40

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](#).

- + [16] Univ Sofia, Sofia, Bulgaria
- + [17] Beihang Univ, Beijing, Peoples R China
- + [18] Inst High Energy Phys, Beijing, Peoples R China
- + [19] Peking Univ, State Key Lab Nucl Phys & Technol, Beijing, Peoples R China
- + [20] Univ Los Andes, Bogota, Colombia
- + [21] Univ Split, Fac Elect Engn Mech Engn & Naval Architecture, Split, Croatia
- + [22] Univ Split, Fac Sci, Split, Croatia
- + [23] Inst Rudjer Boskovic, Zagreb, Croatia
- + [24] Univ Cyprus, Nicosia, Cyprus
- + [25] Charles Univ Prague, Prague, Czech Republic
- [26] Univ San Francisco Quito, Quito, Ecuador
- + [27] Egyptian Network High Energy Phys, Acad Sci Res & Technol Arab Republ Egypt, 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, CEA, IRFU, Gif Sur Yvette, France
- + [33] Ecole Polytech, CNRS, IN2P3, Lab Leprince Ringuet, Palaiseau, France
- + [34] Univ Strasbourg, CNRS, IPHC, IN2P3, Strasbourg, France
- + [35] CNRS, IN2P3, Ctr Calcul, Inst Natl Phys Nucl & Phys Particules, Villeurbanne, France
- + [36] Univ Lyon 1, Inst Phys Nucl Lyon, CNRS, IN2P3, 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] Deutsch Elekt Synchrotron, Hamburg, Germany
- + [43] Univ Hamburg, Hamburg, Germany
- + [44] Inst Expt Kernphys, Karlsruhe, Germany
- + [45] NCSR Demokritos, Inst Nucl & Particle Phys, Aghia Paraskevi, Greece
- + [46] Univ Athens, Athens, Greece
- + [47] Univ Ioannina, Ioannina, Greece
- + [48] Eotvos Lorand Univ, MTA ELTE Lendulet CMS Particle & Nucl Phys Grp, Budapest, Hungary
- + [49] Wigner Res Ctr Phys, Budapest, Hungary
- + [50] Inst Nucl Res ATOMKI, Debrecen, Hungary
- + [51] Univ Debrecen, Inst Phys, Debrecen, Hungary
- + [52] Natl Inst Sci Educ & Res, Bhubaneswar, Orissa, India
- + [53] Panjab Univ, Chandigarh, India
- [54] Univ Delhi, Delhi, India
- + [55] Saha Inst Nucl Phys, Kolkata, India
- + [56] Indian Inst Technol Madras, Madras, Tamil Nadu, India
- + [57] Bhabha Atom Res Ctr, Bombay, Maharashtra, India
- + [58] Tata Inst Fundamental Res A, Bombay, Maharashtra, India
- + [59] Tata Inst Fundamental Res B, Bombay, Maharashtra, India
- + [60] Indian Inst Sci Educ & Res, Pune, Maharashtra, India
- [61] Inst Res Fundamental Sci IPM, Tehran, Iran
- + [62] Univ Coll Dublin, Dublin, Ireland
- + [63] Ist Nazl Fis Nucl, Sez Bari, Bari, Italy
- + [64] Univ Bari, Bari, Italy

- + [65] Politecn Bari, Bari, Italy
- + [66] Ist Nazl Fis Nucl, Sez Bologna, Bologna, Italy
- + [67] Univ Bologna, Bologna, Italy
- + [68] INFN, Sez Catania, Catania, Italy
- + [69] Univ Catania, Catania, Italy
- + [70] INFN, Sez Firenze, Florence, Italy
- + [71] Univ Firenze, Florence, Italy
- + [72] INFN, Lab Nazl Frascati, Frascati, Italy
- + [73] INFN, Sez Genova, Genoa, Italy
- + [74] Univ Genoa, Genoa, Italy
- + [75] INFN, Sez Milano Bicocca, Milan, Italy
- + [76] Univ Milano Bicocca, Milan, Italy
- + [77] INFN, Sez Napoli, Naples, Italy
- + [78] Univ Naples Federico II, Naples, Italy
- + [79] Univ Basilicata, Potenza, Italy
- + [80] Univ G Marconi, Rome, Italy
- + [81] INFN, Sez Padova, Padua, Italy
- + [82] Univ Padua, Padua, Italy
- + [83] Univ Trento, Trento, Italy
- + [84] INFN, Sez Pavia, Pavia, Italy
- + [85] Univ Pavia, Pavia, Italy
- + [86] INFN, Sez Perugia, Perugia, Italy
- + [87] Univ Perugia, Perugia, Italy
- + [88] INFN, Sez Pisa, Pisa, Italy
- + [89] Univ Pisa, Pisa, Italy
- + [90] Scuola Normale Super Pisa, Pisa, Italy
- + [91] INFN, Sez Roma, Rome, Italy
- + [92] Univ Rome, Rome, Italy
- + [93] INFN, Sez Torino, Turin, Italy
- + [94] Univ Turin, Turin, Italy
- + [95] Univ Piemonte Orientale, Novara, Italy
- + [96] INFN, Sez Trieste, Trieste, Italy
- + [97] Univ Trieste, Trieste, Italy
- + [98] Kyungpook Natl Univ, Daegu, South Korea
- + [99] Chonbuk Natl Univ, Jeonju, South Korea
- + [100] Chonnam Natl Univ, Inst Universe & Elementary Particles, Kwangju, South Korea
- + [101] Hanyang Univ, Seoul, South Korea
- + [102] Korea Univ, Seoul, South Korea
- + [103] Seoul Natl Univ, Seoul, South Korea
- + [104] Univ Seoul, Seoul, South Korea
- + [105] Sungkyunkwan Univ, Suwon, South Korea
- + [106] Vilnius Univ, Vilnius, Lithuania
- + [107] Univ Malaya, Natl Ctr Particle Phys, Kuala Lumpur, Malaysia
- + [108] Ctr Invest Estudios Avanzados IPN, Mexico City, DF, Mexico
- [109] Univ Iberoamer, Mexico City, DF, Mexico
- + [110] Benemerita Univ Autonoma Puebla, Puebla, Mexico
- + [111] Univ Autonoma San Luis Potosi, San Luis Potosi, Mexico
- + [112] Univ Auckland, Auckland, New Zealand
- + [113] Univ Canterbury, Christchurch, New Zealand

- + [114] Quaid I Azam Univ, Natl Ctr Phys, Islamabad, Pakistan
- + [115] Natl Ctr Nucl Res, Otwock, Poland
- + [116] Univ Warsaw, Fac Phys, Inst Expt Phys, Warsaw, Poland
- + [117] Lab Instrumentacao & Fis Expt Particulas, Lisbon, Portugal
- + [118] Joint Inst Nucl Res, Dubna, Russia
- + [119] Petersburg Nucl Phys Inst, St Petersburg, Russia
- + [120] Inst Nucl Res, Moscow, Russia
- + [121] Inst Theoret & Expt Phys, Moscow, Russia
- + [122] Moscow Inst Phys & Technol, Moscow, Russia
- + [123] Natl Res Nucl Univ, Moscow Engr Phys Inst MEPhI, Moscow, Russia
- + [124] PN Lebedev Phys Inst, Moscow, Russia
- + [125] Lomonosov Moscow State Univ, Skobeltsyn Inst Nucl Phys, Moscow, Russia
- + [126] Novosibirsk State Univ, Novosibirsk, Russia
- + [127] State Res Ctr Russian Federat, Inst High Energy Phys, Protvino, Russia
- + [128] Univ Belgrade, Fac Phys, Belgrade, Serbia
- + [129] Vinca Inst Nucl Sci, Belgrade, Serbia
- [130] CIEMAT, Madrid, Spain
- + [131] Univ Autonoma Madrid, Madrid, Spain
- + [132] Univ Oviedo, Oviedo, Spain
- + [133] Univ Cantabria, CSIC, Inst Fis Cantabria IFCA, Santander, Spain
- + [134] European Org Nucl Res, CERN, Geneva, Switzerland
- + [135] Paul Scherrer Inst, Villigen, Switzerland
- + [136] Swiss Fed Inst Technol, Inst Particle Phys, Zurich, Switzerland
- + [137] Univ Zurich, Zurich, Switzerland
- + [138] Natl Cent Univ, Chungli, Taiwan
- + [139] Natl Taiwan Univ, Taipei, Taiwan
- + [140] Chulalongkorn Univ, Fac Sci, Dept Phys, Bangkok, Thailand
- + [141] Cukurova Univ, Phys Dept, Sci & Art Fac, Adana, Turkey
- + [142] Middle East Tech Univ, Phys Dept, Ankara, Turkey
- + [143] Bogazici Univ, Istanbul, Turkey
- + [144] Istanbul Tech Univ, Istanbul, Turkey
- + [145] Natl Acad Sci Ukraine, Inst Scintillat Mat, Kharkov, Ukraine
- + [146] Natl Sci Ctr, Kharkov Inst Phys & Technol, Kharkov, Ukraine
- + [147] Univ Bristol, Bristol, Avon, England
- + [148] Rutherford Appleton Lab, Didcot, Oxon, England
- + [149] Imperial Coll, London, England
- + [150] Brunel Univ, Uxbridge, Middx, England
- + [151] Baylor Univ, Waco, TX 76798 USA
- + [152] Univ Alabama, Tuscaloosa, AL USA
- + [153] Boston Univ, Boston, MA 02215 USA
- + [154] Brown Univ, Providence, RI 02912 USA
- + [155] Univ Calif Davis, Davis, CA 95616 USA
- + [156] Univ Calif Los Angeles, Los Angeles, CA USA
- + [157] Univ Calif Riverside, Riverside, CA 92521 USA
- + [158] Univ Calif San Diego, La Jolla, CA 92093 USA
- + [159] Univ Calif Santa Barbara, Dept Phys, Santa Barbara, CA 93106 USA
- + [160] CALTECH, Pasadena, CA 91125 USA
- + [161] Carnegie Mellon Univ, Pittsburgh, PA 15213 USA
- + [162] Univ Colorado, Boulder, CO 80309 USA

- + [163] Cornell Univ, Ithaca, NY USA
- + [164] Fairfield Univ, Fairfield, CT 06430 USA
- + [165] Fermilab Natl Accelerator Lab, POB 500, Batavia, IL 60510 USA
- + [166] Univ Florida, Gainesville, FL USA
- + [167] Florida Int Univ, Miami, FL 33199 USA
- + [168] Florida State Univ, Tallahassee, FL 32306 USA
- + [169] Florida Inst Technol, Melbourne, FL 32901 USA
- + [170] Univ Illinois, Chicago, IL 60680 USA
- + [171] Univ Iowa, Iowa City, IA USA
- + [172] Johns Hopkins Univ, Baltimore, MD USA
- + [173] Univ Kansas, Lawrence, KS 66045 USA
- + [174] Kansas State Univ, Manhattan, KS 66506 USA
- + [175] Lawrence Livermore Natl Lab, Livermore, CA USA
- + [176] Univ Maryland, College Pk, MD 20742 USA
- + [177] MIT, Cambridge, MA 02139 USA
- + [178] Univ Minnesota, Minneapolis, MN USA
- + [179] Univ Mississippi, Oxford, MS USA
- + [180] Univ Nebraska Lincoln, Lincoln, NE USA
- + [181] SUNY Buffalo, Buffalo, NY USA
- + [182] Northeastern Univ, Boston, MA 02115 USA
- + [183] Northwestern Univ, Evanston, IL USA
- + [184] Univ Notre Dame, Notre Dame, IN 46556 USA
- + [185] Ohio State Univ, Columbus, OH 43210 USA
- + [186] Princeton Univ, Princeton, NJ 08544 USA
- + [187] Univ Puerto Rico, Mayaguez, PR USA
- + [188] Purdue Univ, W Lafayette, IN 47907 USA
- + [189] Purdue Univ Calumet, Hammond, LA USA
- + [190] Rice Univ, Houston, TX USA
- + [191] Univ Rochester, Rochester, NY 14627 USA
- + [192] Rutgers State Univ, Piscataway, NJ USA
- + [193] Univ Tennessee, Knoxville, TN USA
- + [194] Texas A&M Univ, College Stn, TX USA
- + [195] Texas Tech Univ, Lubbock, TX 79409 USA
- + [196] Vanderbilt Univ, 221 Kirkland Hall, Nashville, TN 37235 USA
- + [197] Univ Virginia, Charlottesville, VA USA
- + [198] Wayne State Univ, Detroit, MI USA
- + [199] Univ Wisconsin, Madison, WI USA
- + [200] Vienna Univ Technol, Vienna, Austria
- + [201] Univ Estadual Campinas, Campinas, SP, Brazil
- + [202] Univ Fed Pelotas, Pelotas, Brazil
- + [203] Cairo Univ, Cairo, Egypt
- + [204] Fayoum Univ, Al Fayyum, Egypt
- + [205] British Univ Egypt, Cairo, Egypt
- + [206] Ain Shams Univ, Cairo, Egypt
- + [207] Univ Haute Alsace, Mulhouse, France
- + [208] Brandenburg Tech Univ Cottbus, Cottbus, Germany
- + [209] Indian Inst Sci Educ & Res, Bhopal, India
- + [210] Inst Phys, Bhubaneswar, Orissa, India
- + [211] Univ Visva Bharati, Santini Ketan, W Bengal, India

- [212] Univ Ruhuna, Matara, Sri Lanka
- + [213] Isfahan Univ Technol, Esfahan, Iran
- + [214] Univ Tehran, Dept Engn Sci, Tehran, Iran
- + [215] Yazd Univ, Yazd, Iran
- + [216] Islamic Azad Univ, Sci & Res Branch, Plasma Phys Res Ctr, Tehran, Iran
- + [217] Univ Siena, Siena, Italy
- [218] Agensi Nuklear Malaysia, MOSTI, Kajang, Malaysia
- [219] Consejo Nacl Ciencia Tecnol, Mexico City, DF, Mexico
- + [220] Warsaw Univ Technol, Inst Elect Syst, Warsaw, Poland
- + [221] Univ Florida, Gainesville, FL USA
- + [222] Budker Inst Nucl Phys, Novosibirsk, Russia
- + [223] Univ Belgrade, Fac Phys, Belgrade, Serbia
- + [224] Vinca Inst Nucl Sci, Belgrade, Serbia
- + [225] Ist Nazl Fis Nucl, Scuola Normale Sez, Pisa, Italy
- + [226] Riga Tech Univ, Riga, Latvia
- + [227] Inst Theoret & Expt Phys, Moscow, Russia
- + [228] Albert Einstein Ctr Fundamental Phys, Bern, Switzerland
- + [229] Adiyaman Univ, Adiyaman, Turkey
- + [230] Cag Univ, Mersin, Turkey
- + [231] Piri Reis Univ, Istanbul, Turkey
- + [232] Gaziosmanpasa Univ, Tokat, Turkey
- + [233] Ozyegin Univ, Istanbul, Turkey
- + [234] Izmir Inst Technol, Izmir, Turkey
- + [235] Marmara Univ, Istanbul, Turkey
- + [236] Kafkas Univ, Kars, Turkey
- + [237] Istanbul Bilgi Univ, Istanbul, Turkey
- + [238] Yildiz Tech Univ, Istanbul, Turkey
- + [239] Hacettepe Univ, Ankara, Turkey
- + [240] Univ Southampton, Sch Phys & Astron, Southampton, Hants, England
- + [241] Inst Astrofis Canarias, San Cristobal la Laguna, Spain
- + [242] Utah Valley Univ, Orem, UT USA
- + [243] Argonne Natl Lab, 9700 S Cass Ave, Argonne, IL 60439 USA
- + [244] Erzincan Univ, Erzincan, Turkey
- + [245] Mimar Sinan Univ, Istanbul, Turkey
- + [246] Catholic Univ Amer, Washington, DC 20064 USA
- + [247] Texas A&M Univ Qatar, Doha, Qatar
- + [248] Kyungpook Natl Univ, Daegu, South Korea

Funding

Funding Agency	Grant Number
Austrian Federal Ministry of Science, Research and Economy	
Austrian Science Fund	
Belgian Fonds de la Recherche Scientifique	
Fonds voor Wetenschappelijk Onderzoek	
CNPq	
CAPES	
FAPERJ	
FAPESP	
Bulgarian Ministry of Education and Science	

CERN	
Chinese Academy of Sciences, Ministry of Science and Technology	
National Natural Science Foundation of China	
Colombian Funding Agency (COLCIENCIAS)	
Croatian Ministry of Science, Education and Sport	
Croatian Science Foundation	
Research Promotion Foundation, Cyprus	
Secretariat for Higher Education, Science, Technology and Innovation, Ecuador	
Ministry of Education and Research, Estonian Research Council	IUT23-4 IUT23-6
European Regional Development Fund, Estonia	
Academy of Finland, Finnish Ministry of Education and Culture	
Helsinki Institute of Physics	
Institut National de Physique Nucleaire et de Physique des Particules / CNRS	
Commissariat a l'Energie Atomique et aux Energies Alternatives / CEA, France	
Bundesministerium fur Bildung und Forschung	
Deutsche Forschungsgemeinschaft	
Helmholtz-Gemeinschaft Deutscher Forschungszentren, Germany	
General Secretariat for Research and Technology, Greece	
National Scientific Research Foundation	
National Innovation Office, Hungary	
Department of Atomic Energy, India	
Department of Science and Technology, India	
Institute for Studies in Theoretical Physics and Mathematics, Iran	
Science Foundation, Ireland	
Istituto Nazionale di Fisica Nucleare, Italy	
Ministry of Science, ICT and Future Planning, Republic of Korea	
National Research Foundation (NRF), Republic of Korea	
Lithuanian Academy of Sciences	
Ministry of Education (Malaysia)	
BUAP	
CINVESTAV	
CONACYT	
LNS	
SEP	
UASLP-FAI	
Ministry of Business, Innovation and Employment, New Zealand	
Pakistan Atomic Energy Commission	
Ministry of Science and Higher Education, Poland	
National Science Centre, Poland	
Fundacao para a Ciencia e a Tecnologia, Portugal	
JINR, Dubna	
Ministry of Education and Science of the Russian Federation	
Federal Agency of Atomic Energy of the Russian Federation	
Russian Academy of Sciences	
Russian Foundation for Basic Research	
NRNU MEPhI	

Ministry of Education, Science and Technological Development of Serbia	
Secretaria de Estado de Investigacion, Desarrollo e Innovacion, Spain	
Programa Consolider-Ingenio, Spain	
ETH Board	
ETH Zurich	
PSI	
SNF	
UniZH	
Canton Zurich	
SER	
Ministry of Science and Technology, Taipei	
Thailand Center of Excellence in Physics	
Institute for the Promotion of Teaching Science and Technology of Thailand, Special Task Force for Activating Research	
National Science and Technology Development Agency of Thailand	
Scientific and Technical Research Council of Turkey	
Turkish Atomic Energy Authority	
National Academy of Sciences of Ukraine, Ukraine	
State Fund for Fundamental Researches, Ukraine	
Science and Technology Facilities Council, U.K.	
US Department of Energy	
US National Science Foundation	
Marie-Curie program	
European Research Council	
EPLANET (European Union)	
Leventis Foundation	
A. P. Sloan Foundation	
Alexander von Humboldt Foundation	
Belgian Federal Science Policy Office	
Fonds pour la Formation a la Recherche dans l'Industrie et dans l'Agriculture (FRIA-Belgium)	
Agentschap voor Innovatie door Wetenschap en Technologie (IWT-Belgium)	
Ministry of Education, Youth and Sports (MEYS) of the Czech Republic	
Council of Science and Industrial Research, India	
HOMING PLUS program of the Foundation for Polish Science	
European Union, Regional Development Fund	
National Science Center (Poland)	Harmonia 2014/14/M/ST2/00428 Opus 2014/13/B/ST2/02543 2014/15/B/ST2/03998 2015/19/B/ST2/02861 Sonatabis 2012/07/E/ST2/01406
EU-ESF	
Greek NSRF	
National Priorities Research Program by Qatar National Research Fund	
Programa Clarin-COFUND del Principado de Asturias	
Chulalongkorn University	
Welch Foundation	C-1845
Chulalongkorn Academic into Its 2nd Century Project Advancement Project (Thailand)	

University of Malaya (Malaysia)	
Ministry of Science and Higher Education	

[View funding text](#)

Publisher

SPRINGER, 233 SPRING ST, NEW YORK, NY 10013 USA

Journal Information

Impact Factor: [Journal Citation Reports](#)

Categories / Classification

Research Areas: Physics

Web of Science Categories: Physics, Particles & Fields

See more data fields

◀ 1 of 1 ▶

Cited References: 94

Showing 30 of 94 [View All in Cited References page](#)

(from Web of Science Core Collection)

- [Constraints on new phenomena via Higgs boson couplings and invisible decays with the ATLAS detector](#)** Times Cited: 160
By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
Group Author(s): ATLAS Collaboration
JOURNAL OF HIGH ENERGY PHYSICS Issue: 11 Article Number: 206 Published: NOV 30 2015
- [Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC](#)** Times Cited: 4,752
By: Aad, G.; Abajyan, T.; Abbott, B.; et al.
Group Author(s): ATLAS Collaboration
PHYSICS LETTERS B Volume: 716 Issue: 1 Pages: 1-29 Published: SEP 17 2012
- [Search for Next-to-Minimal Supersymmetric Higgs Bosons in the \$h \rightarrow a a \rightarrow \mu \mu \mu \mu\$, \$\mu \mu \tau \tau\$ Channels Using pp Collisions at \$s=1.96\$ TeV](#)** Times Cited: 53
By: Abazov, V. M.; Abbott, B.; Abolins, M.; et al.
Group Author(s): D0 Collaboration
PHYSICAL REVIEW LETTERS Volume: 103 Issue: 6 Article Number: 061801 Published: AUG 7 2009
- [GEANT4-a simulation toolkit](#)** Times Cited: 11,067
By: Agostinelli, S; Allison, J; Amako, K; et al.
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT Volume: 506 Issue: 3 Pages: 250-303 Published: JUL 1 2003
- [Higgs phenomenology in the two-singlet model](#)** Times Cited: 17
By: Ahriche, Amine; Arhrib, Abdesslam; Nasri, Salah
JOURNAL OF HIGH ENERGY PHYSICS Issue: 2 Article Number: 042 Published: FEB 10 2014
- [The PDF4LHC working group interim report](#)** Times Cited: 110
By: Alekhin, S.
arXiv:1101.0536
- [A general framework for implementing NLO calculations in shower Monte Carlo programs: the POWHEG BOX](#)** Times Cited: 999
By: Alioli, Simone; Nason, Paolo; Oleari, Carlo; et al.
JOURNAL OF HIGH ENERGY PHYSICS Issue: 6 Article Number: 043 Published: JUN 2010
- [NLO single-top production matched with shower in POWHEG: s- and t-channel contributions](#)** Times Cited: 261
By: Alioli, Simone; Nason, Paolo; Oleari, Carlo; et al.
JOURNAL OF HIGH ENERGY PHYSICS Issue: 9 Article Number: 111 Published: SEP 2009

9. **Geant4 developments and applications** Times Cited: 2,912
By: Allison, J; Amako, K; Apostolakis, J; et al.
IEEE TRANSACTIONS ON NUCLEAR SCIENCE Volume: 53 Issue: 1 Pages: 270-278 Part: 2 Published: FEB 2006
10. **MadGraph 5: going beyond** Times Cited: 1,686
By: Alwall, Johan; Herquet, Michel; Maltoni, Fabio; et al.
JOURNAL OF HIGH ENERGY PHYSICS Issue: 6 Article Number: 128 Published: JUN 2011
11. Title: [not available] Times Cited: 1
By: Andersen, J.R.
Group Author(s): LHC Higgs Cross section Working Group collaboration
arXiv: 1307.1347
INSPIRE
12. **Performance of MET reconstruction in CMS** Times Cited: 1
By: Apresyan, Artur
16TH INTERNATIONAL CONFERENCE ON CALORIMETRY IN HIGH ENERGY PHYSICS (CALOR 2014) Book Series: Journal of Physics Conference Series Volume: 587 Article Number: 012006 Published: 2015
13. **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 $\sqrt{s}=7$ and 8 TeV** Times Cited: 4
Group Author(s): ATLAS and CMS collaborations
JHEP Volume: 08 Published: 2016
INSPIRE
14. **Procedure for the LHC Higgs Boson Search Combination in Summer 2011** Times Cited: 3
Group Author(s): ATLAS and CMS Collaborations
Technical Report CMS-NOTE-2011-005, ATL-PHYS-PUB-2011-11 Published: 2011
15. **Physics at a high-luminosity LHC with ATLAS** Times Cited: 2
Group Author(s): ATLAS collaboration
arXiv:1307.7292
INSPIRE
16. **Constraints on new phenomena via Higgs boson couplings and invisible decays with the ATLAS detector** Times Cited: 3
Group Author(s): ATLAS collaboration
JHEP Volume: 11 Pages: 206 Published: 2015
INSPIRE
17. Title: [not available] Times Cited: 1
Group Author(s): ATLAS collaboration
Measurements of the Higgs boson production and decay rates and
18. **Search for Higgs bosons decaying to aa in the $\mu\mu\gamma$ final state in $p\bar{p}$ collisions at $\sqrt{s}=8$ TeV with the ATLAS experiment** Times Cited: 1
Group Author(s): ATLAS collaboration
Phys. Rev. D Volume: D 92 Article Number: 052002 Published: 2015
INSPIRE
19. **Benchmarks for Higgs boson pair production and heavy Higgs boson searches in the two-Higgs-doublet model of type II** Times Cited: 68
By: Baglio, Julien; Eberhardt, Otto; Nierste, Ulrich; et al.
PHYSICAL REVIEW D Volume: 90 Issue: 1 Article Number: 015008 Published: JUL 9 2014
20. **Scrutinizing the alignment limit in two-Higgs-doublet models: $m(h)=125$ GeV** Times Cited: 77
By: Bernon, Jeremy; Gunion, John F.; Haber, Howard E.; et al.
PHYSICAL REVIEW D Volume: 92 Issue: 7 Article Number: 075004 Published: OCT 6 2015
21. **Light Higgs bosons in two-Higgs-doublet models** Times Cited: 41
By: Bernon, Jeremy; Gunion, John F.; Jiang, Yun; et al.
PHYSICAL REVIEW D Volume: 91 Issue: 7 Article Number: 075019 Published: APR 24 2015

22. **Reconstruction of the Higgs mass in H -> tau tau Events by Dynamical Likelihood techniques** Times Cited: 24
By: Bianchini, Lorenzo; Conway, John; Friis, Evan Klose; et al.
20TH INTERNATIONAL CONFERENCE ON COMPUTING IN HIGH ENERGY AND NUCLEAR PHYSICS (CHEP2013), PARTS 1-6 Book Series: Journal of Physics Conference Series Volume: 513 Article Number: UNSP 022035 Published: 2014
23. Title: [not available] Times Cited: 247
By: Botje, M.
arXiv: 1101.0538
24. **Theory and phenomenology of two-Higgs-doublet models** Times Cited: 942
By: Branco, G. C.; Ferreira, P. M.; Lavoura, L.; et al.
PHYSICS REPORTS-REVIEW SECTION OF PHYSICS LETTERS Volume: 516 Issue: 1-2 Pages: 1-102 Published: JUL 2012
25. Title: [not available] Times Cited: 82
By: Cacciari, M.; Salam, G. P.; Soyez, G.
JHEP Volume: 04 Pages: 063 Published: 2008
0802.1189.
26. **Vector boson pair production at the LHC** Times Cited: 438
By: Campbell, John M.; Ellis, R. Keith; Williams, Ciaran
JOURNAL OF HIGH ENERGY PHYSICS Issue: 7 Article Number: 018 Published: JUL 2011
27. **A light Higgs scalar in the NMSSM confronted with the latest LHC Higgs data** Times Cited: 62
By: Cao, Junjie; Ding, Fangfang; Han, Chengcheng; et al.
JOURNAL OF HIGH ENERGY PHYSICS Issue: 11 Article Number: 018 Published: NOV 4 2013
28. **LHC constraints on two-Higgs doublet models** Times Cited: 81
By: Celis, Alejandro; Ilisie, Victor; Pich, Antonio
JOURNAL OF HIGH ENERGY PHYSICS Issue: 7 Article Number: 053 Published: JUL 2013
29. **Probing the two light Higgs scenario in the NMSSM with a low-mass pseudoscalar** Times Cited: 30
By: Cerdeno, David G.; Ghosh, Pradipta; Park, Chan Beom
JOURNAL OF HIGH ENERGY PHYSICS Issue: 6 Article Number: 031 Published: JUN 2013
30. **Analysis of the Higgs potentials for two doublets and a singlet** Times Cited: 11
By: Chalons, G.; Domingo, F.
PHYSICAL REVIEW D Volume: 86 Issue: 11 Article Number: 115024 Published: DEC 26 2012

Showing 30 of 94 [View All in Cited References page](#)

