

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

Search for heavy neutrinos and third-generation leptoquarks in hadronic states of two leptons and two jets in proton-proton collisions 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](#) (Del Valle, A. Escalante)^[2] ...More

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

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

JOURNAL OF HIGH ENERGY PHYSICS

Issue: 3

Article Number: 170

DOI: 10.1007/JHEP03(2019)170

Published: MAR 26 2019

Document Type: Article

[View Journal Impact](#)

Abstract

A search for new particles has been conducted using events with two high transverse momentum leptons that decay hadronically and at least two energetic jets. The analysis is performed using data from proton-proton collisions at 13 TeV, collected by the CMS experiment at the LHC in 2016 and corresponding to an integrated luminosity of 35.9 fb⁻¹. The observed data are consistent with standard model expectations. The results are interpreted in the context of two physics models. The first model involves right-handed charged bosons, W-R, that decay to heavy right-handed Majorana neutrinos, N (= e, μ, τ), arising in a left-right symmetric extension of the standard model. The model considers that N-e and N-μ are too heavy to be detected at the LHC. Assuming that the N mass is half of the W-R mass, masses of the W-R boson below 3.50 TeV are excluded at 95% confidence level. Exclusion limits are also presented considering different scenarios for the mass ratio between N and W-R, as a function of W-R mass. In the second model, pair production of third-generation scalar leptoquarks that decay into bb is considered, resulting in an observed exclusion region with leptoquark masses below 1.02 TeV, assuming a 100% branching fraction for the leptoquark decay to a lepton and a bottom quark. These results represent the most stringent limits to date on these models.

Keywords

Author Keywords: [Beyond Standard Model](#); [Dark matter](#); [Hadron-Hadron scattering \(experiments\)](#)

KeyWords Plus: [MODEL](#); [CONSTRAINTS](#); [EXTENSION](#); [INVARIANT](#); [SYMMETRY](#); [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](#)

Citation Network

In Web of Science Core Collection

0

Times Cited

[Create Citation Alert](#)

86

Cited References

[View Related Records](#)

Use in Web of Science

Web of Science Usage Count

4

Last 180 Days

4

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](#).

- + [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
- + [24] Charles Univ Prague, Prague, Czech Republic
- + [25] Escuela Politec Nacl, Quito, Ecuador
- [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] Univ Paris Saclay, Lab Leprince Ringuet, Ecole Polytech, CNRS,IN2P3, 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, Inst Phys Nucl Lyon, CNRS,IN2P3, Villeurbanne, France
- + [37] Georgian Tech Univ, Tbilisi, Rep of Georgia
- + [38] Tbilisi State Univ, Tbilisi, Rep of 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] NCSR Demokritos, INPP, Aghia Paraskevi, Greece
- + [46] 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 & Nucl Phys Grp, Budapest, Hungary
- + [50] Wigner Res Ctr Phys, Budapest, Hungary
- + [51] Inst Nucl Res ATOMKI, Debrecen, Hungary
- + [52] Univ Debrecen, Inst Phys, Debrecen, Hungary
- + [53] Indian Inst Sci IISc, Bangalore, Karnataka, India
- + [54] Natl Inst Sci Educ & Res, HBNI, Bhubaneswar, India
- + [55] Panjab Univ, Chandigarh, India
- [56] Univ Delhi, Delhi, India
- + [57] Saha Inst Nucl Phys, HBNI, Kolkata, India
- + [58] Indian Inst Technol Madras, Madras, Tamil Nadu, India
- + [59] Bhabha Atom Res Ctr, Mumbai, India
- + [60] Tata Inst Fundamental Res A, Mumbai, India

- + [61] Tata Inst Fundamental Res B, Mumbai, India
- + [62] IISER, Pune, Maharashtra, India
- [63] Inst Res Fundamental Sci IPM, Tehran, Iran
- + [64] Univ Coll Dublin, Dublin, Ireland
- + [65] INFN, Sez Bari, Bari, Italy
- + [66] Univ Bari, Bari, Italy
- + [67] Politecn Bari, Bari, Italy
- + [68] INFN, Sez Bologna, Bologna, Italy
- + [69] Univ Bologna, Bologna, Italy
- + [70] INFN, Sez Catania, Catania, Italy
- + [71] Univ Catania, Catania, Italy
- + [72] INFN, Sez Firenze, Florence, Italy
- + [73] Univ Florence, Florence, Italy
- + [74] INFN, Lab Nazl Frascati, Frascati, Italy
- + [75] INFN, Sez Genova, Genoa, Italy
- + [76] Univ Genoa, Genoa, Italy
- + [77] INFN, Sez Milano Bicocca, Milan, Italy
- + [78] Univ Milano Bicocca, Milan, Italy
- + [79] INFN, Sez Napoli, Naples, Italy
- + [80] Univ Napoli Federico II, Naples, Italy
- + [81] Univ Basilicata, Potenza, Italy
- + [82] Univ G Marconi, Rome, Italy
- + [83] INFN, Sez Padova, Padua, Italy
- + [84] Univ Padua, Padua, Italy
- + [85] Univ Trento, Trento, Italy
- + [86] INFN, Sez Pavia, Pavia, Italy
- + [87] Univ Pavia, Pavia, Italy
- + [88] INFN, Sez Perugia, Perugia, Italy
- + [89] Univ Perugia, Perugia, Italy
- + [90] INFN, Sez Pisa, Pisa, Italy
- + [91] Univ Pisa, Pisa, Italy
- + [92] Scuola Normale Super Pisa, Pisa, Italy
- + [93] INFN, Sez Roma, Rome, Italy
- + [94] Sapienza Univ Roma, Rome, Italy
- + [95] INFN, Sez Torino, Novara, Italy
- + [96] Univ Torino, Novara, Italy
- + [97] Univ Piemonte Orientale, Novara, Italy
- + [98] INFN, Sez Trieste, Trieste, Italy
- + [99] Univ Trieste, Trieste, Italy
- + [100] Kyungpook Natl Univ, Daegu, South Korea
- + [101] Chonnam Natl Univ, Inst Universe & Elementary Particles, Kwangju, South Korea
- + [102] Hanyang Univ, Seoul, South Korea
- + [103] Korea Univ, Seoul, South Korea
- + [104] Sejong Univ, Seoul, South Korea
- + [105] Seoul Natl Univ, Seoul, South Korea
- + [106] Univ Seoul, Seoul, South Korea
- + [107] Sungkyunkwan Univ, Suwon, South Korea
- + [108] Vilnius Univ, Vilnius, Lithuania
- + [109] Univ Malaya, Natl Ctr Particle Phys, Kuala Lumpur, Malaysia

- + [110] Ctr Invest & Estudios Avanzados IPN, Mexico City, DF, Mexico
- [111] Univ Iberoamer, Mexico City, DF, Mexico
- + [112] Benemerita Univ Autonoma Puebla, Puebla, Mexico
- + [113] Univ Autonoma San Luis Potosi, San Luis Potosi, Mexico
- + [114] Univ Auckland, Auckland, New Zealand
- + [115] Univ Canterbury, Christchurch, New Zealand
- + [116] Quaid I Azam Univ, Natl Ctr Phys, Islamabad, Pakistan
- + [117] Natl Ctr Nucl Res, Otwock, Poland
- + [118] Univ Warsaw, Fac Phys, Inst Expt Phys, Warsaw, Poland
- + [119] Lab Instrumentacao & Fis Expt Particulas, Lisbon, Portugal
- + [120] Joint Inst Nucl Res, Dubna, Russia
- + [121] Petersburg Nucl Phys Inst, St Petersburg, Russia
- + [122] Inst Nucl Res, Moscow, Russia
- + [123] Inst Theoret & Expt Phys, Moscow, Russia
- + [124] Moscow Inst Phys & Technol, Moscow, Russia
- + [125] Natl Res Nucl Univ, Moscow Engr Phys Inst MEPhI, Moscow, Russia
- + [126] PN Lebedev Phys Inst, Moscow, Russia
- + [127] Lomonosov Moscow State Univ, Skobeltsyn Inst Nucl Phys, Moscow, Russia
- + [128] NSU, Novosibirsk, Russia
- + [129] Kurchatov Inst, Inst High Energy Phys NRC, State Res Ctr Russian Federat, Protvino, Russia
- + [130] Natl Res Tomsk Polytech Univ, Tomsk, Russia
- + [131] Univ Belgrade, Fac Phys, Belgrade, Serbia
- + [132] Univ Belgrade, Vinca Inst Nucl Sci, Belgrade, Serbia
- [133] Ctr Invest Energet Medioambient & Tecnol, Madrid, Spain
- + [134] Univ Autonoma Madrid, Madrid, Spain
- + [135] Univ Oviedo, Oviedo, Spain
- + [136] Univ Cantabria, CSIC, Inst Fis Cantabria IFCA, Santander, Spain
- + [137] CERN, European Org Nucl Res, Geneva, Switzerland
- + [138] Paul Scherrer Inst, Villigen, Switzerland
- + [139] Swiss Fed Inst Technol, Inst Particle Phys & Astrophys IPA, Zurich, Switzerland
- + [140] Univ Zurich, Zurich, Switzerland
- + [141] Natl Cent Univ, Chungli, Taiwan
- + [142] NTU, Taipei, Taiwan
- + [143] Chulalongkorn Univ, Dept Phys, Fac Sci, Bangkok, Thailand
- + [144] Cukurova Univ, Sci & Art Fac, Phys Dept, Adana, Turkey
- + [145] Middle East Tech Univ, Phys Dept, Ankara, Turkey
- + [146] Bogazici Univ, Istanbul, Turkey
- + [147] Istanbul Tech Univ, Istanbul, Turkey
- + [148] Natl Acad Sci Ukraine, Inst Scintillat Mat, Kharkov, Ukraine
- + [149] Kharkov Inst Phys & Technol, Natl Sci Ctr, Kharkov, Ukraine
- + [150] Univ Bristol, Bristol, Avon, England
- + [151] Rutherford Appleton Lab, Didcot, Oxon, England
- + [152] Imperial Coll, London, England
- + [153] Brunel Univ, Uxbridge, Middx, England
- + [154] Baylor Univ, Waco, TX 76798 USA
- + [155] Catholic Univ Amer, Washington, DC 20064 USA
- + [156] Univ Alabama, Tuscaloosa, AL USA
- + [157] Boston Univ, Boston, MA 02215 USA
- + [158] Brown Univ, Providence, RI 02912 USA

- + [159] Univ Calif Davis, Davis, CA 95616 USA
- + [160] Univ Calif Los Angeles, Los Angeles, CA USA
- + [161] Univ Calif Riverside, Riverside, CA 92521 USA
- + [162] Univ Calif San Diego, La Jolla, CA 92093 USA
- + [163] Univ Calif Santa Barbara, Dept Phys, Santa Barbara, CA 93106 USA
- + [164] CALTECH, Pasadena, CA 91125 USA
- + [165] Carnegie Mellon Univ, Pittsburgh, PA 15213 USA
- + [166] Univ Colorado, Boulder, CO 80309 USA
- + [167] Cornell Univ, Ithaca, NY USA
- + [168] Fermilab Natl Accelerator Lab, POB 500, Batavia, IL 60510 USA
- + [169] Univ Florida, Gainesville, FL USA
- + [170] Florida Int Univ, Miami, FL 33199 USA
- + [171] Florida State Univ, Tallahassee, FL 32306 USA
- + [172] Florida Inst Technol, Melbourne, FL 32901 USA
- + [173] UIC, Chicago, IL USA
- + [174] Univ Iowa, Iowa City, IA USA
- + [175] Johns Hopkins Univ, Baltimore, MD USA
- + [176] Univ Kansas, Lawrence, KS USA
- + [177] Kansas State Univ, Manhattan, KS 66506 USA
- + [178] Lawrence Livermore Natl Lab, Livermore, CA USA
- + [179] Univ Maryland, College Pk, MD 20742 USA
- + [180] MIT, 77 Massachusetts Ave, Cambridge, MA 02139 USA
- + [181] Univ Minnesota, Minneapolis, MN USA
- + [182] Univ Mississippi, Oxford, MS USA
- + [183] Univ Nebraska, Lincoln, NE USA
- + [184] SUNY Buffalo, Buffalo, NY USA
- + [185] Northeastern Univ, Boston, MA 02115 USA
- + [186] Northwestern Univ, Evanston, IL USA
- + [187] Univ Notre Dame, Notre Dame, IN 46556 USA
- + [188] Ohio State Univ, Columbus, OH 43210 USA
- + [189] Princeton Univ, Princeton, NJ 08544 USA
- + [190] Univ Puerto Rico, Mayaguez, PR USA
- + [191] Purdue Univ, W Lafayette, IN 47907 USA
- [192] Purdue Univ Northwest, Hammond, LA USA
- + [193] Rice Univ, Houston, TX USA
- + [194] Univ Rochester, Rochester, NY USA
- + [195] Rutgers State Univ, Piscataway, NJ USA
- + [196] Univ Tennessee, Knoxville, TN USA
- + [197] Texas A&M Univ, College Stn, TX USA
- + [198] Texas Tech Univ, Lubbock, TX 79409 USA
- + [199] Vanderbilt Univ, 221 Kirkland Hall, Nashville, TN 37235 USA
- + [200] Univ Virginia, Charlottesville, VA USA
- + [201] Wayne State Univ, Detroit, MI USA
- + [202] Univ Wisconsin, Madison, WI USA
- + [203] Vienna Univ Technol, Vienna, Austria
- + [204] Univ Estadual Campinas, Campinas, SP, Brazil
- + [205] Univ Fed Rio Grande do Sul, Porto Alegre, RS, Brazil
- + [206] Cairo Univ, Cairo, Egypt
- + [207] Helwan Univ, Cairo, Egypt

- + [208] Zewail City Sci & Technol, Zewail, Egypt
- + [209] King Abdulaziz Univ, Dept Phys, Jeddah, Saudi Arabia
- + [210] Univ Haute Alsace, Mulhouse, France
- + [211] Lomonosov Moscow State Univ, Skobeltsyn Inst Nucl Phys, Moscow, Russia
- + [212] Brandenburg Tech Univ Cottbus, Cottbus, Germany
- + [213] Indian Inst Technol Bhubaneswar, Bhubaneswar, India
- + [214] Inst Phys, Bhubaneswar, India
- + [215] Shoolini Univ, Solan, India
- + [216] Univ Visva Bharati, Santini Ketan, W Bengal, India
- + [217] Isfahan Univ Technol, Esfahan, Iran
- + [218] Islamic Azad Univ, Sci & Res Branch, Plasma Phys Res Ctr, Tehran, Iran
- + [219] Univ Siena, Siena, Italy
- + [220] Int Islamic Univ Malaysia, Kuala Lumpur, Malaysia
- [221] Agensi Nuklear Malaysia, MOSTI, Kajang, Malaysia
- [222] Consejo Nacl Ciencia & Technol, Mexico City, DF, Mexico
- + [223] Warsaw Univ Technol, Inst Elect Syst, Warsaw, Poland
- + [224] Uzbek Acad Sci, Inst Nucl Phys, Tashkent, Uzbekistan
- + [225] St Petersburg State Polytech Univ, St Petersburg, Russia
- + [226] Budker Inst Nucl Phys, Novosibirsk, Russia
- + [227] Univ Belgrade, Fac Phys, Belgrade, Serbia
- + [228] Vinca Inst Nucl Sci, Belgrade, Serbia
- + [229] INFN, Scuola Normale Sez, Pisa, Italy
- + [230] Riga Tech Univ, Riga, Latvia
- [231] Stefan Meyer Inst Subat Phys SMI, Vienna, Austria
- + [232] Gaziosmanpasa Univ, Tokat, Turkey
- + [233] Istanbul Aydin Univ, Istanbul, Turkey
- + [234] Mersin Univ, Mersin, Turkey
- + [235] Piri Reis Univ, Istanbul, Turkey
- + [236] Adiyaman Univ, Adiyaman, Turkey
- + [237] Ozyegin Univ, Istanbul, Turkey
- + [238] Izmir Inst Technol, Izmir, Turkey
- + [239] Marmara Univ, Istanbul, Turkey
- + [240] Kafkas Univ, Kars, Turkey
- + [241] Istanbul Bilgi Univ, Istanbul, Turkey
- + [242] Hacettepe Univ, Ankara, Turkey
- [243] Sch Phys & Astron, Southampton, Hants, England
- + [244] Monash Univ, Fac Sci, Clayton, Vic, Australia
- [245] Bethel Univ, St Paul, MN USA
- + [246] Karamanoglu Mehmetbey Univ, Karaman, Turkey
- + [247] Utah Valley Univ, Orem, UT USA
- + [248] Beykent Univ, Istanbul, Turkey
- + [249] Bingol Univ, Bingol, Turkey
- + [250] Sinop Univ, Sinop, Turkey
- + [251] Mimar Sinan Univ, Istanbul, Turkey
- + [252] Texas A&M Univ Qatar, Doha, Qatar

Funding

Funding Agency	Grant Number
BMBWF (Austria)	

FWF (Austria)	
FNRS (Belgium)	
FWO (Belgium)	
CNPq (Brazil)	
CAPES (Brazil)	
FAPERJ (Brazil)	
FAPERGS (Brazil)	
FAPESP (Brazil)	
MES (Bulgaria)	
CERN	
CAS (China)	
MoST (China)	
NSFC (China)	
COLCIENCIAS (Colombia)	
MSES (Croatia)	
CSF (Croatia)	
RPF (Cyprus)	
SENESCYT (Ecuador)	
MoER (Estonia)	
ERC IUT (Estonia)	
ERDF (Estonia)	
Academy of Finland (Finland)	
MEC (Finland)	
HIP (Finland)	
CEA (France)	
CNRS/IN2P3 (France)	
BMBF (Germany)	
DFG (Germany)	
HGF (Germany)	
GSRT (Greece)	
NKfIA (Hungary)	
DAE (India)	
DST (India)	
IPM (Iran)	
SFI (Ireland)	
INFN (Italy)	
MSIP (Republic of Korea)	
NRF (Republic of Korea)	
MES (Latvia)	
LAS (Lithuania)	
MOE (Malaysia)	
UM (Malaysia)	
BUAP (Mexico)	
CINVESTAV (Mexico)	
CONACYT (Mexico)	
LNS (Mexico)	
SEP (Mexico)	

UASLP-FAI (Mexico)	
MOS (Montenegro)	
MBIE (New Zealand)	
PAEC (Pakistan)	
MESTD (Serbia)	
SEIDI (Spain)	
CPAN (Spain)	
PCTI (Spain)	
FEDER (Spain)	
MOSTR (Sri Lanka)	
Swiss Funding Agencies (Switzerland)	
MST (Taipei)	
TheEPCenter (Thailand)	
IPST (Thailand)	
STAR (Thailand)	
NSTDA (Thailand)	
TUBITAK (Turkey)	
TAEK (Turkey)	
NASU (Ukraine)	
SFFR (Ukraine)	
STFC (United Kingdom)	
DOE (U.S.A.)	
NSF (U.S.A.)	
Marie-Curie programme (European Union)	
European Research Council (European Union)	675440
Horizon 2020 (European Union)	675440
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)	
F.R.S.-FNRS (Belgium)	30820817
FWO (Belgium)	30820817
Ministry of Education, Youth and Sports (MEYS) of the Czech Republic	
Lendulet ("Momentum") Programme of the Hungarian Academy of Sciences (Hungary)	
Janos Bolyai Research Scholarship of the Hungarian Academy of Sciences (Hungary)	
New National Excellence Program UNKP (Hungary)	
NKFIA (Hungary)	123842 123959 124845 124850 125105
Council of Science and Industrial Research, India	
HOMING PLUS programme of the Foundation for Polish Science (Poland)	Harmonia 2014/14/M/ST2/00428 Opus 2014/13/B/ST2/02543 2014/15/B/ST2/03998 2015/19/B/ST2/02861

	Sonata-bis 2012/07/E/ST2/01406
European Union, Regional Development Fund (Poland)	Harmonia 2014/14/M/ST2/00428 Opus 2014/13/B/ST2/02543 2014/15/B/ST2/03998 2015/19/B/ST2/02861 Sonata-bis 2012/07/E/ST2/01406
Mobility Plus programme of the Ministry of Science and Higher Education (Poland)	Harmonia 2014/14/M/ST2/00428 Opus 2014/13/B/ST2/02543 2014/15/B/ST2/03998 2015/19/B/ST2/02861 Sonata-bis 2012/07/E/ST2/01406
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 Sonata-bis 2012/07/E/ST2/01406
National Priorities Research Program by Qatar National Research Fund	
Programa Estatal de Fomento de la Investigacion Cientfica y Tecnica de Excelencia Maria de Maeztu	MDM-2015-0509
Programa Severo Ochoa del Principado de Asturias	
Thalis programme - EU-ESF	
Aristeia programme - EU-ESF	
Greek NSRF	
Chulalongkorn University (Thailand)	
Chulalongkorn Academic into Its 2nd Century Project Advancement Project (Thailand)	
Welch Foundation	C-1845
Weston Havens Foundation (U.S.A.)	

[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 3 ▶

Cited References: 85

Showing 30 of 85 [View All in Cited References page](#)

(from Web of Science Core Collection)

1. [Search for heavy neutrinos and right-handed W bosons in events with two leptons and jets in pp collisions at root s=7 TeV with the ATLAS detector](#) Times Cited: 86
By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
Group Author(s): ATLAS Collaboration
EUROPEAN PHYSICAL JOURNAL C Volume: 72 Issue: 7 Article Number: 2056 Published: JUL 2012

2. [Search for heavy Majorana neutrinos with the ATLAS detector in pp collisions at root s=8 TeV](#) Times Cited: 89
 By: Aad, G.; Abbott, B.; Abdallah, J.; et al.
 Group Author(s): ATLAS Collaboration
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 7 Article Number: 162 Published: JUL 29 2015

3. [Angular analysis of the B-0 -> K*\(0\) mu\(+\) mu\(-\) decay using 3 fb\(-1\) of integrated luminosity](#) Times Cited: 272
 By: Aaij, R.; Beteta, C. Abelian; Adeva, B.; et al.
 Group Author(s): LHCb Collaboration
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 2 Article Number: 104 Published: FEB 16 2016

4. [Test of Lepton Universality Using B+ -> K\(+\)\(+\)\(-\) Decays](#) Times Cited: 500
 By: Aaij, R.; Adeva, B.; Adinolfi, M.; et al.
 Group Author(s): LHCb Collaboration
 PHYSICAL REVIEW LETTERS Volume: 113 Issue: 15 Article Number: 151601 Published: OCT 6 2014

5. [Measurement of Form-Factor-Independent Observables in the Decay B-0 -> K*\(0\)mu\(+\)\(-\)](#) Times Cited: 321
 By: Aaij, R.; Adeva, B.; Adinolfi, M.; et al.
 Group Author(s): LHCb Collaboration
 PHYSICAL REVIEW LETTERS Volume: 111 Issue: 19 Article Number: 191801 Published: NOV 4 2013

6. [The PDF4LHC Working Group Interim Report](#) Times Cited: 110
 By: Alekhin, S.
 arXiv:1101.0536

7. [The automated computation of tree-level and next-to-leading order differential cross sections, and their matching to parton shower simulations](#) Times Cited: 2,240
 By: Alwall, J.; Frederix, R.; Frixione, S.; et al.
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 7 Article Number: 079 Published: JUL 17 2014

8. [Procedure for the LHC Higgs boson search combination in Summer 2011](#) Times Cited: 16
 Group Author(s): ATLAS, CMS collaborations and LHC Higgs Combination Group
 CMS-NOTE-2011-005 Published: 2011

9. [Search for third generation scalar leptoquarks in pp collisions at &RADIC;s=7 TeV with the ATLAS detector](#) Times Cited: 23
 Group Author(s): ATLAS collaboration
 JHEP Volume: 06 Pages: 033 Published: 2013
 [arXiv: 1303.0526] [INSPIRE]

10. [Evidence for an excess of B D-decays](#) Times Cited: 19
 Group Author(s): BaBar collaboration
 Phys. Rev. Lett Volume: 109 Article Number: 101802 Published: 2012
 [arXiv:1205. 5442] [INSPIRE]

11. [R-parity-violating supersymmetry](#) Times Cited: 671
 By: Barbier, R; Berat, C; Besancon, M; et al.
 PHYSICS REPORTS-REVIEW SECTION OF PHYSICS LETTERS Volume: 420 Issue: 1-6 Pages: 1-195 Published: NOV 2005

12. [FITTING USING FINITE MONTE-CARLO SAMPLES](#) Times Cited: 192
 By: BARLOW, R; BEESTON, C
 COMPUTER PHYSICS COMMUNICATIONS Volume: 77 Issue: 2 Pages: 219-228 Published: OCT 1993

13. [Upper bound on the dark matter total annihilation cross section](#) Times Cited: 100
 By: Beacom, John F.; Bell, Nicole F.; Mack, Gregory D.
 PHYSICAL REVIEW LETTERS Volume: 99 Issue: 23 Article Number: 231301 Published: DEC 7 2007

14. [Lifetime constraints for late dark matter decay](#) Times Cited: 31
 By: Bell, Nicole F.; Galea, Ahmad J.; Petraki, Kalliopi
 PHYSICAL REVIEW D Volume: 82 Issue: 2 Article Number: 023514 Published: JUL 16 2010

15. **Measurement of the branching ratio of B D-decays with hadronic tagging at Belle** Times Cited: 16
 Group Author(s): Belle collaboration
 Phys. Rev. D Volume: 92 Article Number: 072014 Published: 2015
 [arXiv:1507.03233] [INSPIRE].
16. **Measurement of the lepton polarization and $R(D^*)$ in the decay B D-** Times Cited: 15
 Group Author(s): Belle collaboration
 Phys. Rev. Lett. Volume: 118 Article Number: 211801 Published: 2017
 [arXiv:1612.00529] [INSPIRE]
17. **The PDF4LHC Working Group interim recommendations** Times Cited: 247
 By: Botje, M.
 arXiv:1101.0538
18. **CONSTRAINTS ON SU(5)-TYPE LEPTOQUARKS** Times Cited: 178
 By: BUCHMULLER, W; WYLER, D
 PHYSICS LETTERS B Volume: 177 Issue: 3-4 Pages: 377-382 Published: SEP 18 1986
19. **PDF4LHC recommendations for LHC Run II** Times Cited: 333
 By: Butterworth, Jon; Carrazza, Stefano; Cooper-Sarkar, Amanda; et al.
 JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS Volume: 43 Issue: 2 Article Number: 023001 Published: FEB 2016
20. **FastJet user manual** Times Cited: 1,747
 By: Cacciari, Matteo; Salam, Gavin P; Soyez, Gregory
 EUROPEAN PHYSICAL JOURNAL C Volume: 72 Issue: 3 Article Number: 1896 Published: MAR 2012
21. **The anti-k(t) jet clustering algorithm** Times Cited: 2,310
 By: Cacciari, Matteo; Salam, Gavin P; Soyez, Gregory
 JOURNAL OF HIGH ENERGY PHYSICS Issue: 4 Article Number: 063 Published: APR 2008
22. **Pileup subtraction using jet areas** Times Cited: 484
 By: Cacciari, Matteo; Salam, Gavin P.
 PHYSICS LETTERS B Volume: 659 Issue: 1-2 Pages: 119-126 Published: JAN 17 2008
23. **Determination of jet energy calibration and transverse momentum resolution in CMS** Times Cited: 465
 By: Chatrchyan, S.; Khachatryan, V.; Sirunyan, A. M.; et al.
 Group Author(s): CMS Collaboration
 JOURNAL OF INSTRUMENTATION Volume: 6 Article Number: P11002 Published: NOV 2011
24. **The CMS experiment at the CERN LHC** Times Cited: 2,053
 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
25. Title: [not available] Times Cited: 2
 Group Author(s): CMS Coll
 J. High Energy Phys. Volume: 07 Pages: 115 Published: 2018
26. **Study of pileup removal algorithms for jets** Times Cited: 3
 Group Author(s): CMS collaboration
 CMS-PAS-JME-16-001 Published: 2016
27. **Performance of missing transverse momentum in pp collisions at $s = 13 \sqrt{s} = 13$ TeV using the CMS detector** Times Cited: 2
 Group Author(s): CMS collaboration
 CMS-PAS-JME-17-001 Published: 2017
28. **CMS luminosity measurement for the 2016 data taking period** Times Cited: 83

Group Author(s): CMS Collaboration
CMS Physics Analysis Summary CMS-PAS-LUM-17-001 Published: 2017
Publisher: CERN

29. **Jet algorithms performance in 13 TeV data**

Times Cited: 8

Group Author(s): CMS Collaboration
CMS Physics Analysis Summary Report No. CMS-PAS-JME-16-003 Published: 2016

30. **Search for a heavy right-handed W boson and a heavy neutrino in events with two same-flavor leptons and two jets at s**

Times Cited: 10

$\sqrt{s} = 13$ TeV

Group Author(s): CMS collaboration
JHEP Volume: 05 Pages: 148 Published: 2018

Showing 30 of 85 [View All in Cited References page](#)

Clarivate

Accelerating innovation

© 2019 Clarivate [Copyright notice](#) [Terms of use](#) [Privacy statement](#) [Cookie policy](#)

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

