



# Luca Pernié

## *Selected Publication List*

### Analysis note, physics notes and publications

- CMS PAS A Search for BSM Light Bosons Decaying into Muon Pairs  
HIG-16-035
- CMS AN A Search for Beyond Standard Model Light Bosons Decaying into Muon Pairs  
2016-044
- CMS Performance of Track-based Muon Alignment.  
DP-2016/053
- Eur. Phys. J. C 75 (2015) 511 Measurements of the ZZ production cross sections in the  $2l2\nu$  channel in proton-proton collisions at  $\sqrt{s} = 7$  and 8 TeV and combined constraints on triple gauge couplings.
- CMS Simulation studies on precise timing information during High Luminosity LHC.  
CR-2015/101
- NIMA Response of microchannel plates to single particles and to electromagnetic showers (Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, doi:10.1016/j.nima.2015.06.057)
- CMS CR Measurement of the ZZ production cross section in the  $2l2\nu$  decay channel and limits on anomalous triple gauge couplings (preliminary results).  
2014/181
- CMS AN Performance of jets and missing transverse energy with fast ECAL timing.  
2014/088
- CMS DN Studies on a precision timing electromagnetic calorimeter for the CMS upgrade.  
2014/06
- CMS CR ZZ cross section measurements and limits on anomalous coupling constants for neutral triple gauge boson.  
013/453
- CMS AN Bounding the Higgs width using Z to ll events with high missing transverse energy.  
2013/411
- CMS AN CMS ECAL calibration with  $\pi^0$  and  $\eta$  in the LHC RUN1.  
2013/344
- CMS AN Search for  $Z(\rightarrow ll) H(\rightarrow \text{invisible})$  at  $\sqrt{s} = 7$  and 8 TeV.  
2013/333

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- CMS CR 2013/284 Evolution of the response of the CMS ECAL, and upgrade design options for electromagnetic calorimetry at the HL-LHC, CMS Conference report.
- CMS PAS SMP-12-016 Measurements of the ZZ production cross sections in the 2l2nu channel in proton-proton collisions at  $\sqrt{s} = 7$  and 8 TeV and combined constraints on triple gauge couplings.
- CMS AN 2012/371 Search for a high-mass Higgs boson in the  $H \rightarrow ZZ \rightarrow 2l2\nu$  decay channel in pp collisions with the CMS detector.
- CMS AN 2012/148 Measurement of ZZ production cross section at 7 and 8 TeV and anomalous gauge couplings limits in 2l2nu decay channel.
- CMS AN 2012/138 Search for the Higgs boson in the  $H \rightarrow ZZ \rightarrow 2l2\nu$  decay channel in pp collisions with the CMS detector.
- CMS AN 2012/123 Search for Invisible Higgs Decays in the  $ZH \rightarrow ll + \text{MET}$  channel.
- CMS AN 2012/004 Search for a Standard Model Higgs boson in the decay channel  $H \rightarrow WW \rightarrow lvjj$ .
- CMS AN 2011/432 Search for Higgs Boson Decays to two W Bosons in the Fully Leptonic Final State with Full 2011 pp Dataset at  $\sqrt{s} = 7$  TeV.
- CMS AN 2011/110 Search for a Standard Model Higgs boson produced via vector boson fusion, in the decay channel  $H \rightarrow WW \rightarrow lvjj$ .

## Publications in the CMS collaboration

1. **“Search for pair production of vector-like quarks in the  $bW\bar{b}W$  channel from proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1710.01539 [hep-ex]  
CMS-B2G-17-003, CERN-EP-2017-224
2. **“Search for low mass vector resonances decaying into quark-antiquark pairs in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1710.00159 [hep-ex]  
CMS-EXO-17-001, CERN-EP-2017-235
3. **“Search for supersymmetry in events with one lepton and multiple jets exploiting the angular correlation between the lepton and the missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1709.09814 [hep-ex]  
CMS-SUS-16-042, CERN-EP-2017-201
4. **“Observation of correlated azimuthal anisotropy Fourier harmonics in pp and pPb collisions at the LHC”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1709.09189 [nucl-ex]  
CMS-HIN-16-022, CERN-EP-2017-220
5. **“Search for new phenomena in final states with two opposite-charge, same-flavor leptons,**

**jets, and missing transverse momentum in pp collisions at  $\sqrt{s} = 13$  TeV"**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.08908 [hep-ex]

CMS-SUS-16-034, CERN-EP-2017-170

6. **"Measurements of the  $pp \rightarrow ZZ$  production cross section and the  $Z \rightarrow 4\ell$  branching fraction, and constraints on anomalous triple gauge couplings at  $\sqrt{s} = 13$  TeV"**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.08601 [hep-ex]

CMS-SMP-16-017, CERN-EP-2017-219

7. **"Evidence for the Higgs boson decay to a bottom quark-antiquark pair"**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.07497 [hep-ex]

CMS-HIG-16-044, CERN-EP-2017-233

8. **"Observation of top quark production in proton-nucleus collisions"**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.07411 [nucl-ex]

CMS-HIN-17-002, CERN-EP-2017-239

9. **"Observation of electroweak production of same-sign W boson pairs in the two jet and two same-sign lepton final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV"**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.05822 [hep-ex]

CMS-SMP-17-004, CERN-EP-2017-232

10. **"Inclusive search for a highly boosted Higgs boson decaying to a bottom quark-antiquark pair"**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.05543 [hep-ex]

CMS-HIG-17-010, CERN-EP-2017-207

11. **"Search for electroweak production of charginos and neutralinos in multilepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV"**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.05406 [hep-ex]

CMS-SUS-16-039, CERN-EP-2017-121

12. **"Combination of inclusive and differential  $t\bar{t}$  charge asymmetry measurements using ATLAS and CMS data at  $\sqrt{s} = 7$  and 8 TeV"**

M. Aaboud *et al.* [ATLAS and CMS Collaborations].

arXiv:1709.05327 [hep-ex]

CMS-TOP-15-016, ATLAS-TOPQ-2016-16, CERN-EP-2017-236

13. **"Search for higgsino pair production in pp collisions at  $\sqrt{s} = 13$  TeV in final states with large missing transverse momentum and two Higgs bosons decaying via  $H \rightarrow b\bar{b}$ "**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.04896 [hep-ex]

CMS-SUS-16-044, CERN-EP-2017-127

14. **"Search for supersymmetry with Higgs boson to diphoton decays using the razor variables at  $\sqrt{s} = 13$  TeV"**

A. M. Sirunyan *et al.* [CMS Collaboration].

arXiv:1709.00384 [hep-ex]

CMS-SUS-16-045, CERN-EP-2017-158

15. **"Measurement of the splitting function in pp and PbPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV"**

A. M. Sirunyan *et al.* [CMS Collaboration].

- arXiv:1708.09429 [nucl-ex]  
CMS-HIN-16-006, CERN-EP-2017-205
16. **“Challenges to the chiral magnetic wave using charge-dependent azimuthal anisotropies in pPb and PbPb collisions at  $\sqrt{[b]s_{NN}} = 5.02$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.08901 [nucl-ex]  
CMS-HIN-16-0017, CERN-EP-2017-180
  17. **“Search for heavy resonances decaying to a top quark and a bottom quark in the lepton+jets final state in proton-proton collisions at 13 TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.08539 [hep-ex]  
CMS-B2G-17-010, CERN-EP-2017-196
  18. **“Search for evidence of the type-III seesaw mechanism in multilepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.07962 [hep-ex]  
CMS-EXO-17-006, CERN-EP-2017-194
  19. **“Measurement of normalized differential t-tbar cross sections in the dilepton channel from pp collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.07638 [hep-ex]  
CMS-TOP-16-007, CERN-EP-2017-120
  20. **“Principal-component analysis of two-particle azimuthal correlations in PbPb and pPb collisions at CMS”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.07113 [nucl-ex]  
CMS-HIN-15-010, CERN-EP-2017-133
  21. **“Search for massive resonances decaying into WW, WZ, ZZ, qW, and qZ with dijet final states at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.05379 [hep-ex]  
CMS-B2G-17-001, CERN-EP-2017-184
  22. **“Nuclear modification factor of D0 mesons in PbPb collisions at  $\sqrt{s[NN]} = 5.02$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.04962 [nucl-ex]  
CMS-HIN-16-001, CERN-EP-2017-186
  23. **“Search for resonant and nonresonant Higgs boson pair production in the bbl $\nu$ l $\nu$  final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.04188 [hep-ex]  
CMS-HIG-17-006, CERN-EP-2017-168
  24. **“Measurement of prompt  $D^0$  meson azimuthal anisotropy in PbPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.03497 [nucl-ex]  
CMS-HIN-16-007, CERN-EP-2017-174
  25. **“Measurement of vector boson scattering and constraints on anomalous quartic couplings from events with four leptons and two jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**

- A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.02812 [hep-ex]  
CMS-SMP-17-006, CERN-EP-2017-177
26. **“Search for vector-like light-flavor quark partners in proton-proton collisions at  $\sqrt{s}=8$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.02510 [hep-ex]  
CMS-B2G-12-016, CERN-EP-2017-145
  27. **“Constraints on the chiral magnetic effect using charge-dependent azimuthal correlations in pPb and PbPb collisions at the LHC”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.01602 [nucl-ex]  
CMS-HIN-17-001, CERN-EP-2017-193
  28. **“Search for single production of a vector-like T quark decaying to a Z boson and a top quark in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.01062 [hep-ex]  
CMS-B2G-17-007, CERN-EP-2017-155
  29. **“Observation of the Higgs boson decay to a pair of tau leptons”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1708.00373 [hep-ex]  
CMS-HIG-16-043, CERN-EP-2017-181
  30. **“Search for a light pseudoscalar Higgs boson produced in association with bottom quarks in pp collisions at  $\sqrt{s}=8$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.07283 [hep-ex]  
CMS-HIG-15-009, CERN-EP-2017-159
  31. **“Search for the pair production of third-generation squarks with two-body decays to a bottom or charm quark and a neutralino in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.07274 [hep-ex]  
CMS-SUS-16-032, CERN-EP-2017-144
  32. **“Search for supersymmetry in events with at least one photon, missing transverse momentum, and large transverse event activity in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.06193 [hep-ex]  
CMS-SUS-16-047, CERN-EP-2017-130
  33. **“Measurement of the differential cross sections for the associated production of a W boson and jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.05979 [hep-ex]  
CMS-SMP-16-005, CERN-EP-2017-142
  34. **“Search for natural supersymmetry in events with top quark pairs and photons in pp collisions at  $\sqrt{s} = 8$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.03325 [hep-ex]  
CMS-SUS-15-009, CERN-EP-2017-124
  35. **“Search for direct production of supersymmetric partners of the top quark in the all-jets final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**

- A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.03316 [hep-ex]  
DOI:10.1007/JHEP10(2017)005  
JHEP **1710**, 005 (2017)  
CMS-SUS-16-049, CERN-EP-2017-129
36. **“Search for Higgs boson pair production in events with two bottom quarks and two tau leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.02909 [hep-ex]  
CMS-HIG-17-002, CERN-EP-2017-126
  37. **“Search for heavy resonances that decay into a vector boson and a Higgs boson in hadronic final states at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.01303 [hep-ex]  
DOI:10.1140/epjc/s10052-017-5192-z  
Eur. Phys. J. C **77**, no. 9, 636 (2017)  
CMS-B2G-17-002, CERN-EP-2017-128
  38. **“Constraints on anomalous Higgs boson couplings using production and decay information in the four-lepton final state”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.00541 [hep-ex]  
CMS-HIG-17-011, CERN-EP-2017-143
  39. **“A search for Higgs boson pair production in the bbtatau final state in proton-proton collisions at  $\sqrt{s} = 8$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1707.00350 [hep-ex]  
CMS-HIG-215-013, CERN-EP-2017-104
  40. **“Measurement of charged pion, kaon, and proton production in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.10194 [hep-ex]  
CMS-FSQ-16-004, CERN-EP-2017-091
  41. **“Measurements of properties of the Higgs boson decaying into the four-lepton final state in pp collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.09936 [hep-ex]  
CMS-HIG-16-041, CERN-EP-2017-123
  42. **“Search for electroweak production of charginos and neutralinos in WH events in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.09933 [hep-ex]  
CMS-SUS-16-043, CERN-EP-2017-113
  43. **“Search for a heavy composite Majorana neutrino in the final state with two leptons and two quarks at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.08578 [hep-ex]  
CMS-EXO-16-026, CERN-EP-2017-125
  44. **“Exclusive and semi-exclusive  $\pi^+\pi^-$  production in proton-proton collisions at  $\sqrt{s} = 7$  TeV”**  
V. Khachatryan *et al.* [CMS Collaboration].

- arXiv:1706.08310 [hep-ex]  
CMS-FSQ-12-004, CERN-EP-2016-261
45. **"Measurement of the semileptonic  $t\bar{t} + \ell\bar{\nu}$  production cross section in pp collisions at  $\sqrt{s} = 8$  TeV"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.08128 [hep-ex]  
DOI:10.1007/JHEP10(2017)006  
JHEP **1710**, 006 (2017)  
CMS-TOP-14-008, CERN-EP-2017-112
  46. **"Suppression of excited Upsilon states relative to the ground state in PbPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.05984 [hep-ex]  
CMS-HIN-16-008, CERN-EP-2017-080
  47. **"Measurements of jet charge with dijet events in pp collisions at  $\sqrt{s} = 8$  TeV"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.05868 [hep-ex]  
CMS-SMP-15-003, CERN-EP-2017-085
  48. **"Particle-flow reconstruction and global event description with the CMS detector"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.04965 [physics.ins-det]  
CMS-PRF-14-001, CERN-EP-2017-110
  49. **"Search for top squark pair production in pp collisions at  $\sqrt{s}=13$  TeV using single lepton events"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.04402 [hep-ex]  
CMS-SUS-16-051, CERN-EP-2017-109
  50. **"Searches for  $W\tilde{A}\tilde{s}$  bosons decaying to a top quark and a bottom quark in proton-proton collisions at 13 TeV"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.04260 [hep-ex]  
DOI:10.1007/JHEP08(2017)029  
JHEP **1708**, 029 (2017)  
CMS-B2G-16-016, CERN-EP-2017-090
  51. **"Search for new physics in the monophoton final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.03794 [hep-ex]  
CMS-EXO-16-039, CERN-EP-2017-097
  52. **"Search for pair production of vector-like T and B quarks in single-lepton final states using boosted jet substructure techniques at  $\sqrt{s} = 13$  TeV"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.03408 [hep-ex]  
CMS-B2G-16-024, CERN-EP-2017-107
  53. **"Search for dark matter produced in association with heavy-flavor quarks in proton-proton collisions at  $\sqrt{s}=13$  TeV"**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1706.02581 [hep-ex]  
CMS-EXO-16-005, CERN-EP-2017-087
  54. **"Search for top quark partners with charge 5/3 in proton-proton collisions at  $\sqrt{s} = 13$  TeV"**

TeV”

A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.10967 [hep-ex]  
DOI:10.1007/JHEP08(2017)073  
JHEP **1708**, 073 (2017)  
CMS-B2G-15-006, CERN-EP-2017-102

55. **“Search for Low Mass Vector Resonances Decaying to Quark-Antiquark Pairs in Proton-Proton Collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.10532 [hep-ex]  
DOI:10.1103/PhysRevLett.119.111802  
Phys. Rev. Lett. **119**, no. 11, 111802 (2017)  
CMS-EXO-16-030, CERN-EP-2017-098
56. **“Measurements of  $t\bar{t}$  cross sections in association with b jets and inclusive jets and their ratio using dilepton final states in pp collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.10141 [hep-ex]  
CMS-TOP-16-010, CERN-EP-2017-069
57. **“Combination of searches for heavy resonances decaying to WW, WZ, ZZ, WH, and ZH boson pairs in proton-proton collisions at  $\sqrt{s} = 8$  and 13 TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.09171 [hep-ex]  
CMS-B2G-16-007, CERN-EP-2017-077
58. **“Measurement of  $B^{+/-}$  meson differential production cross sections in pp and PbPb collisions at  $\sqrt{s[NN]} = 5.02$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.04727 [hep-ex]  
CMS-HIN-16-011, CERN-EP-2017-076
59. **“Search for supersymmetry in pp collisions at  $\sqrt{s} = 13$  TeV in the single-lepton final state using the sum of masses of large-radius jets”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.04673 [hep-ex]  
CMS-SUS-16-037, CERN-EP-2017-088
60. **“Search for new phenomena with the  $MT_2$  variable in the all-hadronic final state produced in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.04650 [hep-ex]  
CMS-SUS-16-036, CERN-EP-2017-084
61. **“Search for Charged Higgs Bosons Produced via Vector Boson Fusion and Decaying into a Pair of W and Z Bosons Using  $pp$  Collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.02942 [hep-ex]  
DOI:10.1103/PhysRevLett.119.141802  
Phys. Rev. Lett. **119**, no. 14, 141802 (2017)  
CMS-HIG-16-027, CERN-EP-2017-068
62. **“Measurement of the triple-differential dijet cross section in proton-proton collisions at  $\sqrt{s} = 8$  TeV and constraints on parton distribution functions”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.02628 [hep-ex]  
CMS-SMP-16-011, CERN-EP-2017-061



63. **“Search for black holes in high-multiplicity final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1705.01403 [hep-ex]  
CMS-EXO-15-007, CERN-EP-2017-074
64. **“Search for supersymmetry in multijet events with missing transverse momentum in proton-proton collisions at 13 TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1704.07781 [hep-ex]  
DOI:10.1103/PhysRevD.96.032003  
Phys. Rev. D **96**, no. 3, 032003 (2017)  
CMS-SUS-16-033, CERN-EP-2017-072
65. **“Search for physics beyond the standard model in events with two leptons of same sign, missing transverse momentum, and jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1704.07323 [hep-ex]  
DOI:10.1140/epjc/s10052-017-5079-z  
Eur. Phys. J. C **77**, no. 9, 578 (2017)  
CMS-SUS-16-035, CERN-EP-2017-071
66. **“Measurement of the top quark mass in the dileptonic  $t\bar{t}$  decay channel using the mass observables  $M_{b\ell}$ ,  $M_{T2}$ , and  $M_{b\ell\nu}$  in pp collisions at  $\sqrt{s} = 8$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1704.06142 [hep-ex]  
DOI:10.1103/PhysRevD.96.032002  
Phys. Rev. D **96**, no. 3, 032002 (2017)  
CMS-TOP-15-008, CERN-EP-2017-050
67. **“Search for  $t\bar{t}$  resonances in highly boosted lepton+jets and fully hadronic final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1704.03366 [hep-ex]  
DOI:10.1007/JHEP07(2017)001  
JHEP **1707**, 001 (2017)  
CMS-B2G-16-015, CERN-EP-2017-049
68. **“Measurements of the  $pp \rightarrow W\gamma\gamma$  and  $pp \rightarrow Z\gamma\gamma$  cross sections and limits on anomalous quartic gauge couplings at  $\sqrt{s} = 8$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1704.00366 [hep-ex]  
CMS-SMP-15-008, CERN-EP-2017-039
69. **“Search for new physics with dijet angular distributions in proton-proton collisions at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1703.09986 [hep-ex]  
DOI:10.1007/JHEP07(2017)013  
JHEP **1707**, 013 (2017)  
CMS-EXO-15-009, CERN-EP-2017-047
70. **“Search for a heavy resonance decaying to a top quark and a vector-like top quark at  $\sqrt{s} = 13$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
arXiv:1703.06352 [hep-ex]  
DOI:10.1007/JHEP09(2017)053

JHEP **1709**, 053 (2017)  
CMS-B2G-16-013, CERN-EP-2017-035

71. **“Measurement of the jet mass in highly boosted  $t\bar{t}$  events from pp collisions at  $\sqrt{s} = 8$  TeV”**  
A. M. Sirunyan *et al.* [CMS Collaboration].  
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112. **“Relative Modification of Prompt  $J/\psi(2S)$  and  $J/\psi$  Yields from pp to PbPb Collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”**  
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113. **“A search for new phenomena in pp collisions at  $\sqrt{s} = 13$  TeV in final states with missing transverse momentum and at least one jet using the  $\alpha_T$  variable”**  
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  120. **“Search for top quark decays via Higgs-boson-mediated flavor-changing neutral currents in pp collisions at  $\sqrt{s} = 8$  TeV”**  
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123. **“Search for anomalous  $Wtb$  couplings and flavour-changing neutral currents in t-channel single top quark production in pp collisions at  $\sqrt{s} = 7$  and 8 TeV”**  
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125. **“Cross section measurement of  $t$ -channel single top quark production in pp collisions at  $\sqrt{s} = 13$  TeV”**  
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131. **“Measurement of the WZ production cross section in pp collisions at  $\sqrt{s} = 7$  and 8 TeV and search for anomalous triple gauge couplings at  $\sqrt{s} = 8$  TeV”**  
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  150. **“Search for new physics in final states with two opposite-sign, same-flavor leptons, jets, and missing transverse momentum in pp collisions at  $\sqrt{s} = 13$  TeV”**  
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152. **“Searches for  $R$ -parity-violating supersymmetry in  $pp$  collisions at  $\sqrt{s} = 8$  TeV in final states with 0-4 leptons”**  
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157. **“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”**  
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161. **“Search for top squark pair production in compressed-mass-spectrum scenarios in proton-proton collisions at  $\sqrt{s} = 8\text{ TeV}$  using the  $\alpha_T$  variable”**  
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162. **“Coherent  $J/\psi$  photoproduction in ultra-peripheral PbPb collisions at  $\sqrt{s_{NN}} = 2.76\text{ TeV}$  with the CMS experiment”**  
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167. **“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”**  
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168. **“Measurement of the integrated and differential  $t\bar{t}$  production cross sections for high- $p_t$  top quarks in  $pp$  collisions at  $\sqrt{s} = 8$  TeV”**  
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170. **“Pseudorapidity dependence of long-range two-particle correlations in  $p$ Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”**  
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171. **“Search for lepton flavour violating decays of heavy resonances and quantum black holes to an  $e\mu$  pair in proton-proton collisions at  $\sqrt{s} = 8$  TeV”**  
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172. **“Evidence for exclusive  $\gamma\gamma \rightarrow W^+W^-$  production and constraints on anomalous quartic gauge couplings in  $pp$  collisions at  $\sqrt{s} = 7$  and 8 TeV”**  
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  174. **“Search for two Higgs bosons in final states containing two photons and two bottom quarks in proton-proton collisions at 8 TeV”**  
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  176. **“Measurements of  $t\bar{t}$  charge asymmetry using dilepton final states in pp collisions at  $\sqrt{s} = 8$  TeV”**  
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  177. **“Search for new physics with the  $M_{T2}$  variable in all-jets final states produced in pp collisions at  $\sqrt{s} = 13$  TeV”**  
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  178. **“Search for neutral resonances decaying into a Z boson and a pair of b jets or  $\tau$  leptons”**  
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  179. **“ $\Upsilon(nS)$  polarizations versus particle multiplicity in pp collisions at  $\sqrt{s} = 7$  TeV”**  
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  180. **“Search for s channel single top quark production in pp collisions at  $\sqrt{s} = 7$  and 8 TeV”**



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181. **“Measurement of the t-tbar production cross section in the e-mu channel in proton-proton collisions at  $\sqrt{s} = 7$  and 8 TeV”**  
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182. **“Search for heavy Majorana neutrinos in  $e^+e^+ + \text{jets}$  and  $e^+ \mu^+ + \text{jets}$  events in proton-proton collisions at  $\sqrt{s} = 8$  TeV”**  
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183. **“Measurement of the differential cross section and charge asymmetry for inclusive  $pp \rightarrow W^\pm + X$  production at  $\sqrt{s} = 8$  TeV”**  
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184. **“Search for direct pair production of supersymmetric top quarks decaying to all-hadronic final states in pp collisions at  $\sqrt{s} = 8$  TeV”**  
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185. **“Measurements of the  $t\bar{t}$  production cross section in lepton+jets final states in pp collisions at 8 TeV and ratio of 8 to 7 TeV cross sections”**  
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186. **“Search for supersymmetry in electroweak production with photons and large missing transverse energy in pp collisions at  $\sqrt{s} = 8$  TeV”**  
V. Khachatryan *et al.* [CMS Collaboration].  
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187. **“Search for heavy resonances decaying to two Higgs bosons in final states containing four b quarks”**  
V. Khachatryan *et al.* [CMS Collaboration].

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188. **“Measurement of the  $Z\gamma \rightarrow \nu\bar{\nu}\gamma$  production cross section in pp collisions at  $\sqrt{s} = 8$  TeV and limits on anomalous  $ZZ\gamma$  and  $Z\gamma\gamma$  trilinear gauge boson couplings”**  
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189. **“Search for supersymmetry in the multijet and missing transverse momentum final state in pp collisions at 13 TeV”**  
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190. **“Measurement of dijet azimuthal decorrelation in pp collisions at  $\sqrt{s} = 8$  TeV”**  
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191. **“Search for R-parity violating decays of a top squark in proton-proton collisions at  $\sqrt{s} = 8$  TeV”**  
V. Khachatryan *et al.* [CMS Collaboration].  
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192. **“Combined search for anomalous pseudoscalar HVV couplings in  $VH(H \rightarrow b\bar{b})$  production and  $H \rightarrow VV$  decay”**  
V. Khachatryan *et al.* [CMS Collaboration].  
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193. **“Search for direct pair production of scalar top quarks in the single- and dilepton channels in proton-proton collisions at  $\sqrt{s} = 8$  TeV”**  
V. Khachatryan *et al.* [CMS Collaboration].  
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368. **“Measurement of the production cross sections for a Z boson and one or more b jets in pp collisions at  $\sqrt{s} = 7$  TeV”**  
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375. **“Measurement of the production cross section for a  $W$  boson and two  $b$  jets in  $pp$  collisions at  $\sqrt{s} = 7$  TeV”**  
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376. **“Measurement of four-jet production in proton-proton collisions at  $\sqrt{s} = 7$  TeV”**  
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