

# Rebeca Gonzalez Suarez - Publication List

## Contents

Metrics, 1 • Main publications in peer-reviewed journals, 2 • Publications from top, 4 • Other, 6 • Conference proceedings, 79 • Public Analysis Summaries, 80 • Public top results, 83 • Internal Analysis Notes, 85.

## Metrics

As of May 10, 2019:

	Citeable papers	Published only
Number of papers	910	865
Number of citations	89816	89472
Average citations per paper	98.7	103.4
hHEP index	138	138

Breakdown of papers by citations:

	Citeable papers	Published only
Renowned papers (500+)	17	17
Famous papers (250-499)	39	39
Very well-known papers (100-249)	162	161
Well-known papers (50-99)	222	221
Known papers (10-49)	342	338
Less known papers (1-9)	103	81
Unknown papers (0)	25	8

The contributions listed here are labeled when it corresponds using the following convention:

[PA = Primary Author; ED = Editor; C = Contributor; R = Review]

Additionally to this, the ten most relevant peer-reviewed publications are highlighted.

In addition to what is presented in the following, I am an author of all the public results from the CMS collaboration since 2006. They full list can be consulted at

<https://cds.cern.ch/collection/CMS>

## Main publications in peer-reviewed journals

Publications in which I have had a personal contribution, in reverse chronological order. The ten most relevant publications are marked with a ★ sign.

**Recent CMS results in top and Higgs physics**, *Rebeca Gonzalez Suarez*, arXiv:1707.05054, Modern Physics Letters A, 2, Vol. 32, No. 29 (2017) 1730026 [PA, ED]

**Measurement of the transverse momentum spectrum of the Higgs boson produced in pp collisions at  $\sqrt{s} = 8$  TeV using H to WW decays**, *CMS Collaboration*, arXiv:1606.01522, JHEP 03 (2017) 032 [R - Higgs to WW]

**Measurement of the W boson helicity fractions in the decays of top quark pairs to lepton+jets final states produced in pp collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, arXiv:1605.09047, Phys. Lett. B 762 (2016) 512 [R - ARC]

**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**, *ATLAS and CMS Collaborations*, arXiv:1606.02266, JHEP 1608 (2016) 045. [C]

**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**, *CMS Collaboration*, arXiv:1605.02329, JHEP 09 (2016) 051 [R - Higgs to WW]  
**500<sup>th</sup> paper of CMS**

**Search for s channel single top quark production in pp collisions at  $\sqrt{s} = 7$  and 8 TeV**, *CMS Collaboration*, arXiv:1603.02555, JHEP 09 (2016) 027 [R - Single Top]

**Search for anomalous single top quark production in association with a photon in pp collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, arXiv:1511.03951, JHEP 04 (2016) 035 [R - Single Top]

**Measurement of top quark polarisation in t-channel single top quark production**, *CMS Collaboration*, arXiv:1511.02138, JHEP 04 (2016) 073 [R - Single Top]

★ **Search for the associated production of a Higgs boson with a single top quark in proton-proton collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, arXiv:1509.08159, JHEP06(2016)177 [C, R-ARC]  
Cited by 33.

**Measurement of the Charge Asymmetry in Top Quark Pair Production in pp Collisions at  $\sqrt{s} = 8$  TeV using a Template Method**, *CMS Collaboration*, arXiv:1508.03862, Phys. Rev. D 93, 034014 (2016) [R-ARC]

**Search for a standard model Higgs boson produced in association with a top-quark pair and decaying to bottom quarks using a matrix element method**, *CMS Collaboration*, arXiv:1502.02485, Eur. Phys. J. C 75 (2015) 251 [R-ARC]

**Precise determination of the mass of the Higgs boson and tests of compatibility of its couplings with the standard model predictions using proton collisions at 7 and 8 TeV**, *CMS Collaboration*, arXiv:1412.8662, Eur. Phys. J. C 75 (2015) 212 [C]

★ **Constraints on the spin-parity and anomalous HVV couplings of the Higgs boson in proton collisions at 7 and 8 TeV**, *CMS Collaboration*, arXiv:1411.3441, Phys. Rev. D 92, 012004 (2015) [PA, ED]  
Cited by **343** (250+).

**Measurement of the W boson helicity in events with a single reconstructed top quark in pp collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, arXiv:1410.1154, JHEP01(2015)053 [R - Single Top]

★ **Search for monotop signatures in proton-proton collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, arXiv:1410.1149, Phys. Rev. Lett. 114, 101801 (2015) [R - Chair of the Review]  
Cited by **62** (50+).

★ **Observation of the associated production of a single top quark and a W boson in pp collisions at  $\sqrt{s} = 8\text{TeV}$** , *CMS Collaboration*, arXiv:1401.2942, Phys. Rev. Lett. 112, 231802. [PA]

Cited by [166](#) (100+).

**Measurement of the t-channel single-top-quark production cross section and of the  $|V_{tb}|$  CKM matrix element in pp collisions at  $\sqrt{s} = 8\text{ TeV}$** , *CMS Collaboration*, arXiv:1403.7366, JHEP 06 (2014) 090 [R - Single top]

**Searches for electroweak production of charginos, neutralinos, and sleptons decaying to leptons and W, Z, and Higgs bosons in pp collisions at 8 TeV**, *CMS Collaboration*, arXiv:1405.7570, Eur. Phys. J. C 74 (2014) [R-ARC]

★ **Measurement of Higgs boson production and properties in the WW decay channel with leptonic final states**, *CMS Collaboration*, arXiv:1312.1129, JHEP 01(2014)096 [PA]

Cited by [365](#) (250+).

**Snowmass 2013 Top quark working group report**, (*Top Quark Working Group Collaboration*), arXiv:1311.2028 [C]

**Observation of a new boson with mass near 125 GeV in pp collisions at  $\sqrt{s} = 7$  and 8 TeV**, *CMS Collaboration*, arXiv:1303.4571, JHEP 1306 (2013) 081 [C]

★ **Evidence for associated production of a single top quark and W boson in pp collisions at 7 TeV**, *CMS Collaboration*, arXiv:1209.3489, Phys. Rev. Lett. 110, 022003 (2013) [PA, ED]

Cited by [147](#) (100+).

**Search for electroweak production of charginos and neutralinos using leptonic final states in pp collisions at  $\sqrt{s} = 7\text{ TeV}$** , *CMS Collaboration*, arXiv:1209.6620, JHEP 1211 (2012) 147 [R-ARC]

★ **Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC**, *CMS Collaboration*, arXiv:1207.7235, Phys.Lett. B 716 (2012) 30-61 [C]

Cited by [8561](#) (1000+).

**Search for physics beyond the standard model in events with a Z boson, jets, and missing transverse energy in pp collisions at  $\sqrt{s} = 7\text{ TeV}$** , *CMS Collaboration*, arXiv:1204.3774, Physics Letters B 716 (2012) 260-284 [R-ARC]

★ **Search for the standard model Higgs boson decaying to a W pair in the fully leptonic final state in pp collisions at  $\sqrt{s} = 7\text{ TeV}$** , *CMS Collaboration*, arXiv:1202.1489, Phys.Lett. B 710 (2012) 91-113 [C]

Cited by [174](#) (100+).

★ **Measurement of the  $t\bar{t}$  Production Cross Section in pp Collisions at 7 TeV in Lepton + Jets Events Using b-quark Jet Identification**, *CMS Collaboration*, arXiv:1108.3773, Phys.Rev. D84 (2011) 092004 [C]

Cited by [134](#) (100+).

★ **Measurement of  $W^+W^-$  Production and Search for the Higgs Boson in pp Collisions at  $\sqrt{s} = 7\text{ TeV}$** , *CMS Collaboration*, arXiv:1102.5429, Phys.Lett. B 699 (2011) 25-47 [C]

Cited by [173](#) (100+).

## Publications from top

Publications submitted to journals during (or shortly after) my period as convener of the top quark physics analysis group in CMS, in reverse chronological order:

**Search for new physics in top quark production in dilepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, submitted to EPJC, arXiv:1903.11144

**Combinations of single-top-quark production cross-section measurements and  $|f_{LV}V_{tb}|$  determinations at  $\sqrt{s} = 7$  and 8 TeV with the ATLAS and CMS experiments** *ATLAS and CMS Collaborations*, submitted to JHEP, arXiv:1902.07158

**Measurement of the single top quark and antiquark production cross sections in the  $t$  channel and their ratio in proton-proton collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, Submitted to Phys. Lett. B, arXiv:1812.10514

**Measurement of the top quark mass in the all-jets final state at  $\sqrt{s} = 13$  TeV and combination with the lepton+jets channel** *CMS Collaboration*, Eur. Phys. J. C 79 (2019) 313, arXiv:1812.10534

**Measurement of the  $t\bar{t}$  production cross section, the top quark mass, and the strong coupling constant using dilepton events in pp collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, Eur. Phys. J. C 79 (2019) 368, arXiv:1812.10505

**Measurements of  $t\bar{t}$  differential cross sections in proton-proton collisions at  $\sqrt{s} = 13$  TeV using events containing two leptons** *CMS Collaboration*, JHEP 02 (2019) 149, arXiv:1811.06625

**Measurement of jet substructure observables in  $t\bar{t}$  events from proton-proton collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, Phys. Rev. D 98, 092014 (2018), arXiv:1808.073403

**Evidence for the associated production of a single top quark and a photon in proton-proton collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, Phys. Rev. Lett. 121, 221802 (2018), arXiv:1808.02913

**Study of the underlying event in top quark pair production in pp collisions at 13 TeV** *CMS Collaboration*, Eur. Phys. J. C 79 (2019) 123 arXiv:1807.02810

**Measurement of the production cross section for single top quarks in association with W bosons in proton-proton collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, JHEP 10 (2018) 117, arXiv:1805.07399

**Measurement of the top quark mass with lepton+jets final states using pp collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, Eur. Phys. J. C 78 (2018) 891, arXiv:1805.01428

**Measurement of differential cross sections for the production of top quark pairs and of additional jets in lepton+jets events from pp collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, Phys. Rev. D 97, 112003 (2018), arXiv:1803.08856

**Measurements of differential cross sections of top quark pair production as a function of kinematic event variables in proton-proton collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, JHEP 06 (2018) 002, arXiv:1803.03991

**Measurement of the associated production of a single top quark and a Z boson in pp collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, Phys.Lett. B779 (2018) 358-384, arXiv:1712.02825

**Search for the flavor-changing neutral current interactions of the top quark and the Higgs boson which decays into a pair of b quarks at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, JHEP 06 (2018) 102, arXiv:1712.02399

**Measurement of the inclusive  $t\bar{t}$  cross section in pp collisions at  $\sqrt{s} = 5.02$  TeV using final states with at least one charged lepton** *CMS Collaboration*, JHEP 03 (2018) 115, arXiv:1711.03143

**Measurement of the cross section for top quark pair production in association with a W or Z boson in proton-proton collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, JHEP 08 (2018) 011, arXiv:1711.02547

**Search for standard model production of four top quarks with same-sign and multilepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, Eur. Phys. J. C (2018) 78: 140, arXiv:1710.10614

**Combination of inclusive and differential  $t\bar{t}$  charge asymmetry measurements using ATLAS and CMS data at  $\sqrt{s} = 7$  and 8 TeV** *CMS and ATLAS Collaborations*, JHEP 04 (2018) 033, arXiv:1709.05327

**Measurement of normalized differential  $t\bar{t}$  cross sections in the dilepton channel from pp collisions at  $\sqrt{s} = 13$  TeV** *CMS Collaboration*, JHEP 04 (2018) 060, arXiv:1708.07638

**Measurement of the semileptonic  $t\bar{t} + \gamma$  production cross section in pp collisions at  $\sqrt{s} = 8$  TeV** *CMS Collaboration*, JHEP 10 (2017) 006, arXiv:1706.08128

**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** *CMS Collaboration*, Phys. Lett. B 776 (2017) 355, arXiv:1705.10141

**Measurement of the top quark mass in the dileptonic  $t\bar{t}$  decay channel using the mass observables  $M_{bl}$ ,  $M_{T2}$ , and  $M_{lb}$  in pp collisions at  $\sqrt{s} = 8$  TeV** *CMS Collaboration*, Phys. Rev. D 96 (2017) 032002, arXiv:1704.06142

**Measurement of the jet mass in highly boosted  $t\bar{t}$  events from pp collisions at  $\sqrt{s} = 8$  TeV** *CMS Collaboration*, Eur. Phys. J. C 77 (2017) 467, arXiv:1703.06330

**Measurement of the top quark mass using single top quark events in proton-proton collisions at  $\sqrt{s} = 8$  TeV** *CMS Collaboration*, EPJC 77 (2017) 354, arXiv:1703.02530

**Measurement of double-differential cross sections for top quark pair production in pp collisions at  $\sqrt{s} = 8$  TeV and impact on parton distribution functions** *CMS Collaboration*, EPJC 77 (2017) 459, arXiv:1703.01630

**Search for standard model production of four top quarks in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, *CMS Collaboration*, Phys. Lett. B 772 (2017) 336, arXiv:1702.06164

**Search for associated production of a Z boson with a single top quark and for tZ flavour-changing interactions in pp collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, JHEP 07 (2017) 003, arXiv:1702.01404

**Measurement of the  $t\bar{t}$  production cross section using events with one lepton and at least one jet in pp collisions at  $\sqrt{s} = 13$  TeV**, *CMS Collaboration*, JHEP 09 (2017) 051, arXiv:1701.06228

**Search for CP violation in  $t\bar{t}$  production and decay in proton-proton collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, JHEP 03 (2017) 101, arXiv:1611.08931

**Measurement of the  $t\bar{t}$  production cross section using events in the  $e\mu$  final state in pp collisions at  $\sqrt{s} = 13$  TeV**, *CMS Collaboration*, EPJC 77 (2017) 172, arXiv:1611.04040

**Measurement of the mass difference between top quark and antiquark in pp collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, Phys. Lett. B 770 (2017) 50, arXiv:1610.09551

**Search for top quark decays via Higgs-boson-mediated flavor-changing neutral currents in pp collisions at  $\sqrt{s} = 8$  TeV**, *CMS Collaboration*, JHEP 02 (2017) 079, arXiv:1610.04857

**Measurement of differential cross sections for top quark pair production using the lepton+jets final state in proton-proton collisions at 13 TeV**, *CMS Collaboration*, Phys. Rev. D 95, 092001 (2017), arXiv:1610.04191

**Cross section measurement of t-channel single top quark production in pp collisions at  $\sqrt{s} = 13$  TeV**, *CMS Collaboration*, Phys. Lett. B 772 (2017) 752, arXiv:1610.00678

Additional peer-reviewed publications of which I am also an author, in reverse chronological order:

**Observation of nuclear modifications in  $W^\pm$  boson production in pPb collisions at  $\sqrt{s_{\text{NN}}} = 8.16$  TeV** CMS Collaboration  
arXiv:1905.01486 [hep-ex].

**Multiparticle correlation studies in pPb collisions at  $\sqrt{s_{\text{NN}}} = 8.16$  TeV** CMS Collaboration  
arXiv:1904.11519 [hep-ex].

**Measurement of  $t\bar{t}$  normalised multi-differential cross sections in pp collisions at  $\sqrt{s} = 13$  TeV, and simultaneous determination of the strong coupling strength, top quark pole mass, and parton distribution functions** CMS Collaboration  
arXiv:1904.05237 [hep-ex].

**Search for resonances decaying to a pair of Higgs bosons in the  $b\bar{b}q\bar{q}'\ell\nu$  final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1904.04193 [hep-ex].

**Extraction and validation of a new set of CMS PYTHIA8 tunes from underlying-event measurements** CMS Collaboration  
arXiv:1903.12179 [hep-ex].

**Search for supersymmetry in final states with photons and missing transverse momentum in proton-proton collisions at 13 TeV** CMS Collaboration  
arXiv:1903.07070 [hep-ex].

**Constraints on anomalous HVV couplings from the production of Higgs bosons decaying to  $\tau$  lepton pairs** CMS Collaboration  
arXiv:1903.06973 [hep-ex].

**Performance of missing transverse momentum reconstruction in proton-proton collisions at  $\sqrt{s} = 13$  TeV using the CMS detector** CMS Collaboration  
arXiv:1903.06078 [hep-ex].

**Search for charged Higgs bosons in the  $H^\pm \rightarrow \tau^\pm \nu_\tau$  decay channel in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1903.04560 [hep-ex].

**Measurement of electroweak production of a W boson in association with two jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1903.04040 [hep-ex].

**An embedding technique to determine  $\tau\tau$  backgrounds in proton-proton collision data** CMS Collaboration  
arXiv:1903.01216 [hep-ex].

**Search for a heavy pseudoscalar boson decaying to a Z and a Higgs boson at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1903.00941 [hep-ex].

**Azimuthal separation in nearly back-to-back jet topologies in inclusive 2- and 3-jet events in pp collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1902.04374 [hep-ex].

**Pseudorapidity distributions of charged hadrons in xenon-xenon collisions at  $\sqrt{s_{\text{NN}}} = 5.44$  TeV** CMS Col-

laboration  
arXiv:1902.03603 [hep-ex].

**Measurement of exclusive  $\rho(770)^0$  photoproduction in ultraperipheral pPb collisions at  $\sqrt{s_{\text{NN}}} = 5.02$  TeV**  
CMS Collaboration  
arXiv:1902.01339 [hep-ex].

**Observation of Two Excited  $B_c^+$  States and Measurement of the  $B_c^+(2S)$  Mass in pp Collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1902.00571 [hep-ex].

**Search for W boson decays to three charged pions** CMS Collaboration  
arXiv:1901.11201 [hep-ex].

**Charged-particle angular correlations in XeXe collisions at  $\sqrt{s_{\text{NN}}} = 5.44$  TeV** CMS Collaboration  
arXiv:1901.07997 [hep-ex].

**Search for supersymmetry in events with a photon, jets, b-jets, and missing transverse momentum in proton-proton collisions at 13 TeV** CMS Collaboration  
arXiv:1901.06726 [hep-ex].

**Measurement of electroweak WZ boson production and search for new physics in WZ + two jets events in pp collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1901.04060 [hep-ex].

**Measurements of the pp  $\rightarrow$  WZ inclusive and differential production cross section and constraints on charged anomalous triple gauge couplings at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1901.03428 [hep-ex].

**Measurements of the Higgs boson width and anomalous HVV couplings from on-shell and off-shell production in the four-lepton final state** CMS Collaboration  
arXiv:1901.00174 [hep-ex].

**Search for dark matter produced in association with a single top quark or a top quark pair in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1901.01553 [hep-ex].

**Search for the pair production of light top squarks in the  $e^\pm\mu^\mp$  final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1901.01288 [hep-ex].

**Measurement of the differential Drell-Yan cross section in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1812.10529 [hep-ex].

**Search for vector-like quarks in events with two oppositely charged leptons and jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1812.09768 [hep-ex].

**Search for contact interactions and large extra dimensions in the dilepton mass spectra from proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1812.10443 [hep-ex].

**Search for a heavy resonance decaying to a top quark and a vector-like top quark in the lepton+jets final state in pp collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1812.06489[hep-ex].

**Measurement and interpretation of differential cross sections for Higgs boson production at  $\sqrt{s} = 13$  TeV**

CMS Collaboration

arXiv:1812.06504 [hep-ex].

**Inclusive search for supersymmetry in pp collisions at  $\sqrt{s} = 13$  TeV using razor variables and boosted object identification in zero and one lepton final states**

CMS Collaboration

arXiv:1812.06302 [hep-ex].

**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**

CMS Collaboration

arXiv:1812.06359 [hep-ex].

**Observation of Single Top Quark Production in Association with a  $Z$  Boson in Proton-Proton Collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration

arXiv:1812.05900 [hep-ex].

**Measurement of the energy density as a function of pseudorapidity in proton-proton collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration

arXiv:1812.04095 [hep-ex].

**Search for supersymmetry in events with a photon, a lepton, and missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration

arXiv:1812.04066 [hep-ex].

**Measurement of inclusive very forward jet cross sections in proton-lead collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**

CMS Collaboration

arXiv:1812.01691 [hep-ex].

**A search for pair production of new light bosons decaying into muons in proton-proton collisions at 13 TeV**

CMS Collaboration

arXiv:1812.00380 [hep-ex].

**Measurement of associated production of a W boson and a charm quark in proton-proton collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration

arXiv:1811.10021 [hep-ex].

**Search for dark matter in events with a leptoquark and missing transverse momentum in proton-proton collisions at 13 TeV**

CMS Collaboration

arXiv:1811.10151 [hep-ex].

**Search for resonant production of second-generation sleptons with same-sign dimuon events in proton-proton collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration

arXiv:1811.09760 [hep-ex].

**Search for associated production of a Higgs boson and a single top quark in proton-proton collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration

arXiv:1811.09696 [hep-ex].

**Combination of searches for Higgs boson pair production in proton-proton collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration

arXiv:1811.09689 [hep-ex].

**Search for a standard model-like Higgs boson in the mass range between 70 and 110 GeV in the diphoton final state in proton-proton collisions at  $\sqrt{s} = 8$  and 13 TeV**

CMS Collaboration

e-Print: arXiv:1811.08459 [hep-ex].



**Search for long-lived particles decaying into displaced jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1811.07991 [hep-ex].

**Search for a  $W\tilde{A}\tilde{s}$  boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state** CMS Collaboration  
arXiv:1811.07010 [hep-ex].

**Search for dark matter produced in association with a Higgs boson decaying to a pair of bottom quarks in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1811.06562 [hep-ex].

**Search for excited leptons in  $\ell\ell\gamma$  final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1811.03052 [hep-ex].

**Search for pair production of first-generation scalar leptoquarks at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1811.01197 [hep-ex].

**Search for heavy neutrinos and third-generation leptoquarks in hadronic states of two  $\tau$  leptons and two jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1811.00806 [hep-ex].

**Event shape variables measured using multijet final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1811.00588 [hep-ex].

**Search for nonresonant Higgs boson pair production in the  $b\bar{b}b\bar{b}$  final state at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1810.11854 [hep-ex].

**Search for low-mass resonances decaying into bottom quark-antiquark pairs in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1810.11822 [hep-ex].

**Studies of beauty suppression via nonprompt  $D^0$  mesons in PbPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV** CMS Collaboration  
arXiv:1810.11102 [hep-ex].

**Search for rare decays of Z and Higgs bosons to  $J/\psi$  and a photon in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1810.10056 [hep-ex].

**Search for new particles decaying to a jet and an emerging jet** CMS Collaboration  
arXiv:1810.10069 [hep-ex].

**Search for pair-produced three-jet resonances in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1810.10092 [hep-ex].

**Search for resonant  $t\bar{t}$  production in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
e-Print: arXiv:1810.05905 [hep-ex].

**Centrality and pseudorapidity dependence of the transverse energy density in pPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV** CMS Collaboration

arXiv:1810.05745 [hep-ex].

**Evidence for light-by-light scattering and searches for axion-like particles in ultraperipheral PbPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV** CMS Collaboration  
arXiv:1810.04602 [hep-ex].

**Measurement of  $B_s^0$  meson production in pp and PbPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV** CMS Collaboration  
arXiv:1810.03022 [hep-ex].

**Search for top quark partners with charge 5/3 in the same-sign dilepton and single-lepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1810.03188 [hep-ex].

**Observation of prompt  $J/\psi$  meson elliptic flow in high-multiplicity pPb collisions at  $\sqrt{s_{NN}} = 8.16$  TeV** CMS Collaboration  
arXiv:1810.01473 [hep-ex].

**Search for new physics in final states with a single photon and missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1810.00196 [hep-ex].

**Combined measurements of Higgs boson couplings in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1809.10733 [hep-ex].

**Measurement of exclusive  $\Upsilon$  photoproduction from protons in pPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV** CMS Collaboration  
arXiv:1809.11080 [hep-ex].

**Search for single production of vector-like quarks decaying to a top quark and a W boson in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1809.08597 [hep-ex].

**Jet shapes of isolated photon-tagged jets in PbPb and pp collisions at  $\sqrt{s_{NN}} = 5.02$  TeV** CMS Collaboration  
arXiv:1809.08602 [hep-ex].

**Search for leptoquarks coupled to third-generation quarks in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
arXiv:1809.05558 [hep-ex].

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**Search for beyond the standard model Higgs bosons decaying into a  $b\bar{b}$  pair in pp collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for top squarks decaying via four-body or chargino-mediated modes in single-lepton final states in proton-proton collisions at  $\sqrt{s}=13$  TeV** CMS Collaboration

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**Search for an exotic decay of the Higgs boson to a pair of light pseudoscalars in the final state of two muons and two  $\tau$  leptons in proton-proton collisions at  $\sqrt{s}=13$  TeV** CMS Collaboration

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**Search for a new scalar resonance decaying to a pair of Z bosons in proton-proton collisions at  $\sqrt{s}=13$  TeV** CMS Collaboration

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**Search for high-mass resonances in final states with a lepton and missing transverse momentum at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for a heavy right-handed W boson and a heavy neutrino in events with two same-flavor leptons and two jets at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for a new heavy resonance decaying into a Z boson and a Z or W boson in  $2\ell 2q$  final states at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for new physics in dijet angular distributions using proton-proton collisions at  $\sqrt{s} = 13$  TeV and constraints on dark matter and other models** CMS Collaboration  
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**Search for  $t\bar{t}H$  production in the all-jet final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for additional neutral MSSM Higgs bosons in the  $\tau\tau$  final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for high-mass resonances in dilepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for heavy neutral leptons in events with three charged leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Measurement of the inelastic proton-proton cross section at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for natural and split supersymmetry in proton-proton collisions at  $\sqrt{s} = 13$  TeV in final states with jets and missing transverse momentum** CMS Collaboration  
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**Search for single production of vector-like quarks decaying to a b quark and a Higgs boson** CMS Collaboration  
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CMS Collaboration

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**Constraints on the double-parton scattering cross section from same-sign W boson pair production in proton-proton collisions at  $\sqrt{s} = 8$  TeV** CMS Collaboration

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**Search for pair production of excited top quarks in the lepton+jets final state** CMS Collaboration

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**Study of jet quenching with isolated-photon+jet correlations in PbPb and pp collisions at  $\sqrt{s_{NN}} = 5.02$  TeV** CMS Collaboration

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**Search for new long-lived particles at  $\sqrt{s} = 13$  TeV** CMS Collaboration

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**Measurement of the underlying event activity in inclusive Z boson production in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Measurement of associated Z + charm production in proton-proton collisions at  $\sqrt{s} = 8$  TeV** CMS Collaboration  
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**Search for top squarks and dark matter particles in opposite-charge dilepton final states at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for new physics in events with a leptonically decaying Z boson and a large transverse momentum imbalance in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for supersymmetry in proton-proton collisions at 13 TeV using identified top quarks** CMS Collaboration  
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**Measurement of b hadron lifetimes in pp collisions at  $\sqrt{s} = 8$  TeV** CMS Collaboration  
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**Search for low mass vector resonances decaying into quark-antiquark pairs in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration

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**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** CMS Collaboration

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**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** CMS Collaboration

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**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  $H \rightarrow b\bar{b}$**  CMS Collaboration  
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**Search for massive resonances decaying into WW, WZ, ZZ, qW, and qZ with dijet final states at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**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** CMS Collaboration  
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**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** CMS Collaboration  
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**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** CMS Collaboration  
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**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** CMS Collaboration  
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**Search for natural supersymmetry in events with top quark pairs and photons in pp collisions at  $\sqrt{s} = 8$  TeV** CMS Collaboration  
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**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** CMS Collaboration  
arXiv:1707.03316 [hep-ex].

**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** CMS Collaboration  
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**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** CMS Collaboration

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**Search for top quark partners with charge 5/3 in proton-proton collisions at  $\sqrt{s}=13$  TeV** CMS Collaboration

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**Search for low mass vector resonances decaying to quark-antiquark pairs in proton-proton collisions at  $\sqrt{s}=13$  TeV** CMS Collaboration

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**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** CMS Collaboration

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**Measurement of  $B^{+/-}$  meson differential production cross sections in pp and PbPb collisions at  $\sqrt{s_{NN}}=5.02$  TeV** CMS Collaboration

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**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** CMS Collaboration

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**Measurement of the triple-differential dijet cross section in proton-proton collisions at  $\sqrt{s} = 8$  TeV and constraints on parton distribution functions** CMS Collaboration

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**Search for supersymmetry in multijet events with missing transverse momentum in proton-proton collisions at 13 TeV** CMS Collaboration

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**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** CMS Collaboration

arXiv:1704.07323 [hep-ex].

**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** CMS Collaboration

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**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** CMS Collaboration

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**Search for new physics with dijet angular distributions in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration

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**Search for a heavy resonance decaying to a top quark and a vector-like top quark at  $\sqrt{s} = 13$  TeV** CMS Collaboration

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**Search for anomalous couplings in semileptonic WW/WZ to  $l \nu q\bar{q}$  production in proton-proton collisions at  $\sqrt{s} = 8$  TeV** CMS Collaboration

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**Search for associated production of dark matter with a Higgs boson decaying to  $b\bar{b}$  or  $\gamma\gamma$  at  $\sqrt{s} = 13$  TeV** CMS Collaboration

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**Measurement of the inclusive energy spectrum in the very forward direction in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for supersymmetry with multiple charged leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for dark matter and unparticles in events with a Z boson and missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Search for supersymmetry in the all-hadronic final state using top quark tagging in pp collisions at  $\sqrt{s} = 13$  TeV** CMS Collaboration  
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**Measurements of the charm jet cross section and nuclear modification factor in pPb collisions at  $\sqrt{s[NN]}=5.02$  TeV** CMS Collaboration

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**Search for electroweak production of a vector-like quark decaying to a top quark and a Higgs boson using boosted topologies in fully hadronic final states** CMS Collaboration

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**Searches for pair production for third-generation squarks in  $\sqrt{s}=13$  TeV pp collisions** CMS Collaboration

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**Search for heavy neutrinos or third-generation leptoquarks in final states with two hadronically decaying tau leptons and two jets in proton-proton collisions at  $\sqrt{s}=13$  TeV** CMS Collaboration

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**Search for single production of a heavy vector-like T quark decaying to a Higgs boson and a top quark with a lepton and jets in the final state** CMS Collaboration

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**Search for supersymmetry in events with photons and missing transverse energy in pp collisions at 13 TeV** CMS Collaboration

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**Search for heavy resonances decaying to tau lepton pairs in proton-proton collisions at  $\sqrt{s}=13$  TeV** CMS Collaboration

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**Search for dijet resonances in proton-proton collisions at  $\sqrt{s}=13$  TeV and constraints on dark matter and other models** CMS Collaboration

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**Search for heavy resonances decaying into a vector boson and a Higgs boson in final states with charged leptons, neutrinos, and b quarks** CMS Collaboration  
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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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**Search for dark matter in proton-proton collisions at 8 TeV with missing transverse momentum and vector boson tagged jets**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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**Search for dark matter and supersymmetry with a compressed mass spectrum in the vector boson fusion topology in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration

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**Search for new physics in same-sign dilepton events in proton-proton collisions at  $\sqrt{s}=13$  TeV**

CMS Collaboration  
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**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**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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**Search for direct pair production of supersymmetric top quarks decaying to all-hadronic final states in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

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**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**

CMS Collaboration

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CMS Collaboration

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**Search for heavy resonances decaying to two Higgs bosons in final states containing four b quarks**

CMS Collaboration

arXiv:1602.08762 [hep-ex].

Eur.Phys.J. C76 (2016) no.7, 371.

**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**

CMS Collaboration

arXiv:1602.07152 [hep-ex].

Phys.Lett. B760 (2016) 448-468.

**Search for supersymmetry in the multijet and missing transverse momentum final state in pp collisions at 13 TeV**

CMS Collaboration

arXiv:1602.06581 [hep-ex].

Phys.Lett. B758 (2016) 152-180.

**Measurement of dijet azimuthal decorrelation in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1602.04384 [hep-ex].

Eur.Phys.J. C76 (2016) no.10, 536.

**Search for R-parity violating decays of a top squark in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1602.04334 [hep-ex].

Phys.Lett. B760 (2016) 178-201.

**Combined search for anomalous pseudoscalar HVV couplings in  $VH(H \rightarrow b\bar{b})$  production and  $H \rightarrow VV$  decay**

CMS Collaboration

arXiv:1602.04305 [hep-ex].

Phys.Lett. B759 (2016) 672-696.

**Search for direct pair production of scalar top quarks in the single- and dilepton channels in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1602.03169 [hep-ex].

JHEP 1607 (2016) 027, Erratum: JHEP 1609 (2016) 056.

**Search for supersymmetry in pp collisions at  $\sqrt{s} = 8$  TeV in final states with boosted W bosons and b jets using razor variables**

CMS Collaboration

arXiv:1602.02917 [hep-ex].

Phys.Rev. D93 (2016) no.9, 092009.

**Azimuthal decorrelation of jets widely separated in rapidity in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1601.06713 [hep-ex].

JHEP 1608 (2016) 139.

**Search for massive WH resonances decaying into the  $\ell\nu b\bar{b}$  final state at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1601.06431 [hep-ex].

Eur.Phys.J. C76 (2016) no.5, 237.

**Forward-backward asymmetry of Drell-Yan lepton pairs in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1601.04768 [hep-ex].

Eur.Phys.J. C76 (2016) no.6, 325.

**Measurement of inclusive jet production and nuclear modifications in pPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**



CMS Collaboration  
arXiv:1601.02001 [nucl-ex].  
Eur.Phys.J. C76 (2016) no.7, 372.

**Measurements of  $t\bar{t}$  spin correlations and top quark polarization using dilepton final states in pp collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
arXiv:1601.01107 [hep-ex].  
Phys.Rev. D93 (2016) no.5, 052007.

**Correlations between jets and charged particles in PbPb and pp collisions at  $\sqrt{s_{NN}}=2.76$  TeV**

CMS Collaboration  
arXiv:1601.00079 [nucl-ex].  
JHEP 1602 (2016) 156.

**Measurement of differential and integrated fiducial cross sections for Higgs boson production in the four-lepton decay channel in pp collisions at  $\sqrt{s}=7$  and 8 TeV**

CMS Collaboration  
arXiv:1512.08377 [hep-ex].  
JHEP 1604 (2016) 005.

**Search for supersymmetry in events with soft leptons, low jet multiplicity, and missing transverse momentum in proton-proton collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
arXiv:1512.08002 [hep-ex].  
Phys.Lett. B759 (2016) 9-35.

**Study of Z boson production in pPb collisions at  $\sqrt{s_{NN}}=5.02$  TeV**

CMS Collaboration  
arXiv:1512.06461 [hep-ex].  
Phys.Lett. B759 (2016) 36-57.

**Measurement of the inclusive jet cross section in pp collisions at  $\sqrt{s}=2.76$  TeV**

CMS Collaboration  
arXiv:1512.06212 [hep-ex].  
Eur.Phys.J. C76 (2016) no.5, 265.

**Search for narrow resonances decaying to dijets in proton-proton collisions at  $\sqrt{s}=13$  TeV**

CMS Collaboration  
arXiv:1512.01224 [hep-ex].  
Phys.Rev.Lett. 116 (2016) no.7, 071801.

**Event generator tunes obtained from underlying event and multiparton scattering measurements**

CMS Collaboration  
arXiv:1512.00815 [hep-ex].  
Eur.Phys.J. C76 (2016) no.3, 155.

**Search for dark matter and unparticles produced in association with a Z boson in proton-proton collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
arXiv:1511.09375 [hep-ex].  
Phys.Rev. D93 (2016) no.5, 052011.

**Measurement of spin correlations in  $t\bar{t}$  production using the matrix element method in the muon+jets final state in pp collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration

arXiv:1511.06170 [hep-ex].  
Phys.Lett. B758 (2016) 321-346.

**Search for a low-mass pseudoscalar Higgs boson produced in association with a  $b\bar{b}$  pair in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1511.03610 [hep-ex].  
Phys.Lett. B758 (2016) 296-320.

**Search for excited leptons in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1511.01407 [hep-ex].  
JHEP 1603 (2016) 125.

**Reconstruction and identification of  $\tau$  lepton decays to hadrons and  $\nu_\tau$  at CMS**

CMS Collaboration  
arXiv:1510.07488 [physics.ins-det].  
JINST 11 (2016) no.01, P01019.

**Search for a very light NMSSM Higgs boson produced in decays of the 125 GeV scalar boson and decaying into  $\tau$  leptons in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1510.06534 [hep-ex].  
JHEP 1601 (2016) 079.

**Measurement of the top quark pair production cross section in proton-proton collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration  
arXiv:1510.05302 [hep-ex].  
Phys.Rev.Lett. 116 (2016) no.5, 052002.

**Search for a light charged Higgs boson decaying to  $c$  s-bar in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1510.04252 [hep-ex].  
JHEP 1512 (2015) 178.

**Transverse momentum spectra of b jets in pPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**

CMS Collaboration  
arXiv:1510.03373 [nucl-ex].  
Phys.Lett. B754 (2016) 59.

**Measurement of  $t\bar{t}$  production with additional jet activity, including b quark jets, in the dilepton decay channel using pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1510.03072 [hep-ex].  
Eur.Phys.J. C76 (2016) no.7, 379.

**Measurement of long-range near-side two-particle angular correlations in pp collisions at  $\sqrt{s} = 13$  TeV**

CMS Collaboration  
arXiv:1510.03068 [nucl-ex].  
Phys.Rev.Lett. 116 (2016) no.17, 172302.

**Searches for a heavy scalar boson H decaying to a pair of 125 GeV Higgs bosons  $hh$  or for a heavy pseudoscalar boson A decaying to  $Zh$ , in the final states with  $h \rightarrow \tau\tau$**

CMS Collaboration  
arXiv:1510.01181 [hep-ex].  
Phys.Lett. B755 (2016) 217-244.

**Observation of top quark pairs produced in association with a vector boson in pp collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
arXiv:1510.01131 [hep-ex].  
JHEP 1601 (2016) 096.

**Measurement of transverse momentum relative to dijet systems in PbPb and  $pp$  collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration  
arXiv:1509.09029 [nucl-ex].  
JHEP 1606 (2016) 177.

**Search for the Production of an Excited Bottom Quark Decaying to  $tW$  in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1509.08141 [hep-ex].  
JHEP 1601 (2016) 166.

**Measurement of the  $t\bar{t}$  Production Cross Section in the All-Jets Final State in pp Collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
arXiv:1509.06076 [hep-ex].  
Eur.Phys.J. C76 (2016) no.3, 128.

**Search for  $W' \rightarrow tb$  in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1509.06051 [hep-ex].  
JHEP 1602 (2016) 122.

**Search for Vector-Like Charge 2/3 T Quarks in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1509.04177 [hep-ex].  
Phys.Rev. D93 (2016) no.1, 012003.

**Measurement of the top quark mass using proton-proton data at  $\sqrt{s} = 7$  and 8 TeV**

CMS Collaboration  
arXiv:1509.04044 [hep-ex].  
Phys.Rev. D93 (2016) no.7, 072004.

**Measurement of the Inelastic Cross Section in Proton-Lead Collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**

CMS Collaboration  
arXiv:1509.03893 [hep-ex].  
Phys.Lett. B759 (2016) 641-662.

**Search for Single Production of Scalar Leptoquarks in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1509.03750 [hep-ex].  
Phys.Rev. D93 (2016) no.3, 032005.

**Search for Pair Production of First and Second Generation Leptoquarks in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1509.03744 [hep-ex].  
Phys.Rev. D93 (2016) no.3, 032004.

**Measurement of Differential Cross Sections for Higgs Boson Production in the Diphoton Decay Channel in pp Collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
arXiv:1508.07819 [hep-ex].  
Eur.Phys.J. C76 (2016) no.1, 13.

**Search for a charged Higgs boson in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1508.07774 [hep-ex].  
JHEP 1511 (2015) 018.

**Search for supersymmetry in the vector-boson fusion topology in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1508.07628 [hep-ex].  
JHEP 1511 (2015) 189.

**Study of B Meson Production in pPb Collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**

CMS Collaboration  
arXiv:1508.06678 [nucl-ex].  
Phys.Rev.Lett. 116 (2016) no.3, 032301.

**Search for  $W'$  decaying to tau lepton and neutrino in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1508.04308 [hep-ex].  
Phys.Lett. B755 (2016) 196-216.

**Search for neutral MSSM Higgs bosons decaying to  $\mu^+\mu^-$  in pp collisions at  $\sqrt{s} = 7$  and 8 TeV**

CMS Collaboration  
arXiv:1508.01437 [hep-ex].  
Phys.Lett. B752 (2016) 221-246.

**Search for Supersymmetry with a Photon, a Lepton, and Missing Transverse Momentum in pp Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1508.01218 [hep-ex].  
Phys.Lett. B757 (2016) 6-31.

**Angular analysis of the decay  $B^0 \rightarrow K^{*0}\mu^+\mu^-$  from pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1507.08126 [hep-ex].  
Phys.Lett. B753 (2016) 424-448.

**Measurement of the CP-violating weak phase  $\phi_s$  and the decay width difference  $\Delta\Gamma_s$  using the  $B_s^0 \rightarrow J/\psi\phi(1020)$  decay channel in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1507.07527 [hep-ex].  
Phys.Lett. B757 (2016) 97-120.

**Measurement of the underlying event activity using charged-particle jets in proton-proton collisions at  $\sqrt{s} = 2.76$  TeV**

CMS Collaboration  
arXiv:1507.07229 [hep-ex].  
JHEP 1509 (2015) 137.

**Search for pair-produced vector-like B quarks in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1507.07129 [hep-ex].  
Phys.Rev. D93 (2016) no.11, 112009.

### **Limits on the Higgs boson lifetime and width from its decay to four charged leptons**

CMS Collaboration

arXiv:1507.06656 [hep-ex].

Phys.Rev. D92 (2015) 7, 072010.

### **Pseudorapidity distribution of charged hadrons in proton-proton collisions at $\sqrt{s} = 13$ TeV**

CMS Collaboration

arXiv:1507.05915 [hep-ex].

Phys.Lett. B751 (2015) 143-163.

### **Measurement of the $W^+W^-$ cross section in pp collisions at $\sqrt{s} = 8$ TeV and limits on anomalous gauge couplings**

CMS Collaboration

arXiv:1507.03268 [hep-ex].

Eur.Phys.J. C76 (2016) no.7, 401.

### **Inclusive and differential measurements of the $t\bar{t}$ charge asymmetry in pp collisions at $\sqrt{s} = 8$ TeV**

CMS Collaboration

arXiv:1507.03119 [hep-ex].

Phys.Lett. B757 (2016) 154-179.

### **Search for a Higgs boson decaying into $\gamma^*\gamma \rightarrow \ell\ell\gamma$ with low dilepton mass in pp collisions at $\sqrt{s} = 8$ TeV**

CMS Collaboration

arXiv:1507.03031 [hep-ex].

Phys.Lett. B753 (2016) 341-362.

### **Search for supersymmetry with photons in pp collisions at $\sqrt{s}=8$ TeV** CMS Collaboration

arXiv:1507.02898 [hep-ex].

Phys.Rev. D92 (2015) 7, 072006.

### **Search for exotic decays of a Higgs boson into undetectable particles and one or more photons**

CMS Collaboration

arXiv:1507.00359 [hep-ex].

Phys.Lett. B753 (2016) 363-388.

### **Production of leading charged particles and leading charged-particle jets at small transverse momenta in pp collisions at $\sqrt{s} = 8$ TeV**

CMS Collaboration

arXiv:1507.00233 [hep-ex].

Phys.Rev. D92 (2015) 11, 112001.

### **Search for Neutral MSSM Higgs Bosons Decaying into A Pair of Bottom Quarks**

CMS Collaboration

arXiv:1506.08329 [hep-ex].

JHEP 1511 (2015) 071.

### **Search for Resonant $t\bar{t}$ Production in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV**

CMS Collaboration

arXiv:1506.03062 [hep-ex].

Phys.Rev. D93 (2016) no.1, 012001.

### **Search for diphoton resonances in the mass range from 150 to 850 GeV in pp collisions at $\sqrt{s} = 8$ TeV**

CMS Collaboration

arXiv:1506.02301 [hep-ex].

Phys.Lett. B750 (2015) 494-519.

**Search for A Massive Resonance Decaying into a Higgs Boson and a W or Z Boson in Hadronic Final States in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1506.01443 [hep-ex].

JHEP 1602 (2016) 145.

**Search for the standard model Higgs boson produced through vector boson fusion and decaying to  $b\bar{b}$  CMS**

Collaboration

arXiv:1506.01010 [hep-ex].

Phys.Rev. D92 (2015) 3, 032008.

**A search for pair production of new light bosons decaying into muons CMS Collaboration**

arXiv:1506.00424 [hep-ex].

Phys.Lett. B752 (2016) 146-168.

**Search for neutral color-octet weak-triplet scalar particles in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1505.08118 [hep-ex].

JHEP 1509 (2015) 201.

**Comparison of the Z/gamma\* + jets to gamma + jets cross sections in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1505.06520 [hep-ex].

JHEP 1510 (2015) 128.

**Measurement of the differential cross section for top quark pair production in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1505.04480 [hep-ex].

Eur.Phys.J. C75 (2015) 11, 542.

**Search for a pseudoscalar boson decaying into a Z boson and the 125 GeV Higgs boson in  $l^+l^-b\bar{b}$  final states CMS Collaboration**

arXiv:1504.04710 [hep-ex].

Phys.Lett. B748 (2015) 221-243.

**Angular coefficients of Z bosons produced in pp collisions at  $\sqrt{s} = 8$  TeV and decaying to  $\mu^+\mu^-$  as a function of transverse momentum and rapidity**

CMS Collaboration

arXiv:1504.03512 [hep-ex].

Phys.Lett. B750 (2015) 154-175.

**Measurement of the Z boson differential cross section in transverse momentum and rapidity in proton proton collisions at 8 TeV**

CMS Collaboration

arXiv:1504.03511 [hep-ex].

Phys.Lett. B749 (2015) 187-209.

**Search for the production of dark matter in association with top-quark pairs in the single-lepton final state in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1504.03198 [hep-ex].

JHEP 1506 (2015) 121.

**Search for a Higgs Boson in the Mass Range from 145 to 1000 GeV Decaying to a Pair of W or Z Bosons**

CMS Collaboration  
arXiv:1504.00936 [hep-ex].  
JHEP 1510 (2015) 144.

**Search for Third-Generation Scalar Leptoquarks in the  $t\tau$  Channel in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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JHEP 1507 (2015) 042.

**Measurement of diffraction dissociation cross sections in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1503.08689 [hep-ex].  
Phys.Rev. D92 (2015) 1, 012003.

**Searches for third-generation squark production in fully hadronic final states in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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JHEP 1506 (2015) 116.

**Combined Measurement of the Higgs Boson Mass in  $pp$  Collisions at  $\sqrt{s} = 7$  and 8 TeV with the ATLAS and CMS Experiments**

ATLAS and CMS Collaborations  
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Phys.Rev.Lett. 114 (2015) 191803.

**Study of W boson production in pPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**

CMS Collaboration  
arXiv:1503.05825 [nucl-ex].  
Phys.Lett. B750 (2015) 565-586.

**Measurements of the  $Z Z$  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 Collaboration  
arXiv:1503.05467 [hep-ex].  
Eur.Phys.J. C75 (2015) 10, 511.

**Search for resonant pair production of Higgs bosons decaying to two bottom quark-antiquark pairs in proton-proton collisions at 8 TeV**

CMS Collaboration  
arXiv:1503.04114 [hep-ex].  
Phys.Lett. B749 (2015) 560-582.

**Search for vector-like T quarks decaying to top quarks and Higgs bosons in the all-hadronic channel using jet substructure**

CMS Collaboration  
arXiv:1503.01952 [hep-ex].  
JHEP 1506 (2015) 080.

**Evidence for transverse momentum and pseudorapidity dependent event plane fluctuations in PbPb and pPb collisions**

CMS Collaboration  
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Phys.Rev. C92 (2015) 3, 034911.124.

### **Study of Final-State Radiation in Decays of Z Bosons Produced in $pp$ Collisions at 7 TeV**

CMS Collaboration

arXiv:1502.07940 [hep-ex].

Phys.Rev. D91 (2015) 9, 092012.124.

### **Search for Lepton-Flavour-Violating Decays of the Higgs Boson**

CMS Collaboration

arXiv:1502.07400 [hep-ex].

Phys.Lett. B749 (2015) 337-362.124.

### **Search for Physics Beyond the Standard Model in Events with Two Leptons, Jets, and Missing Transverse Momentum in $pp$ Collisions at $\sqrt{s} = 8$ TeV**

CMS Collaboration

arXiv:1502.06031 [hep-ex].

JHEP 1504 (2015) 124.

### **Measurement of the $Z\gamma$ Production Cross Section in $pp$ Collisions at 8 TeV and Search for Anomalous Triple Gauge Boson Couplings**

CMS Collaboration

arXiv:1502.05664 [hep-ex].

JHEP 1504 (2015) 164.

### **Nuclear Effects on the Transverse Momentum Spectra of Charged Particles in $pPb$ Collisions at $\sqrt{s_{NN}} = 5.02$ TeV**

CMS Collaboration

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Eur.Phys.J. C75 (2015) 5, 237.

### **Evidence for Collective Multiparticle Correlations in $p$ -Pb Collisions**

CMS Collaboration

arXiv:1502.05382 [nucl-ex].

Phys.Rev.Lett. 115 (2015) 1, 012301.

### **Search for Narrow High-Mass Resonances in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV Decaying to a Z and a Higgs Boson**

CMS Collaboration

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Phys.Lett. B748 (2015) 255-277.

### **Distributions of Topological Observables in Inclusive Three- and Four-Jet Events in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration

arXiv:1502.04785 [hep-ex].

Eur.Phys.J. C75 (2015) 7, 302.

### **Searches for Supersymmetry using the $M_{T2}$ Variable in Hadronic Events Produced in $pp$ Collisions at 8 TeV**

CMS Collaboration

arXiv:1502.04358 [hep-ex].

JHEP 1505 (2015) 078.

### **Measurement of $J/\psi$ and $\psi(2S)$ Prompt Double-Differential Cross Sections in $pp$ Collisions at $\sqrt{s}=7$ TeV**

CMS Collaboration

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**Performance of Photon Reconstruction and Identification with the CMS Detector in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1502.02702 [physics.ins-det].  
JINST 10 (2015) 08, P08010.

**Performance of Electron Reconstruction and Selection with the CMS Detector in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1502.02701 [physics.ins-det].  
JINST 10 (2015) 06, P06005.

**Constraints on the pMSSM, AMSB Model and on Other Models from the Search for Long-Lived Charged Particles in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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Eur.Phys.J. C75 (2015) 7, 325.

**Search for Supersymmetry Using Razor Variables in Events with  $b$ -Tagged Jets in  $pp$  Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1502.00300 [hep-ex].  
Phys.Rev. D91 (2015) 052018.

**Measurements of the  $\Upsilon(1S)$ ,  $\Upsilon(2S)$ , and  $\Upsilon(3S)$  differential cross sections in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1501.07750 [hep-ex].  
Phys.Lett. B749 (2015) 14-34.

**Measurement of the ratio  $\mathcal{B}(B_s^0 \rightarrow J/\psi f_0(980))/\mathcal{B}(B_s^0 \rightarrow J/\psi \phi(1020))$  in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1501.06089 [hep-ex].  
Phys.Lett. B756 (2016) 84-102.

**Search for Decays of Stopped Long-Lived Particles Produced in Proton-Proton Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1501.05603 [hep-ex].  
Eur.Phys.J. C75 (2015) 4, 151.

**Search for heavy Majorana neutrinos in  $\mu^\pm \mu^\pm +$  jets events in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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Phys.Lett. B748 (2015) 144-166.

**Search for resonances and quantum black holes using dijet mass spectra in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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Phys.Rev. D91 (2015) 5, 052009.

**Search for pair-produced resonances decaying to jet pairs in proton-proton collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
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## TeV

CMS Collaboration  
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## Searches for supersymmetry based on events with b jets and four W bosons in pp collisions at 8 TeV

CMS Collaboration  
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Phys.Lett. B745 (2015) 5-28.

## Measurement of the inclusive 3-jet production differential cross section in proton-proton collisions at 7 TeV and determination of the strong coupling constant in the TeV range

CMS Collaboration  
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Eur.Phys.J. C75 (2015) 5, 186.

## Measurements of differential and double-differential Drell-Yan cross sections in proton-proton collisions at 8 TeV

CMS Collaboration  
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Eur.Phys.J. C75 (2015) 4, 147.

## Search for stealth supersymmetry in events with jets, either photons or leptons, and low missing transverse momentum in pp collisions at 8 TeV

CMS Collaboration  
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## Search for long-lived particles that decay into final states containing two electrons or two muons in proton-proton collisions at $\sqrt{s} = 8$ TeV

CMS Collaboration  
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Phys.Rev. D91 (2015) 5, 052012.

## Search for Long-Lived Neutral Particles Decaying to Quark-Antiquark Pairs in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV

CMS Collaboration  
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Phys.Rev. D91 (2015) 1, 012007.

## Search for disappearing tracks in proton-proton collisions at $\sqrt{s} = 8$ TeV

CMS Collaboration  
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JHEP 1501 (2015) 096.

## Measurement of the cross section ratio $\sigma_{t\bar{t}b\bar{b}}/\sigma_{t\bar{t}jj}$ in pp collisions at $\sqrt{s} = 8$ TeV

CMS Collaboration  
arXiv:1411.5621 [hep-ex].  
Phys.Lett. B746 (2015) 132-153.

## Observation of the rare $B_s^0 \rightarrow \mu^+ \mu^-$ decay from the combined analysis of CMS and LHCb data

CMS and LHCb Collaborations  
arXiv:1411.4413 [hep-ex].  
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## Search for quark contact interactions and extra spatial dimensions using dijet angular distributions in proton-

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CMS Collaboration

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**Performance of the CMS missing transverse momentum reconstruction in pp data at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

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JINST 10 (2015) 02, P02006.

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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**Study of vector boson scattering and search for new physics in events with two same-sign leptons and two jets**

CMS Collaboration

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Phys.Rev.Lett. 114 (2015) 5, 051801.

**Measurement of the ratio of the production cross sections times branching fractions of  $B_c^\pm \rightarrow J/\psi\pi^\pm$  and  $B^\pm \rightarrow J/\psi K^\pm$  and  $\mathcal{B}(B_c^\pm \rightarrow J/\psi\pi^\pm\pi^\pm\pi^\mp)/\mathcal{B}(B_c^\pm \rightarrow J/\psi\pi^\pm)$  in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

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CMS Collaboration

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JHEP 1503 (2015) 022..

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CMS Collaboration

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JHEP 1412 (2014) 017..

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CMS Collaboration

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**diphoton final states in  $pp$  collisions at 8 TeV**

CMS Collaboration  
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**Measurement of Prompt  $\psi(2S) \rightarrow J/\psi$  Yield Ratios in Pb-Pb and  $p - p$  Collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration  
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**Search for Standard Model Production of Four Top Quarks in the Lepton + Jets Channel in  $pp$  Collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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**Measurement of the production cross section ratio  $\sigma(\chi_{[b2]}(1P)) / \sigma(\chi_{[b1]}(1P))$  in  $pp$  collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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**Search for neutral MSSM Higgs bosons decaying to a pair of tau leptons in  $pp$  collisions**

CMS Collaboration  
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JHEP 1410 (2014) 160.

**Measurements of jet multiplicity and differential production cross sections of  $Z +$  jets events in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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**Search for pair production of third-generation scalar leptoquarks and top squarks in proton-proton collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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**Measurement of the  $t\bar{t}$  production cross section in  $pp$  collisions at  $\sqrt{s} = 8$  TeV in dilepton final states containing one  $\tau$  lepton**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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**Study of hadronic event-shape variables in multijet final states in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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JHEP 1410 (2014) 87.

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CMS Collaboration  
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**Measurement of top quark-antiquark pair production in association with a W or Z boson in  $pp$  collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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JHEP 1409 (2014) 094.

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration  
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**Search for massive resonances in dijet systems containing jets tagged as W or Z boson decays in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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**Measurement of pseudorapidity distributions of charged particles in proton-proton collisions at  $\sqrt{s} = 8$  TeV by the CMS and TOTEM experiments**

CMS and TOTEM Collaborations  
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CMS Collaboration  
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CMS Collaboration  
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**Measurement of jet multiplicity distributions in  $t\bar{t}$  production in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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**Studies of dijet transverse momentum balance and pseudorapidity distributions in pPb collisions at  $\sqrt{s_{NN}}=5.02$  TeV**

CMS Collaboration  
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**Measurement of the  $t\bar{t}$  production cross section in the dilepton channel in pp collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
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CMS Collaboration  
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### **Measurement of four-jet production in proton-proton collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration

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Phys.Rev. D89 (2014) 9, 092010.

### **Event activity dependence of $Y(nS)$ production in $\sqrt{s_{NN}}=5.02$ TeV pPb and $\sqrt{s}=2.76$ TeV pp collisions**

CMS Collaboration

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JHEP 1404 (2014) 103.

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CMS Collaboration

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Phys.Rev. D90 (2014) 3, 032004.

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CMS Collaboration

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JHEP 1403 (2014) 032.

### **Measurement of the properties of a Higgs boson in the four-lepton final state**

CMS Collaboration

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Phys.Rev. D89 (2014) 092007.

### **Evidence of b-Jet Quenching in PbPb Collisions at $\sqrt{s_{NN}} = 2.76$ TeV**

CMS Collaboration

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Phys.Rev.Lett. 113 (2014) 13, 132301.

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CMS Collaboration

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Phys.Rev.Lett. 112 (2014) 17, 171802.

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CMS Collaboration

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Phys.Rev.Lett. 112 (2014) 161802.

### **Search for top-quark partners with charge 5/3 in the same-sign dilepton final state**

CMS Collaboration

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CMS Collaboration

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JHEP 1402 (2014) 088.

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CMS Collaboration

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Phys.Lett. B729 (2014) 149-171.

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CMS Collaboration

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CMS Collaboration

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JHEP 1406 (2014) 009.

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CMS Collaboration

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CMS Collaboration

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JHEP 1406 (2014) 125.

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CMS Collaboration

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CMS Collaboration

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Phys.Rev.Lett. 112 (2014) 182001.

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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**Measurement of associated W + charm production in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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**Measurement of the W-boson helicity in top-quark decays from  $t\bar{t}$  production in lepton+jets events in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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JHEP 1310 (2013) 167.

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CMS Collaboration  
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CMS Collaboration  
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**Measurement of the prompt  $J/\psi$  and  $\psi(2S)$  polarizations in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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Phys.Lett. B727 (2013) 381-402.

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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration

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JINST 8 (2013) P11002.

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CMS Collaboration

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JINST 8 (2013) P09009.

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CMS Collaboration

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CMS Collaboration

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JHEP 1310 (2013) 062.

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CMS Collaboration

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Phys.Rev. D88 (2013) 052001.

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CMS Collaboration

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JHEP 1307 (2013) 116.

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CMS Collaboration

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Phys.Lett. B725 (2013) 243-270.

**Multiplicity and transverse momentum dependence of two and four-particle correlations in pPb and PbPb collisions**

CMS Collaboration

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Phys.Lett. B724 (2013) 213-240.

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CMS Collaboration

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JHEP 1307 (2013) 122.

**Measurement of the ratio of the inclusive 3-jet cross section to the inclusive 2-jet cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV and first determination of the strong coupling constant in the TeV range**

CMS Collaboration

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**Measurement of the  $\Lambda_b^0$  lifetime in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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JHEP 1307 (2013) 163.

**Measurement of masses in the  $t\bar{t}$  system by kinematic endpoints in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1304.5783 [hep-ex].  
Eur.Phys.J. C73 (2013) 2494.

**Search for a standard-model-like Higgs boson with a mass in the range 145 to 1000 GeV at the LHC**

CMS Collaboration  
arXiv:1304.0213 [hep-ex].  
Eur.Phys.J. C73 (2013) 6, 2469.

**Measurement of the  $\Upsilon(1S)$ ,  $\Upsilon(2S)$ , and  $\Upsilon(3S)$  cross sections in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1303.5900 [hep-ex].  
Phys.Lett. B727 (2013) 101-125.

**Search for microscopic black holes in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
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JHEP 1307 (2013) 178.

**Studies of jet mass in dijet and W/Z + jet events**

CMS Collaboration  
arXiv:1303.4811 [hep-ex].  
JHEP 1305 (2013) 090.

**A New Boson with a Mass of 125 GeV Observed with the CMS Experiment at the Large Hadron Collider**

CMS Collaboration  
Science 338 (2012) 1569-1575.

**Measurement of associated production of vector bosons and top quark-antiquark pairs at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1303.3239 [hep-ex].  
Phys.Rev.Lett. 110 (2013) 172002.

**Search for supersymmetry in hadronic final states with missing transverse energy using the variables  $\alpha_T$  and b-quark multiplicity in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1303.2985 [hep-ex].  
Eur.Phys.J. C73 (2013) 9, 2568.

**Search for the standard model Higgs boson produced in association with a top-quark pair in pp collisions at the LHC**

CMS Collaboration  
arXiv:1303.0763 [hep-ex].  
JHEP 1305 (2013) 145.

**Search for narrow resonances using the dijet mass spectrum in pp collisions at  $\sqrt{s}=8$  TeV**

CMS Collaboration  
arXiv:1302.4794 [hep-ex].  
Phys.Rev. D87 (2013) 11, 114015.

**Measurement of the  $X(3872)$  production cross section via decays to  $J/\psi \pi \pi$  in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1302.3968 [hep-ex].  
JHEP 1304 (2013) 154.

**Search for a Higgs boson decaying into a b-quark pair and produced in association with b quarks in proton-proton collisions at 7 TeV**

CMS Collaboration  
arXiv:1302.2892 [hep-ex].  
Phys.Lett. B722 (2013) 207-232.

**Search for new physics in final states with a lepton and missing transverse energy in pp collisions at the LHC**

CMS Collaboration  
arXiv:1302.2812 [hep-ex].  
Phys.Rev. D87 (2013) 7, 072005.

**Study of the underlying event at forward rapidity in pp collisions at  $\sqrt{s} = 0.9, 2.76$ , and 7 TeV**

CMS Collaboration  
arXiv:1302.2394 [hep-ex].  
JHEP 1304 (2013) 072.

**Searches for Higgs bosons in pp collisions at  $\sqrt{s} = 7$  and 8 TeV in the context of four-generation and fermiophobic models**

CMS Collaboration  
arXiv:1302.1764 [hep-ex].  
Phys.Lett. B725 (2013) 36-59.

**Search for pair-produced dijet resonances in four-jet final states in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1302.0531 [hep-ex].  
Phys.Rev.Lett. 110 (2013) 141802.

**Measurement of the  $t\bar{t}$  production cross section in the all-jet final state in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1302.0508 [hep-ex].  
JHEP 1305 (2013) 065.

**Measurement of the top-antitop production cross section in the tau+jets channel in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1301.5755 [hep-ex].  
Eur.Phys.J. C73 (2013) 4, 2386.

**Search for contact interactions using the inclusive jet  $p_T$  spectrum in pp collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1301.5023 [hep-ex].  
Phys.Rev. D87 (2013) 5, 052017.

**Measurement of  $W+W$  and  $ZZ$  production cross sections in pp collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration  
arXiv:1301.4698 [hep-ex].

Phys.Lett. B721 (2013) 190-211.

**Search for physics beyond the standard model in events with  $\tau$  leptons, jets, and large transverse momentum imbalance in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1301.3792 [hep-ex].

Eur.Phys.J. C73 (2013) 2493.

**Interpretation of Searches for Supersymmetry with simplified Models**

CMS Collaboration

arXiv:1301.2175 [hep-ex].

Phys.Rev. D88 (2013) 5, 052017.

**Event shapes and azimuthal correlations in  $Z$  + jets events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1301.1646 [hep-ex].

Phys.Lett. B722 (2013) 238-261.

**Search for supersymmetry in events with opposite-sign dileptons and missing transverse energy using an artificial neural network**

CMS Collaboration

arXiv:1301.0916 [hep-ex].

Phys.Rev. D87 (2013) 072001.

**Search for supersymmetry in  $pp$  collisions at  $\sqrt{s} = 7$  TeV in events with a single lepton, jets, and missing transverse momentum**

CMS Collaboration

arXiv:1212.6428 [hep-ex].

Eur.Phys.J. C73 (2013) 2404.

**Study of the Mass and Spin-Parity of the Higgs Boson Candidate Via Its Decays to Z Boson Pairs**

CMS Collaboration

arXiv:1212.6639 [hep-ex].

Phys.Rev.Lett. 110 (2013) 081803.

**Measurements of differential jet cross sections in proton-proton collisions at  $\sqrt{s} = 7$  TeV with the CMS detector**

CMS Collaboration

arXiv:1212.6660 [hep-ex].

Phys.Rev. D87 (2013) 11, 112002.

**Measurement of the  $t\bar{t}$  production cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with lepton + jets final states**

CMS Collaboration

arXiv:1212.6682.

Phys.Lett. B720 (2013) 83-104.

**Inclusive search for supersymmetry using the razor variables in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1212.6961 [hep-ex].

Phys.Rev.Lett. 111 (2013) 8, 081802.

**Search for new physics in events with same-sign dileptons and  $b$  jets in  $pp$  collisions at  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1212.6194 [hep-ex].

JHEP 1303 (2013) 037, Erratum-ibid. 1307 (2013) 041.



**Search for heavy narrow dilepton resonances in  $pp$  collisions at  $\sqrt{s} = 7$  TeV and  $\sqrt{s} = 8$  TeV**

CMS Collaboration

arXiv:1212.6175 [hep-ex].

Phys.Lett. B720 (2013) 63-82.

**Search for contact interactions in  $\mu^+\mu^-$  events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1212.4563 [hep-ex].

Phys.Rev. D87 (2013) 3, 032001.

**Search for heavy resonances in the W/Z-tagged dijet mass spectrum in  $pp$  collisions at 7 TeV**

CMS Collaboration

arXiv:1212.1910 [hep-ex].

Phys.Lett. B723 (2013) 280-301.

**Search for long-lived particles decaying to photons and missing energy in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1212.1838 [hep-ex].

Phys.Lett. B722 (2013) 273-294.

**Search for exotic resonances decaying into  $WZ/ZZ$  in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1211.5779 [hep-ex].

JHEP 1302 (2013) 036.

**Measurement of the  $ZZ$  production cross section and search for anomalous couplings in 2 l2l ' final states in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1211.4890 [hep-ex].

JHEP 1301 (2013) 063.

**Search for new physics in events with photons, jets, and missing transverse energy in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1211.4784 [hep-ex].

JHEP 1303 (2013) 111.

**Identification of b-quark jets with the CMS experiment**

CMS Collaboration

arXiv:1211.4462 [hep-ex].

JINST 8 (2013) P04013.

**Search for  $Z'$  resonances decaying to  $t\bar{t}$  in dilepton+jets final states in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1211.3338 [hep-ex].

Phys.Rev. D87 (2013) 072002.

**Search for supersymmetry in final states with a single lepton,  $b$ -quark jets, and missing transverse energy in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1211.3143 [hep-ex].

Phys.Rev. D87 (2013) 5, 052006.

**Search in leptonic channels for heavy resonances decaying to long-lived neutral particles**

CMS Collaboration  
arXiv:1211.2472 [hep-ex].  
JHEP 1302 (2013) 085.

**Measurement of differential top-quark pair production cross sections in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1211.2220 [hep-ex].  
Eur.Phys.J. C73 (2013) 3, 2339.

**Search for supersymmetry in final states with missing transverse energy and 0, 1, 2, or at least 3 b-quark jets in 7 TeV  $pp$  collisions using the variable  $\alpha_T$**

CMS Collaboration  
arXiv:1210.8115 [hep-ex].  
JHEP 1301 (2013) 077.

**Search for a non-standard-model Higgs boson decaying to a pair of new light bosons in four-muon final states**

CMS Collaboration  
arXiv:1210.7619 [hep-ex].  
Phys.Lett. B726 (2013) 564-586.

**Measurement of the sum of  $WW$  and  $WZ$  production with  $W$ +dijet events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1210.7544 [hep-ex].  
Eur.Phys.J. C73 (2013) 2, 2283.

**Search for heavy quarks decaying into a top quark and a  $W$  or  $Z$  boson using lepton + jets events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1210.7471 [hep-ex].  
JHEP 1301 (2013) 154.

**Measurement of the inelastic proton-proton cross section at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1210.6718 [hep-ex].  
Phys.Lett. B722 (2013) 5-27.

**Search for pair production of third-generation leptoquarks and top squarks in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1210.5629 [hep-ex].  
Phys.Rev.Lett. 110 (2013) 081801.

**Search for third-generation leptoquarks and scalar bottom quarks in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1210.5627 [hep-ex].  
JHEP 1212 (2012) 055.

**Observation of long-range near-side angular correlations in proton-lead collisions at the LHC**

CMS Collaboration  
arXiv:1210.5482 [nucl-ex].  
Phys.Lett. B718 (2013) 795-814.

**Observation of  $Z$  decays to four leptons with the CMS detector at the LHC**

CMS Collaboration  
arXiv:1210.3844 [hep-ex].

JHEP 1212 (2012) 034.

**Search for excited leptons in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1210.2422 [hep-ex].

Phys.Lett. B720 (2013) 309-329.

**Search for heavy neutrinos and  $W[R]$  bosons with right-handed couplings in a left-right symmetric model in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1210.2402 [hep-ex].

Phys.Rev.Lett. 109 (2012) 261802.

**Search for narrow resonances and quantum black holes in inclusive and  $b$ -tagged dijet mass spectra from  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1210.2387 [hep-ex].

JHEP 1301 (2013) 013.

**Search for fractionally charged particles in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1210.2311 [hep-ex].

Phys.Rev. D87 (2013) 9, 092008.

**Search for supersymmetry in events with photons and low missing transverse energy in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1210.2052 [hep-ex].

Phys.Lett. B719 (2013) 42-61.

**Search for heavy lepton partners of neutrinos in proton-proton collisions in the context of the type III seesaw mechanism**

CMS Collaboration

arXiv:1210.1797 [hep-ex].

Phys.Lett. B718 (2012) 348-368.

**Measurement of the relative prompt production rate of  $\chi(c2)$  and  $\chi(c1)$  in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1210.0875 [hep-ex].

Eur.Phys.J. C72 (2012) 2251.

**Search for anomalous production of highly boosted  $Z$  bosons decaying to dimuons in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1210.0867 [hep-ex].

Phys.Lett. B722 (2013) 28-47.

**Measurement of the single-top-quark  $t$ -channel cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1209.4533 [hep-ex].

JHEP 1212 (2012) 035.

**Search for resonant  $t\bar{t}$  production in lepton+jets events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1209.4397 [hep-ex].

JHEP 1212 (2012) 015.

**Search for the standard model Higgs boson produced in association with  $W$  and  $Z$  bosons in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1209.3937 [hep-ex].

JHEP 1211 (2012) 088.

**Search for a narrow spin-2 resonance decaying to a pair of  $Z$  vector bosons in the semileptonic final state**

CMS Collaboration

arXiv:1209.3807 [hep-ex].

Phys.Lett. B718 (2013) 1208-1228.

**Measurement of the  $Y1S$ ,  $Y2S$  and  $Y3S$  polarizations in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1209.2922 [hep-ex].

Phys.Rev.Lett. 110 (2013) 081802.

**Measurement of the top-quark mass in  $t\bar{t}$  events with dilepton final states in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1209.2393 [hep-ex].

Eur.Phys.J. C72 (2012) 2202.

**Measurement of the top-quark mass in  $t\bar{t}$  events with lepton+jets final states in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1209.2319 [hep-ex].

JHEP 1212 (2012) 105.

**Observation of a diffractive contribution to dijet production in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1209.1805 [hep-ex].

Phys.Rev. D87 (2013) 012006.

**Search for exclusive or semi-exclusive photon pair production and observation of exclusive and semi-exclusive electron pair production in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1209.1666 [hep-ex].

JHEP 1211 (2012) 080.

**Combined search for the quarks of a sequential fourth generation**

CMS Collaboration

arXiv:1209.1062 [hep-ex].

Phys.Rev. D86 (2012) 112003.

**Search for pair produced fourth-generation up-type quarks in  $pp$  collisions at  $\sqrt{s} = 7$  TeV with a lepton in the final state**

CMS Collaboration

arXiv:1209.0471 [hep-ex].

Phys.Lett. B718 (2012) 307-328.

**Search for supersymmetry in events with b-quark jets and missing transverse energy in  $pp$  collisions at 7 TeV**

CMS Collaboration

arXiv:1208.4859 [hep-ex].

Phys.Rev. D86 (2012) 072010.

**Study of the dijet mass spectrum in  $pp \rightarrow W + \text{jets}$  events at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1208.3477 [hep-ex].

Phys.Rev.Lett. 109 (2012) 251801.

**Search for three-jet resonances in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1208.2931 [hep-ex].

Phys.Lett. B718 (2012) 329-347.

**Observation of sequential Upsilon suppression in PbPb collisions**

CMS Collaboration

arXiv:1208.2826 [nucl-ex].

Phys.Rev.Lett. 109 (2012) 222301.

**Measurement of the  $t\bar{t}$  production cross section in the dilepton channel in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1208.2671 [hep-ex].

JHEP 1211 (2012) 067.

**Measurement of the azimuthal anisotropy of neutral pions in PbPb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration

arXiv:1208.2470 [nucl-ex].

Phys.Rev.Lett. 110 (2013) 042301.

**Search for flavor changing neutral currents in top quark decays in  $pp$  collisions at 7 TeV**

CMS Collaboration

arXiv:1208.0957 [hep-ex].

Phys.Lett. B718 (2013) 1252-1272.

**Search for a  $W'$  boson decaying to a bottom quark and a top quark in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1208.0956 [hep-ex].

Phys.Lett. B718 (2013) 1229-1251.

**Search for heavy Majorana neutrinos in  $\mu^+\mu^+[\mu^-\mu^-]$  and  $e^+e^+[e^-e^-]$  events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.6079 [hep-ex].

Phys.Lett. B717 (2012) 109-128.

**Search for pair production of first and second-generation scalar leptoquarks in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.5406 [hep-ex].

Phys.Rev. D86 (2012) 052013.

**Study of the inclusive production of charged pions, kaons, and protons in  $pp$  collisions at  $\sqrt{s} = 0.9, 2.76$ , and 7 TeV**

CMS Collaboration

arXiv:1207.4724 [hep-ex].

Eur.Phys.J. C72 (2012) 2164.

**Forward-backward asymmetry of Drell-Yan lepton pairs in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.3973 [hep-ex].

Phys.Lett. B718 (2013) 752-772.

**A search for a doubly-charged Higgs boson in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.2666 [hep-ex].

Eur.Phys.J. C72 (2012) 2189.

**Measurement of the underlying event activity in  $pp$  collisions at  $\sqrt{s} = 0.9$  and 7 TeV with the novel jet-area/median approach**

CMS Collaboration

arXiv:1207.2392 [hep-ex].

JHEP 1208 (2012) 130.

**Search for new physics in the multijet and missing transverse momentum final state in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.1898 [hep-ex].

Phys.Rev.Lett. 109 (2012) 171803.

**Search for supersymmetry in hadronic final states using  $MT_2$  in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.1798 [hep-ex].

JHEP 1210 (2012) 018.

**Search for a fermiophobic Higgs boson in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.1130 [hep-ex].

JHEP 1209 (2012) 111.

**Search for new physics with long-lived particles decaying to photons and missing energy in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.0627 [hep-ex].

JHEP 1211 (2012) 172.

**Search for stopped long-lived particles produced in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1207.0106 [hep-ex].

JHEP 1208 (2012) 026.

**Inclusive and differential measurements of the  $t\bar{t}$  charge asymmetry in proton-proton collisions at 7 TeV**

CMS Collaboration

arXiv:1207.0065 [hep-ex].

Phys.Lett. B717 (2012) 129-150.

**Search for a light pseudoscalar Higgs boson in the dimuon decay channel in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1206.6326 [hep-ex].

Phys.Rev.Lett. 109 (2012) 121801.

**Search for dark matter and large extra dimensions in monojet events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1206.5663 [hep-ex].

JHEP 1209 (2012) 094.

**Search for new physics in events with opposite-sign leptons, jets, and missing transverse energy in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1206.3949 [hep-ex].

Phys.Lett. B718 (2013) 815-840.

**Search for charge-asymmetric production of  $W'$  bosons in top pair + jet events from  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1206.3921 [hep-ex].

Phys.Lett. B717 (2012) 351-370.

**Measurement of the electron charge asymmetry in inclusive  $W$  production in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1206.2598 [hep-ex].

Phys.Rev.Lett. 109 (2012) 111806.

**Search for narrow resonances in dilepton mass spectra in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1206.1849 [hep-ex].

Phys.Lett. B714 (2012) 158-179.

**Search for high mass resonances decaying into  $\tau^+$  lepton pairs in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1206.1725 [hep-ex].

Phys.Lett. B716 (2012) 82-102.

**Search for a  $W'$  or Techni- $\rho$  Decaying into  $WZ$  in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1206.0433 [hep-ex].

Phys.Rev.Lett. 109 (2012) 141801.

**Search for new physics with same-sign isolated dilepton events with jets and missing transverse energy**

CMS Collaboration

arXiv:1205.6615 [hep-ex].

Phys.Rev.Lett. 109 (2012) 071803.

**Study of  $W$  boson production in PbPb and  $pp$  collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration

arXiv:1205.6334 [nucl-ex].

Phys.Lett. B715 (2012) 66-87.

**Measurement of jet fragmentation into charged particles in  $pp$  and PbPb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration

arXiv:1205.5872 [nucl-ex].

JHEP 1210 (2012) 087.

**Search for a light charged Higgs boson in top quark decays in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1205.5736 [hep-ex].

JHEP 1207 (2012) 143.

**Search for new physics in events with same-sign dileptons and  $b$ -tagged jets in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1205.3933 [hep-ex].

JHEP 1208 (2012) 110.

**Measurement of the pseudorapidity and centrality dependence of the transverse energy density in PbPb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration

arXiv:1205.2488 [nucl-ex].

Phys.Rev.Lett. 109 (2012) 152303.

**Measurement of the  $\Lambda_{cb}$  cross section and the  $\bar{\Lambda}(b)$  to  $\Lambda_{cb}$  ratio with  $\Lambda_{cb}$  to J/Psi  $\Lambda$  decays in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1205.0594 [hep-ex].

Phys.Lett. B714 (2012) 136-157.

**Search for heavy long-lived charged particles in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1205.0272 [hep-ex].

Phys.Lett. B713 (2012) 408-433.

**Studies of jet quenching using isolated-photon+jet correlations in PbPb and  $pp$  collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration

arXiv:1205.0206 [nucl-ex].

Phys.Lett. B718 (2013) 773-794.

**Observation of a new  $\Xi(b)$  baryon**

CMS Collaboration

arXiv:1204.5955 [hep-ex].

Phys.Rev.Lett. 108 (2012) 252002.

**Search for anomalous production of multilepton events in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1204.5341 [hep-ex].

JHEP 1206 (2012) 169.

**Search for leptonic decays of  $W^\pm$  bosons in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1204.4764 [hep-ex].

JHEP 1208 (2012) 023.

**Shape, Transverse Size, and Charged Hadron Multiplicity of Jets in  $pp$  Collisions at 7 TeV**

CMS Collaboration

arXiv:1204.3170 [hep-ex].

JHEP 1206 (2012) 160.

**Measurement of the mass difference between top and antitop quarks**

CMS Collaboration

arXiv:1204.2807 [hep-ex].

JHEP 1206 (2012) 109.

**Search for Anomalous  $t\bar{t}$  Production in the Highly-Boosted All-Hadronic Final State**

CMS Collaboration

arXiv:1204.2488 [hep-ex].

JHEP 1209 (2012) 029, Erratum-ibid. 1403 (2014) 132.



**Azimuthal anisotropy of charged particles at high transverse momenta in PbPb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration  
arXiv:1204.1850 [nucl-ex].  
Phys.Rev.Lett. 109 (2012) 022301.

**Measurement of the  $Z/\gamma^* + b$ -jet cross section in pp collisions at 7 TeV**

CMS Collaboration  
arXiv:1204.1643 [hep-ex].  
JHEP 1206 (2012) 126.

**Measurement of the elliptic anisotropy of charged particles produced in PbPb collisions at nucleon-nucleon center-of-mass energy = 2.76 TeV**

CMS Collaboration  
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Phys.Rev. C87 (2013) 014902.

**Measurement of the underlying event in the Drell-Yan process in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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CMS Collaboration  
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JHEP 1205 (2012) 123.

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CMS Collaboration  
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Phys.Rev.Lett. 108 (2012) 261803.

**Ratios of dijet production cross sections as a function of the absolute difference in rapidity between jets in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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Eur.Phys.J. C72 (2012) 2216.

**Measurement of the top quark pair production cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV in dilepton final states containing a  $\tau$**

CMS Collaboration  
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Phys.Rev. D85 (2012) 112007.

**Search for heavy, top-like quark pair production in the dilepton final state in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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Phys.Lett. B716 (2012) 103-121.

**Search for  $B_s^0 \rightarrow \mu^+ \mu^-$  and  $B^0 \rightarrow \mu^+ \mu^-$  decays**

CMS Collaboration  
arXiv:1203.3976 [hep-ex].  
JHEP 1204 (2012) 033.

**Measurement of the cross section for production of  $b\bar{b} + X$ , decaying to muons in  $pp$  collisions at  $\sqrt{s} = 7$**

## TeV

CMS Collaboration  
arXiv:1203.3458 [hep-ex].  
JHEP 1206 (2012) 110.

### Search for microscopic black holes in $pp$ collisions at $\sqrt{s} = 7$ TeV

CMS Collaboration  
arXiv:1202.6396 [hep-ex].  
JHEP 1204 (2012) 061.

### Search for quark compositeness in dijet angular distributions from $pp$ collisions at $\sqrt{s} = 7$ TeV

CMS Collaboration  
arXiv:1202.5535 [hep-ex].  
JHEP 1205 (2012) 055.

### Jet momentum dependence of jet quenching in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV

CMS Collaboration  
arXiv:1202.5022 [nucl-ex].  
Phys.Lett. B712 (2012) 176-197.

### Inclusive $b$ -jet production in $pp$ collisions at $\sqrt{s} = 7$ TeV

CMS Collaboration  
arXiv:1202.4617 [hep-ex].  
JHEP 1204 (2012) 084.

### Search for the standard model Higgs boson decaying to bottom quarks in $pp$ collisions at $\sqrt{s} = 7$ TeV

CMS Collaboration  
arXiv:1202.4195 [hep-ex].  
Phys.Lett. B710 (2012) 284-306.

### Search for neutral Higgs bosons decaying to $\tau$ pairs in $pp$ collisions at $\sqrt{s} = 7$ TeV

CMS Collaboration  
arXiv:1202.4083 [hep-ex].  
Phys.Lett. B713 (2012) 68-90.

### Search for large extra dimensions in dimuon and dielectron events in $pp$ collisions at $\sqrt{s} = 7$ TeV

CMS Collaboration  
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Phys.Lett. B711 (2012) 15-34.

### Search for the standard model Higgs boson in the $H$ to $ZZ$ to $2\ell 2\nu$ channel in $pp$ collisions at $\sqrt{s} = 7$ TeV

CMS Collaboration  
arXiv:1202.3478 [hep-ex].  
JHEP 1203 (2012) 040.

### Search for the standard model Higgs boson in the $H$ to $ZZ$ to $\ell\ell\tau\tau$ decay channel in $pp$ collisions at $\sqrt{s} = 7$ TeV

CMS Collaboration  
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JHEP 1203 (2012) 081.

### Study of high-pT charged particle suppression in PbPb compared to $pp$ collisions at $\sqrt{s_{NN}} = 2.76$ TeV

CMS Collaboration  
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Eur.Phys.J. C72 (2012) 1945.

**Search for the standard model Higgs boson in the decay channel  $H$  to  $ZZ$  to 4 leptons in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1202.1997 [hep-ex].

Phys.Rev.Lett. 108 (2012) 111804.

**Combined results of searches for the standard model Higgs boson in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

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Phys.Lett. B710 (2012) 26-48.

**Search for the standard model Higgs boson decaying into two photons in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1202.1487 [hep-ex].

Phys.Lett. B710 (2012) 403-425.

**Search for a Higgs boson in the decay channel  $H$  to  $ZZ(*)$  to  $q \bar{q} \ell^- \ell^+$  in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1202.1416 [hep-ex].

JHEP 1204 (2012) 036.

**Measurement of the inclusive production cross sections for forward jets and for dijet events with one forward and one central jet in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1202.0704 [hep-ex].

JHEP 1206 (2012) 036.

**Suppression of non-prompt  $J/\psi$ , prompt  $J/\psi$ , and  $\Upsilon(1S)$  in PbPb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration

arXiv:1201.5069 [nucl-ex].

JHEP 1205 (2012) 063.

**Centrality dependence of dihadron correlations and azimuthal anisotropy harmonics in PbPb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration

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Eur.Phys.J. C72 (2012) 2012.

**Measurement of isolated photon production in  $pp$  and PbPb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV**

CMS Collaboration

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Phys.Lett. B710 (2012) 256-277.

**Measurement of the charge asymmetry in top-quark pair production in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

arXiv:1112.5100 [hep-ex].

Phys.Lett. B709 (2012) 28-49.

**Search for signatures of extra dimensions in the diphoton mass spectrum at the Large Hadron Collider**

CMS Collaboration

arXiv:1112.0688 [hep-ex].

Phys.Rev.Lett. 108 (2012) 111801.

**Exclusive photon-photon production of muon pairs in proton-proton collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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JHEP 1201 (2012) 052.

**$J/\psi$  and  $\psi_{2S}$  production in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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JHEP 1202 (2012) 011.

**Measurement of the Production Cross Section for Pairs of Isolated Photons in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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JHEP 1201 (2012) 133.

**Measurement of the Rapidity and Transverse Momentum Distributions of  $Z$  Bosons in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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Phys.Rev. D85 (2012) 032002.

**Jet Production Rates in Association with  $W$  and  $Z$  Bosons in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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JHEP 1201 (2012) 010.

**Measurement of the weak mixing angle with the Drell-Yan process in proton-proton collisions at the LHC**

CMS Collaboration  
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**Measurement of energy flow at large pseudorapidities in  $pp$  collisions at  $\sqrt{s} = 0.9$  and 7 TeV**

CMS Collaboration  
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JHEP 1111 (2011) 148, Erratum-ibid. 1202 (2012) 055.

**Forward Energy Flow, Central Charged-Particle Multiplicities, and Pseudorapidity Gaps in  $W$  and  $Z$  Boson Events from  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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Eur.Phys.J. C72 (2012) 1839.

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CMS Collaboration  
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JINST 7 (2012) P01001.

**Search for a Vector-like Quark with Charge 2/3 in  $t + Z$  Events from  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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**Search for Supersymmetry at the LHC in Events with Jets and Missing Transverse Energy**

CMS Collaboration  
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Phys.Rev.Lett. 107 (2011) 221804.

## **Measurement of the Differential Cross Section for Isolated Prompt Photon Production in pp Collisions at 7 TeV**

CMS Collaboration  
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Phys.Rev. D84 (2011) 052011.

## **Measurement of the Drell-Yan Cross Section in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
arXiv:1108.0566 [hep-ex].  
JHEP 1110 (2011) 007.

## **Search for $B(s)$ and $B$ to dimuon decays in pp collisions at 7 TeV**

CMS Collaboration  
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## **Search for Resonances in the Dijet Mass Spectrum from 7 TeV pp Collisions at CMS**

CMS Collaboration  
arXiv:1107.4771 [hep-ex].  
Phys.Lett. B704 (2011) 123-142.

## **Measurement of the Inclusive $W$ and $Z$ Production Cross Sections in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
arXiv:1107.4789 [hep-ex].  
JHEP 1110 (2011) 132.

## **Dependence on pseudorapidity and centrality of charged hadron production in PbPb collisions at a nucleon-nucleon centre-of-mass energy of 2.76 TeV**

CMS Collaboration  
arXiv:1107.4800 [nucl-ex].  
JHEP 1108 (2011) 141.

## **Determination of Jet Energy Calibration and Transverse Momentum Resolution in CMS**

CMS Collaboration  
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JINST 6 (2011) P11002.

## **Search for Three-Jet Resonances in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
arXiv:1107.3084 [hep-ex].  
Phys.Rev.Lett. 107 (2011) 101801.

## **Search for supersymmetry in $pp$ collisions at $\sqrt{s} = 7$ TeV in events with a single lepton, jets, and missing transverse momentum**

CMS Collaboration  
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JHEP 1108 (2011) 156.

## **A search for excited leptons in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
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Phys.Lett. B704 (2011) 143-162.

## **Inclusive search for squarks and gluinos in $pp$ collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration

arXiv:1107.1279 [hep-ex].  
Phys.Rev. D85 (2012) 012004.

**Measurement of the Underlying Event Activity at the LHC with  $\sqrt{s} = 7$  TeV and Comparison with  $\sqrt{s} = 0.9$  TeV**

CMS Collaboration  
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JHEP 1109 (2011) 109.

**Missing transverse energy performance of the CMS detector**

CMS Collaboration  
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JINST 6 (2011) P09001.

**Search for New Physics with a Mono-Jet and Missing Transverse Energy in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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Phys.Rev.Lett. 107 (2011) 201804.

**Search for New Physics with Jets and Missing Transverse Momentum in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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JHEP 1108 (2011) 155.

**Measurement of the Strange  $B$  Meson Production Cross Section with  $J/\Psi \phi$  Decays in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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Phys.Rev. D84 (2011) 052008.

**Search for Supersymmetry in Events with  $b$  Jets and Missing Transverse Momentum at the LHC**

CMS Collaboration  
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JHEP 1107 (2011) 113.

**Measurement of the  $t$ -channel single top quark production cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
arXiv:1106.3052 [hep-ex].  
Phys.Rev.Lett. 107 (2011) 091802.

**Search for Light Resonances Decaying into Pairs of Muons as a Signal of New Physics**

CMS Collaboration  
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JHEP 1107 (2011) 098.

**Search for Same-Sign Top-Quark Pair Production at  $\sqrt{s} = 7$  TeV and Limits on Flavour Changing Neutral Currents in the Top Sector**

CMS Collaboration  
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JHEP 1108 (2011) 005.

**Measurement of the Top-antitop Production Cross Section in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV using the Kinematic Properties of Events with Leptons and Jets**

CMS Collaboration  
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Eur.Phys.J. C71 (2011) 1721.

**Search for Physics Beyond the Standard Model Using Multilepton Signatures in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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Phys.Lett. B704 (2011) 411-433.

**Measurement of the Ratio of the 3-jet to 2-jet Cross Sections in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration  
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CMS Collaboration  
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Phys.Rev.Lett. 107 (2011) 132001.

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CMS Collaboration  
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JHEP 1107 (2011) 049.

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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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JHEP 1106 (2011) 093.

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CMS Collaboration  
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CMS Collaboration  
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JHEP 1107 (2011) 076.

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CMS Collaboration  
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JHEP 1108 (2011) 086.

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## **LHC**

CMS Collaboration  
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### **Search for new physics with same-sign isolated dilepton events with jets and missing transverse energy at the LHC**

CMS Collaboration  
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JHEP 1106 (2011) 077.

### **Measurement of the $B^0$ production cross section in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
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### **Measurement of the differential dijet production cross section in proton-proton collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
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### **Measurement of the Inclusive Z Cross Section via Decays to Tau Pairs in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
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JHEP 1108 (2011) 117.

### **Search for Neutral MSSM Higgs Bosons Decaying to Tau Pairs in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
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### **Search for Large Extra Dimensions in the Diphoton Final State at the Large Hadron Collider**

CMS Collaboration  
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### **Measurement of the lepton charge asymmetry in inclusive $W$ production in $pp$ collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
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JHEP 1104 (2011) 050.

### **Search for Physics Beyond the Standard Model in Opposite-Sign Dilepton Events at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
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JHEP 1106 (2011) 026.

### **Search for Supersymmetry in $pp$ Collisions at $\sqrt{s} = 7$ TeV in Events with Two Photons and Missing Transverse Energy**

CMS Collaboration  
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### **Search for Resonances in the Dilepton Mass Distribution in $pp$ Collisions at $\sqrt{s} = 7$ TeV**

CMS Collaboration  
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JHEP 1105 (2011) 093.



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CMS Collaboration

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CMS Collaboration

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Phys.Rev.Lett. 106 (2011) 212301.

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CMS Collaboration

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**Strange Particle Production in  $pp$  Collisions at  $\sqrt{s} = 0.9$  and 7 TeV**

CMS Collaboration

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JHEP 1105 (2011) 064.

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CMS Collaboration

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JHEP 1103 (2011) 136.

**Measurement of Dijet Angular Distributions and Search for Quark Compositeness in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

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Phys.Rev.Lett. 106 (2011) 201804.

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CMS Collaboration

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Phys.Rev. C84 (2011) 024906.

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CMS Collaboration

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Phys.Lett. B699 (2011) 48-67.

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CMS Collaboration

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Phys.Rev.Lett. 106 (2011) 122003.

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CMS Collaboration

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JHEP 1103 (2011) 090.

**Measurement of Bose-Einstein Correlations in  $pp$  Collisions at  $\sqrt{s} = 0.9$  and 7 TeV**

CMS Collaboration

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JHEP 1105 (2011) 029.

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CMS Collaboration

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Phys.Lett. B698 (2011) 196-218.

**Search for Heavy Stable Charged Particles in  $pp$  collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

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JHEP 1103 (2011) 024.

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CMS Collaboration

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CMS Collaboration

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Phys.Lett. B698 (2011) 21-39.

**Upsilon Production Cross-Section in pp Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

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Phys.Rev. D83 (2011) 112004.

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CMS Collaboration

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Phys.Rev.Lett. 106 (2011) 201802.

**Search for Pair Production of Second-Generation Scalar Leptoquarks in  $pp$  Collisions at  $\sqrt{s} = 7$  TeV**

CMS Collaboration

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Phys.Rev.Lett. 106 (2011) 201803.

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CMS Collaboration

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Phys.Lett. B697 (2011) 434-453.

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CMS Collaboration

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JHEP 1101 (2011) 080.

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CMS Collaboration

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Phys.Rev.Lett. 106 (2011) 082001.

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CMS Collaboration

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JHEP 1101 (2011) 079.

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CMS Collaboration

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Phys.Rev.Lett. 106 (2011) 011801.

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CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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Phys.Rev.Lett. 105 (2010) 262001.

**Search for Dijet Resonances in 7 TeV  $pp$  Collisions at CMS**

CMS Collaboration

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Phys.Rev.Lett. 105 (2010) 211801.

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CMS Collaboration

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JHEP 1009 (2010) 091.

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CMS Collaboration

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Eur.Phys.J. C70 (2010) 1165-1192.

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CMS Collaboration

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CMS Collaboration

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**Measurement of Bose-Einstein correlations with first CMS data**

CMS Collaboration

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Phys.Rev.Lett. 105 (2010) 032001.

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CMS Collaboration

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CMS Collaboration  
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JHEP 1002 (2010) 041.

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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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JINST 5 (2010) P03007.

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CMS Collaboration  
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JINST 5 (2010) T03008.

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CMS Collaboration  
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CMS Collaboration  
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**Performance of the CMS Hadron Calorimeter with Cosmic Ray Muons and LHC Beam Data**

CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration  
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CMS Collaboration

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CMS Collaboration

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### **Performance of the CMS Drift Tube Chambers with Cosmic Rays**

CMS Collaboration

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CMS Collaboration

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CMS Collaboration

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### **Performance Study of the CMS Barrel Resistive Plate Chambers with Cosmic Rays**

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### **Performance and Operation of the CMS Electromagnetic Calorimeter**

CMS Collaboration  
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### **Alignment of the CMS Silicon Tracker during Commissioning with Cosmic Rays**

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### **The CMS experiment at the CERN LHC**

CMS Collaboration  
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**A Software and Computing prototype for CMS Muon System alignment**, (*Iban Cabrillo, Isidro Gonzalez Caballero, Rebeca Gonzalez Suarez...*), Proceedings CHEP 2007, Journal of Physics: Conference Series 119 (2008) 072008

## Public Analysis Summaries

CMS Public Analysis Summaries in which I had a relevant contribution in reverse chronological order. This kind of document is reviewed by a board of four referees and circulated to the Collaboration before being made public:

'Higgs to WW measurements with  $15.2 \text{ fb}^{-1}$  of 13 TeV proton-proton collisions' - HIG-16-021 - [C - Higgs to WW]

'Search for Higgs boson pair production in the  $b\bar{b}l\nu l\nu$  final state at  $\sqrt{s} = 13 \text{ TeV}$ ' - HIG-16-024 - [R - Higgs to WW]

'Search for high mass Higgs to WW with fully leptonic decays using 2015 data' - HIG-16-023 [R - Higgs to WW]

'Search for associated production of Higgs bosons and top quarks in multilepton final states at  $\sqrt{s} = 13 \text{ TeV}$ ' - HIG-16-022 [R - Higgs to WW]

'Search for associated production of a Z boson with a single top quark and for tZ flavour-changing interactions in pp collisions at  $\sqrt{s} = 8 \text{ TeV}$ ' - TOP-12-039 [R - Single top]

'Measurement of the top quark mass in the dileptonic ttbar decay channel using the Mbl, MT2, and MAOS Mblv observables'- TOP-15-008 [R-ARC] [Chair of the review]

'First results on Higgs to WW at  $\sqrt{s} = 13 \text{ TeV}$ ' - HIG-15-003 [ED- HWW]

'Combination of cross-section measurements of associated production of a single top quark and a W boson at  $\sqrt{s} = 8 \text{ TeV}$  with the ATLAS and CMS experiments' - TOP-15-019 [C]

'Search for resonant Higgs boson pair production in the  $b\bar{b}l\nu l\nu$  final state at  $\sqrt{s} = 13 \text{ TeV}$ ' - HIG-16-011 [R - Higgs to WW]

'Search for ttH production in multilepton final states at  $\sqrt{s} = 13 \text{ TeV}$ ' - HIG-15-008 [C, R - HWW]

'Measurement of the top quark mass from single-top production events' - TOP-15-001 [R-ARC] [Chair of the review]

'Measurement of the transverse momentum spectrum of the Higgs boson produced in pp collisions at  $\sqrt{s} = 8 \text{ TeV}$  using the  $H \rightarrow WW$  decays' (CMS-PAS-HIG-15-010) [R - Higgs to WW]

'Measurement of the top-quark mass from the b jet energy spectrum' (CMS-PAS-TOP-15-002) [R-ARC] [Chair of the review]

'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  $8 \text{ TeV}$ ' (CMS-PAS-HIG-15-002) [C]

'Measurement of the W boson helicity using  $t\bar{t}$  events in the dilepton final state at  $\sqrt{s} = 8 \text{ TeV}$ ' CMS-PAS-TOP-14-017 [R-ARC] [Chair of the review]

'Measurements of the differential cross section of single top-quark production in the t channel in proton-proton collisions at  $\sqrt{s} = 8 \text{ TeV}$ ' (CMS-PAS-TOP-14-004) [R - Single top]

'Search for  $H \rightarrow b\bar{b}$  in association with single top quarks as a test of Higgs boson couplings' (CMS-PAS-HIG-14-015) [C]

'Combination of cross-section measurements of associated production of a single top-quark and a W boson at  $\sqrt{s} = 8 \text{ TeV}$  with the ATLAS and CMS experiments' (CMS-PAS-TOP-14-009) [C, R - Single top]

'Constraints on Anomalous HWW Interactions using Higgs boson decays to  $W+W^-$  in the fully leptonic final state' (CMS-PAS-HIG-14-012) [PA, ED]



- ‘Constraints on anomalous HVV interactions using H to 4l decays’ (CMS-PAS-HIG-14-014) [C]
- ‘Search for  $t\bar{t}H$  events in the  $H \rightarrow b\bar{b}$  final state using the Matrix Element Method’ (CMS-PAS- HIG-14-010) [R-ARC]
- ‘Search for anomalous Wtb couplings and top FCNC in t-channel single-top-quark events’ (CMS-PAS-TOP-14-007) [R - Single top]
- ‘Search for anomalous single top quark production in association with a photon’ (CMS-PAS-TOP-14-003) [R - Single top]
- ‘Search for new physics with monotop final states in pp collisions at  $\sqrt{s} = 8$  TeV’ (CMS-PAS- B2G-12-022) [R-ARC] [Chair of the review]
- ‘Search for associated production of a single top quark and a Higgs boson in events where the Higgs boson decays to two photons at  $\sqrt{s} = 8$  TeV’ (CMS-PAS-HIG-14-001) [R-ARC]
- ‘Projections for Top FCNC Searches in  $3000fb^{-1}$  at the LHC’ (CMS-PAS-FTR-13-016) [R-ARC]
- ‘Sensitivity study of the prospects for searching for heavy vector-like charge 2/3 quarks at  $\sqrt{s} = 14$  TeV with the upgraded CMS detector’ (CMS-PAS-FTR-13-026) [R-ARC]
- ‘Projected improvement of the accuracy of top-quark mass measurements at the upgraded LHC’ (CMS-PAS-FTR-13-017) [R-ARC]
- ‘CMS reach in  $B_s^0 \rightarrow \mu^+\mu^-$  and  $B^0 \rightarrow \mu^+\mu^-$  branching fractions for the new LHC runs’ (CMS-PAS-FTR-13-022) [R-ARC]
- ‘Search for s-channel single top-quark production in pp collisions at  $\sqrt{s} = 8\text{TeV}$ ’ (CMS-PAS-TOP-13-009) [R - Single top]
- ‘Measurement of top quark polarization in t-channel single-top production’ (CMS-PAS-TOP-13-001) [R - Single top]
- ‘Combination of single top-quark cross-sections measurements in the t-channel at  $\sqrt{s} = 8\text{TeV}$  with the ATLAS and CMS experiments’ (CMS-PAS-TOP-12-002) [R - Single top]
- ‘Search for electroweak production of charginos and neutralinos using leptonic final states’ (CMS-PAS-SUS-13-006) [R-ARC]
- ‘Observation of Associated Production of a Single Top Quark and W Boson in pp Collisions at  $\sqrt{s} = 8\text{TeV}$ ’ (CMS-PAS-TOP-12-040) [PA]
- ‘Search for Flavor-Changing Neutral Currents in tZ events in proton-proton collisions at  $\sqrt{s} = 7\text{TeV}$ ’ (CMS-PAS-TOP-12-021) [R - Single top]
- ‘Search for electroweak production of charginos, neutralinos and sleptons using leptonic final states in pp collisions at  $\sqrt{s} = 8$  TeV’ (CMS-PAS-SUS-12-022) [R-ARC]
- ‘Measurement of the single-top t-channel charge ratio at 8 TeV’ (CMS-PAS-TOP-12-038) [R - Single top]
- ‘Measurement of W-helicity fractions in single top events topology’ (CMS-PAS-TOP-12-020) [R - Single top]
- ‘Search for single top tW associated production in the dilepton decay channel in pp collisions at  $\sqrt{s} = 7$  TeV’ (CMS-PAS-TOP-11-022) [PA, ED]
- ‘Search for Physics Beyond the Standard Model in Z+MET+Jets events at the LHC’ (CMS-PAS-SUS-11-019) [R-ARC]

'Measurement of the top-quark pair-production cross section in the lepton+jets channel with the use of b-tagging' (CMS-PAS-TOP-10-003) [C]

'Measurement of the top-quark pair-production cross section in the di-lepton channel at 7 TeV' (CMS-PAS-TOP-10-005) [C]

'Search for  $H \rightarrow WW \rightarrow 2l 2\nu$ ' (CMS-PAS-HIG-10-003) [C]

'Observation of WW final state' (CMS-PAS-EWK-009) [C]

'Performance of muon identification in pp collisions at  $\sqrt{s} = 7$  TeV' (CMS-PAS-MUO-10-002) [PA]

'Search Strategy for a Standard Model Higgs Boson Decaying to Two W Bosons in the Fully Leptonic Final State' (CMS-PAS-HIG-08-006) [PA]

'Search for the Higgs boson in the  $WW$  decay channel with the CMS experiment' (CMS-PAS-HIG-07-001) [PA]

## Public top results

Public analysis summaries made public during my convenership of the top quark physics analysis group in CMS, in reverse chronological order:

- 'Measurement of the single top quark and antiquark production cross sections in the t channel and their ratio in pp collisions at  $\sqrt{s} = 13$  TeV' TOP-17-011
- 'Measurement of the top quark mass in the all-jets final state at  $\sqrt{s} = 13$  TeV' TOP-17-008
- 'Measurements of differential cross sections for  $t\bar{t}$  production in proton-proton collisions at  $\sqrt{s} = 13$  TeV using events containing two leptons' TOP-17-014
- 'Search for top+photon production in pp collisions at 13 TeV in the muon+jets channel' TOP-17-016
- 'Study of the underlying event in top quark pair production at  $\sqrt{s} = 13$  TeV' TOP-17-015
- 'Measurement of jet substructure observables in  $t\bar{t}$  events from pp collisions at  $\sqrt{s} = 13$  TeV' TOP-17-013
- 'Search for the flavor-changing interactions of the top quark with the Higgs boson in  $H \rightarrow b\bar{b}$  channel at  $\sqrt{s} = 13$  TeV' TOP-17-003
- 'Evidence for the standard model production of a Z boson with a single top quark in pp collisions at  $\sqrt{s} = 13$  TeV' TOP-16-020
- 'Measurement of the production cross section for single top quarks in association with W bosons in pp collisions at  $\sqrt{s} = 13$  TeV' TOP-17-018
- 'Measurement of the top quark mass with lepton+jets final states in pp collisions at  $\sqrt{s} = 13$  TeV' TOP-17-007
- 'Measurement of differential cross sections for top quark pair production and associated jets using the lepton+jets final state in proton-proton collisions at 13 TeV' TOP-17-002
- 'Search for the standard model production of four top quarks with same-sign and multilepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV ' TOP-17-009
- 'Measurement of the differential  $t\bar{t}$  cross section with high- $p_T$  top-quark jets in the all-hadronic channel at  $\sqrt{s} = 8$  TeV ' TOP-16-018
- 'Measurement of the differential cross sections of top quark pair production as a function of kinematic event variables in pp collisions at  $\sqrt{s} = 13$  TeV' TOP-16-014
- 'Measurement of top quark pair-production in association with a W or Z boson in pp collisions at 13 TeV' TOP-17-005
- 'Measurement of the inclusive  $t\bar{t}$  cross section at  $\sqrt{s} = 5.02$  TeV' TOP-16-023
- 'Measurement of the top quark mass with muon+jets final states in pp collisions at  $\sqrt{s} = 13$  TeV' (TOP-16-022)
- 'Investigations of the impact of the parton shower tuning in Pythia 8 in the modelling of  $t\bar{t}$  at  $\sqrt{s} = 8$  and 13 TeV' (TOP-16-021)
- 'Combinations of the CMS alternative technique measurements of the top quark mass' (TOP-15-012)
- 'Bounding the top quark width using final states with two charged leptons and two jets at  $\sqrt{s} = 13$  TeV ' (TOP-16-019)
- 'Measurement of the  $t\bar{t} + \gamma$  production cross-section in pp collisions at  $\sqrt{s} = 8$  TeV' (TOP-14-008)

'Measurement of the jet mass distribution in boosted  $t\bar{t}$  production at  $\sqrt{s} = 8$  TeV' (TOP-15-015)

## Internal Analysis Notes

Internal notes that I am an author of in reverse chronological order:

- CMS AN-2015/300** - 'Higgs Boson decaying to WW in the leptonic final state at 13 TeV' (*HWW team*) [ED]
- CMS AN-2015/299** - 'Common analysis object definitions and triggers efficiencies for the  $H \rightarrow WW$  Run-2 analysis' (*HWW team*) [ED]
- CMS AN-2015/321** - 'Search for ttH in multilepton final states at 13 TeV' (*Anne-Catherine Le Bihan et al.*) [C]
- CMS AN-2013/113** - 'Search for  $H \rightarrow b\bar{b}$  in association with single top quarks as a test of Higgs boson couplings' (*A. Anuar, A. Bean et al.*) [C]
- CMS AN-2014/083** - 'Spin Parity of the Higgs Boson and Tensor Structure of the HWW interaction in the  $H \rightarrow WW$  dileptonic decay channel' (*Rebeca Gonzalez Suarez et al.*) [PA-ED]
- CMS AN-2013/096** - 'Study of associated Higgs boson (ZH) production in the three leptons, two jets final state at 7 and 8 TeV' (*Rebeca Gonzalez Suarez et al.*) [PA-ED]
- CMS AN-2012/458** - 'Single top associated tW production at 8 TeV' (*Rebeca Gonzalez Suarez et al.*) [PA-ED]
- CMS AN-2012/060** - 'Search for single top tW production using a boosted decision tree method in the dilepton channel' (*Rebeca Gonzalez Suarez et al.*) [C]
- CMS AN-2011/465** - 'Search for the Single top tW associated production in the dilepton decay channel with the full 2011 dataset' (*Rebeca Gonzalez Suarez et al.*) [PA-ED]
- CMS AN-2011/253** - 'Search for the Single top tW associated production in the dilepton decay channel' (*Rebeca Gonzalez Suarez et al.*) [PA-ED]
- CMS AN2010/281** - 'A measurement of  $t\bar{t}$  cross section in early 7 TeV data using the semileptonic topology: electron plus jets with one or more b-tags, using  $36 \text{ pb}^{-1}$  of CMS data.' (*M. Barrett, F. Blekman et al.*) [C-ED]
- CMS AN2010/411** - 'Search for Higgs Boson Decays to Two W Bosons in the Fully Leptonic Final State at  $\sqrt{s} = 7 \text{ TeV}$ ' (*G. Bauer, J. Bendavid et al.*) [C]
- CMS AN2010/344** - 'First Measurement of  $pp \rightarrow WW$  Production Cross-Section at  $\sqrt{s} = 7 \text{ TeV}$ ' (*W. Andrews, D. Barge et al.*) [C]
- CMS AN2010/406** - 'Measurement of the  $t\bar{t}$  cross section in the dilepton final state using b-tagging at  $\sqrt{s} = 7 \text{ TeV}$ ' (*J. Brochero, A. Calderón et al.*) [C-ED]
- CMS AN 2010/008** - 'The CMS physics reach for searches at 7 TeV' (*CMS Collaboration*) [PA]
- CMS AN 2009/139** - 'Search Strategy for a Standard Model Higgs Boson Decaying to Two W Bosons in the Fully Leptonic Final State at  $\sqrt{s} = 10 \text{ TeV}$ ' (*G. Bauer, J. Bendavid et al.*)
- CMS AN-2009/185** - 'Analysis strategy for the measurement of the  $WW \rightarrow \mu\nu\mu\nu$  cross-section with  $200 \text{ pb}^{-1}$  at center of mass energy of 10 TeV' (*C.Jorda, R. Villar et al.*) [C]
- CMS AN-2009/025** - 'Analysis strategy for the measurement of the  $WW \rightarrow \mu\nu\mu\nu$  cross-section' (*C.Jorda, R. Villar et al.*) [C]
- CMS AN-2009/020** - 'Projected exclusion limits on the SM Higgs boson cross sections obtained by combining

the  $H \rightarrow WW$  and  $ZZ$  decay channels' (*S. Baffioni, C. Botta et al.*) [PA]

**CMS AN-2008/074** - 'Measurement of muon charge asymmetry in the  $W \rightarrow \mu\nu$  channel' (*J. Alcaraz, M.I. Josa et al.*) [C]

**CMS AN-2008/039** - 'Search Strategy for a Standard Model Higgs Boson Decaying to Two W Bosons in the Fully Leptonic Final State' (*C. Charlot, J. Cuevas et al.*) [PA]

**CMS AN-2007/037** - 'Search for the Higgs boson in the  $WW$  decay channel with the CMS experiment' (*C. Charlot, J. Cuevas et al.*) [PA]

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