#### Rebeca Gonzalez Suarez - Publication List

#### Contents

Metrics,  $1 \bullet$  Main publications in peer-reviewed journals,  $2 \bullet$  Publications from top,  $4 \bullet$  Other,  $5 \bullet$  Conference proceedings,  $80 \bullet$  Public Analysis Summaries,  $81 \bullet$  Public top results,  $84 \bullet$  Internal Analysis Notes, 85.

#### Metrics

As of October 7, 2016:

	Citeable papers	Published only
Number of papers	573	527
Number of citations	52209	51992
Average citations per paper	r 91.1	98.7
h index	110	110

Breakdown of papers by citations:

	Citeable papers	Published only
Renowned papers (500+)	8	8
Famous papers (250-499)	22	22
Very well-known papers (100-249)	95	95
Well-known papers (50-99)	158	157
Known papers (10-49)	195	192
Less known papers (1-9)	73	50
Unknown papers (0)	22	3

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

Additionally to this, the ten most relevant peer-reviewed publications have a longer explanation of why they are chosen as such.

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  $\star$  sign.

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 (Serguei Chatrchyan et al.), arXiv:1606.01522, Submitted to J. High Energy Phys [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 (Serguei Chatrchyan et al.), arXiv:1605.09047, Submitted to Phys. Lett. B. [R - ARC]

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 (Serguei Chatrchyan et al.), arXiv:1605.02329, Submitted to J. High Energy Phys [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 (Serguei Chatrchyan et al.), arXiv:1603.02555, Submitted to J. High Energy Phys [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 (Serguei Chatrchyan et al.), arXiv:1511.03951, JHEP 04 (2016) 035 [R - Single Top]

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

 $\star$  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 (Serguei Chatrchyan et al.), arXiv:1509.08159, JHEP06(2016)177 [C, R-ARC] Cited by 9.

Measurement of the Charge Asymmetry in Top Quark Pair Production in pp Collisions at  $\sqrt{s}=8$  TeV using a Template Method, CMS Collaboration (Serguei Chatrchyan et al.), 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 (Serguei Chatrchyan et al.)*, 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 (Serguei Chatrchyan et al.), 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 pro-

ton collisions at 7 and 8 TeV, CMS Collaboration (Serguei Chatrchyan et al.), arXiv:1411.3441, Phys. Rev. D 92, 012004 (2015) [PA, ED] Cited by 140 (100+).

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

- \* Search for monotop signatures in proton-proton collisions at  $\sqrt{s}$  =8 TeV, CMS Collaboration (Serguei Chatrchyan et al.), arXiv:1410.1149, Phys. Rev. Lett. 114, 101801 (2015) [R Chair of the Review] Cited by 38.
- \* Observation of the associated production of a single top quark and a W boson in pp collisions at  $\sqrt{s}=8$  TeV, CMS Collaboration (Serguei Chatrchyan et al.), arXiv:1401.2942, Phys. Rev. Lett. 112, 231802. [PA] Cited by  $\underline{100}$  (100+).

Measurement of the t-channel single-top-quark production cross section and of the  $|V_{tb}|$  CKM matrix element in pp collisions at  $\sqrt{s}=8$  TeV, CMS Collaboration (Serguei Chatrchyan et al.), 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 (Serguei Chatrchyan et al.), 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 (Serguei Chatrchyan et al.), arXiv:1312.1129, JHEP 01(2014)096 [PA] Cited by **279** (250+).

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

- \* Evidence for associated production of a single top quark and W boson in pp collisions at 7 TeV, CMS Collaboration (Serguei Chatrchyan et al.), arXiv:1209.3489, Phys. Rev. Lett. 110, 022003 (2013) [PA, ED]
  Cited by 119 (100+).
- \* Search for the standard model Higgs boson decaying to a W pair in the fully leptonic final state in pp collisions at  $\sqrt(s)=7$  TeV, CMS Collaboration (Serguei Chatrchyan et al.), arXiv:1202.1489, Phys.Lett. B 710 (2012) 91-113 [C] Cited by 158 (100+).

Search for electroweak production of charginos and neutralinos using leptonic final states in pp collisions at  $\sqrt(s) = 7$  TeV, CMS Collaboration (Serguei Chatrchyan et al.),arXiv:1209.6620,

#### JHEP 1211 (2012) 147 [R-ARC]

- $\star$  Search for physics beyond the standard model in events with a Z boson, jets, and missing transverse energy in pp collisions at  $\sqrt(s)=7$  TeV, CMS Collaboration (Serguei Chatrchyan et al.), arXiv:1204.3774, Physics Letters B 716 (2012) 260-284 [R-ARC] Cited by 49.
- \* 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 (Serguei Chatrchyan et al.), Phys.Rev. D84 (2011) 092004, arXiv:1108.3773 [C] Cited by 125 (100+).
- $\star$  Measurement of  $W^+W^-$  Production and Search for the Higgs Boson in pp Collisions at  $\sqrt{s}=7$  TeV, CMS Collaboration (Serguei Chatrchyan et al.), Phys.Lett. B 699 (2011) 25-47, arXiv:1102.5429 [C] Cited by 164 (100+).

#### Publications from top

Peer-reviewed publications submitted to journals during my period as convener of the top quark physics analysis group in CMS, in reverse chronological order:

Cross section measurement of t-channel single top quark production in pp collisions at sqrt(s) = 13 TeV, CMS Collaboration (Serguei Chatrchyan et al.), Submitted to Phys. Lett. B., arXiv:1610.00678

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

Suppression and azimuthal anisotropy of prompt and nonprompt J/psi production in PbPb collisions at sqrt(s[NN]) = 2.76 TeV CMS Collaboration arXiv:1610.00613 [nucl-ex].

Observation of charge-dependent azimuthal correlations in pPb collisions and its implication for the search for the chiral magnetic effect CMS Collaboration arXiv:1610.00263 [nucl-ex].

Search for supersymmetry in events with one lepton and multiple jets in proton-proton collisions at sqrt(s) = 13 TeV CMS Collaboration arXiv:1609.09386 [hep-ex].

Search for long-lived charged particles in proton-proton collisions at sqrt(s) = 13 TeV CMS Collaboration arXiv:1609.08382 [hep-ex].

Inclusive search for supersymmetry using razor variables in pp collisions at sqrt(s) = 13 TeV CMS Collaboration arXiv:1609.07658 [hep-ex].

Measurement of the WZ production cross section in pp collisions at  $\sqrt{s}=7$  and 8 TeV and search for anomalous triple gauge couplings at  $\sqrt{s}=8$  TeV CMS Collaboration arXiv:1609.05721 [hep-ex].

Search for narrow resonances in dilepton mass spectra in proton-proton collisions at  $\sqrt{s}=$  13 TeV and combination with 8 TeV data

CMS Collaboration arXiv:1609.05391 [hep-ex].

Measurement of inclusive jet cross-sections in pp and PbPb collisions at  $\sqrt{s_{NN}}$ =2.76 TeV

CMS Collaboration arXiv:1609.05383 [nucl-ex].

Measurement and QCD analysis of double-differential inclusive jet cross-sections in pp collisions at  $\sqrt{s}=$  8 TeV and ratios to 2.76 and 7 TeV

CMS Collaboration arXiv:1609.05331 [hep-ex].

Studies of inclusive four-jet production with two b-tagged jets in proton-proton collisions at 7  $\,\mathrm{TeV}$ 

CMS Collaboration

arXiv:1609.03489 [hep-ex].

#### Search for high-mass diphoton resonances in proton-proton collisions at 13 TeV and combination with 8 TeV search

CMS Collaboration arXiv:1609.02507 [hep-ex].

# Decomposing transverse momentum balance contributions for quenched jets in PbPb collisions at sqrt(s[NN]) = 2.76 TeV

CMS Collaboration arXiv:1609.02466 [nucl-ex].

#### The CMS trigger system

CMS Collaboration arXiv:1609.02366 [physics.ins-det].

# Measurement of the total and differential inclusive B(+) hadron cross sections in pp collisions at $sqrts=13~{\rm TeV}$

CMS Collaboration arXiv:1609.00873 [hep-ex].

# Measurement of the production cross section of the W boson in association with two b jets in pp collisions at sqrts=8 TeV

CMS Collaboration arXiv:1608.07561 [hep-ex].

## Measurement of the mass of the top quark in decays with a J/psi meson in pp collisions at 8 TeV

CMS Collaboration arXiv:1608.03560 [hep-ex].

# Search for new physics in events with high jet multiplicity and low missing transverse momentum in proton-proton collisions at $\sqrt{s}=8$ TeV

CMS Collaboration arXiv:1608.01224 [hep-ex].

# Measurement of the ZZ production cross section and $Z\to \ell^+\ell^-\ell'^+\ell'^-$ branching fraction in pp collisions at $\sqrt{s}=13$ TeV

CMS Collaboration arXiv:1607.08834 [hep-ex].

## Measurement of electroweak production of a W boson and two forward jets in proton-proton collisions at $\sqrt{s}=8~\text{TeV}$

CMS Collaboration arXiv:1607.06975 [hep-ex].

Measurement of the WZ production cross section in pp collisions at  $\sqrt{s}=13$  TeV CMS Collaboration arXiv:1607.06943 [hep-ex].

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

CMS Collaboration arXiv:1607.05764 [hep-ex].

Jet energy scale and resolution in the CMS experiment in pp collisions at 8 TeV CMS Collaboration arXiv:1607.03663 [hep-ex].

Search for lepton flavour violating decays of the Higgs boson to e tau and e mu in protonproton collisions at sqrt(s)=8 TeV

CMS Collaboration arXiv:1607.03561 [hep-ex].

Observation of the decay  $B^+ \to \psi(2S)\phi(1020)K^+$  in pp collisions at  $\sqrt{s}=$  8 TeV CMS Collaboration arXiv:1607.02638 [hep-ex].

Search for new physics in final states with two opposite-sign, same-flavor leptons, jets, and missing transverse momentum in pp collisions at  $\sqrt{s}=$  13 TeV

CMS Collaboration arXiv:1607.00915 [hep-ex].

Measurement of the differential cross sections for top quark pair production as a function of kinematic event variables in pp collisions at  $\sqrt{s}$  = 7 and 8 TeV

CMS Collaboration arXiv:1607.00837 [hep-ex].

Searches for R-parity-violating supersymmetry in pp collisions at sqrt(s)=8 TeV in final states with 0-4 leptons

CMS Collaboration arXiv:1606.08076 [hep-ex].

Evidence for collectivity in pp collisions at the LHC

CMS Collaboration arXiv:1606.06198 [nucl-ex].

Measurement of the transverse momentum spectra of weak vector bosons produced in proton-proton collisions at  $\sqrt{s}=$  8 TeV

CMS Collaboration arXiv:1606.05864 [hep-ex].

Search for resonant production of high-mass photon pairs in proton-proton collisions at sqrt(s) = 8 and 13 TeV

CMS Collaboration arXiv:1606.04093 [hep-ex].

Phenomenological MSSM interpretation of CMS searches in pp collisions at sqrt(s) = 7 and 8 TeV

CMS Collaboration arXiv:1606.03577 [hep-ex].

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

By ATLAS and CMS Collaborations arXiv:1606.02266 [hep-ex].

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 arXiv:1605.09305 [hep-ex].

Search for top squark pair production in compressed-mass-spectrum scenarios in protonproton collisions at sqrt(s) = 8 TeV using the alphaT variable

CMS Collaboration arXiv:1605.08993 [hep-ex].

Coherent J/Psi photoproduction in ultra-peripheral PbPb collisions at sqrt(s[NN]) = 2.76 TeV with the CMS experiment

CMS Collaboration arXiv:1605.06966 [nucl-ex].

Multiplicity and rapidity dependence of strange hadron production in pp, pPb, and PbPb collisions at the LHC

CMS Collaboration arXiv:1605.06699 [nucl-ex].

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 arXiv:1605.04608 [hep-ex].

Measurement of the double-differential inclusive jet cross section in proton-proton collisions at sqrt(s) = 13 TeV

CMS Collaboration arXiv:1605.04436 [hep-ex].

Search for new physics in same-sign dilepton events in proton-proton collisions at sqrt(s) = 13 TeV

CMS Collaboration arXiv:1605.03171 [hep-ex]

Measurement of the integrated and differential t-tbar production cross sections for high-pt top quarks in pp collisions at sqrt(s) = 8 TeV

CMS Collaboration arXiv:1605.00116 [hep-ex].

Search for narrow resonances in dijet final states at sqrt(s)=8 TeV with the novel CMS technique of data scouting

CMS Collaboration arXiv:1604.08907 [hep-ex].

Pseudorapidity dependence of long-range two-particle correlations in pPb collisions at sqrt(s[NN])=5.02 TeV

CMS Collaboration arXiv:1604.05347 [nucl-ex].

Search for lepton flavour violating decays of heavy resonances and quantum black holes to an e-mu pair in proton-proton collisions at sqrt(s) = 8 TeV

CMS Collaboration arXiv:1604.05239 [hep-ex].

Evidence for exclusive gamma-gamma to W+ W- production and constraints on anomalous quartic gauge couplings at sqrt(s) = 7 and 8 TeV

CMS Collaboration arXiv:1604.04464 [hep-ex].

Search for dark matter particles in proton-proton collisions at sqrt(s) = 8 TeV using the razor variables

CMS Collaboration arXiv:1603.08914 [hep-ex].

Search for two Higgs bosons in final states containing two photons and two bottom quarks CMS Collaboration

arXiv:1603.06896 [hep-ex].

Measurement of the top quark mass using charged particles in collisions at sqrt(s) = 8 TeV

CMS Collaboration arXiv:1603.06536 [hep-ex].

Measurements of t t-bar charge asymmetry using dilepton final states in pp collisions at sqrt(s) = 8 TeV

CMS Collaboration arXiv:1603.06221 [hep-ex].

Search for new physics with the MT2 variable in all-jets final states produced in pp collisions at sqrt(s) = 13 TeV

CMS Collaboration arXiv:1603.04053 [hep-ex].

Search for neutral resonances decaying into a Z boson and a pair of b jets or tau leptons

CMS Collaboration arXiv:1603.02991 [hep-ex].

Y(nS) Polarizations Versus Particle Multiplicity in pp Collisions at  $\sqrt{s}=7$  TeV CMS Collaboration

arXiv:1603.02913 [hep-ex].

Measurement of the t-tbar production cross section in the e-mu channel in proton-proton collisions at sqrt(s) = 7 and 8 TeV

CMS Collaboration arXiv:1603.02303 [hep-ex].

Search for heavy Majorana neutrinos in e+/-e+/- plus jets and e+/- mu+/- plus jets events in proton-proton collisions at sqrt(s) = 8 TeV

CMS Collaboration arXiv:1603.02248 [hep-ex].

Measurement of the differential cross section and charge asymmetry for inclusive pp to W + X production at sqrt(s) = 8 TeV

CMS Collaboration arXiv:1603.01803 [hep-ex].

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 arXiv:1603.00765 [hep-ex].

Measurements of the t-tbar 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 arXiv:1602.09024 [hep-ex].

Search for supersymmetry in electroweak production with photons and large missing transverse energy in pp collisions at  $\sqrt{s}=8$  TeV

CMS Collaboration arXiv:1602.08772 [hep-ex].

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

CMS Collaboration arXiv:1602.08762 [hep-ex].

Measurement of the  $Z\gamma \to \nu \bar{\nu} \gamma$  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].

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].

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

arXiv:1602.04384 [hep-ex].

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].

Combined search for anomalous pseudoscalar HVV couplings in VH production and H to VV decay

CMS Collaboration arXiv:1602.04305 [hep-ex].

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].

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].

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

CMS Collaboration arXiv:1601.06713 [hep-ex].

Search for massive WH resonances decaying into the  $\ell 
u {
m b} {ar {
m b}}$  final state at  $\sqrt{s}=$  8 TeV

CMS Collaboration arXiv:1601.06431 [hep-ex].

Forward-backward asymmetry of Drell-Yan lepton pairs in pp collisions at  $\sqrt{s}=8$  TeV CMS Collaboration arXiv:1601.04768 [hep-ex].

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].

Measurements of t-tbar 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].

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].

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].

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].

Study of Z boson production in pPb collisions at sqrt(s[NN]) = 5.02 TeV CMS Collaboration arXiv:1512.06461 [hep-ex].

Measurement of the inclusive jet cross section in pp collisions at sqrt(s) = 2.76 TeV CMS Collaboration arXiv:1512.06212 [hep-ex].

Search for narrow resonances decaying to dijets in proton-proton collisions at sqrt(s) = 13 TeV

CMS Collaboration arXiv:1512.01224 [hep-ex].

Event generator tunes obtained from underlying event and multiparton scattering mea-

#### surements

CMS Collaboration arXiv:1512.00815 [hep-ex].

Search for dark matter and unparticles produced in association with a Z boson in protonproton collisions at sqrt(s) = 8 TeV

CMS Collaboration arXiv:1511.09375 [hep-ex].

Measurement of spin correlations in t-tbar 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].

Search for a low-mass pseudoscalar Higgs boson produced in association with a b-bbar pair in pp collisions at sqrt(s) = 8 TeV

CMS Collaboration arXiv:1511.03610 [hep-ex].

Search for excited leptons in proton-proton collisions at sqrt(s) = 8 TeV CMS Collaboration

arXiv:1511.01407 [hep-ex].

Reconstruction and identification of  $\tau$  lepton decays to hadrons and  $\nu_{\tau}$  at CMS CMS Collaboration

arXiv:1510.07488 [physics.ins-det].

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].

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

CMS Collaboration arXiv:1510.05302 [hep-ex].

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]. 10.1007/JHEP12(2015)178. JHEP 1512 (2015) 178.

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

arXiv:1510.03373 [nucl-ex].

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].

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].

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  $h\to \tau\tau$  CMS Collaboration

arXiv:1510.01181 [hep-ex].

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].

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

CMS Collaboration arXiv:1509.09029 [nucl-ex].

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].

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

CMS Collaboration arXiv:1509.06076 [hep-ex].

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

CMS Collaboration arXiv:1509.06051 [hep-ex].

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].

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

CMS Collaboration arXiv:1509.04044 [hep-ex].

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

CMS Collaboration arXiv:1509.03893 [hep-ex].

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

CMS Collaboration arXiv:1509.03750 [hep-ex].

# 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].

# 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].

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

CMS Collaboration arXiv:1508.07774 [hep-ex]. 10.1007/JHEP11(2015)018. JHEP 1511 (2015) 018.

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

CMS Collaboration arXiv:1508.07628 [hep-ex]. 10.1007/JHEP11(2015)189. 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].

# 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].

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]. 10.1016/j.physletb.2015.11.042. 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].

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

CMS Collaboration arXiv:1507.08126 [hep-ex]. 10.1016/j.physletb.2015.12.020. 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 $B_s^0 \to J/\psi \phi(1020)$ decay channel in pp collisions at $\sqrt{s}=$ 8 TeV

CMS Collaboration arXiv:1507.07527 [hep-ex].

## 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]. 10.1007/JHEP09(2015)137. 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].

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

CMS Collaboration arXiv:1507.06656 [hep-ex]. 10.1103/PhysRevD.92.072010. 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]. 10.1016/j.physletb.2015.10.004. 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].

# 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].

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

CMS Collaboration arXiv:1507.03031 [hep-ex]. 10.1016/j.physletb.2015.12.039. 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].

10.1103/PhysRevD.92.072006. 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]. 10.1016/j.physletb.2015.12.017. 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]. 10.1103/PhysRevD.92.112001. 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]. 10.1007/JHEP11(2015)071. JHEP 1511 (2015) 071.

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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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Phys.Rev. D90 (2014) 7, 072006.

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CMS Collaboration

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CMS Collaboration

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Phys.Rev. D90 (2014) 3, 032005.

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CMS Collaboration

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CMS Collaboration

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#### at $\sqrt(s) = 8$ TeV

CMS Collaboration

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CMS Collaboration

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Phys.Rev. D90 (2014) 3, 032008.

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CMS Collaboration

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Eur. Phys. J. C74 (2014) 8, 3014.

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CMS Collaboration

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Phys.Lett. B736 (2014) 33.

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CMS Collaboration

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Eur. Phys. J. C74 (2014) 8, 2980.

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CMS Collaboration

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Eur. Phys. J. C74 (2014) 8, 2973.

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CMS Collaboration

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#### Search for new physics in the multijet and missing transverse momentum final state in proton-proton collisions at $\sqrt{s}$ = 8 TeV

CMS Collaboration arXiv:1402.4770 [hep-ex]. 10.1007/JHEP06(2014)055. JHEP 1406 (2014) 055.

# Measurements of the $t\bar{t}$ charge asymmetry using the dilepton decay channel in pp collisions at $\sqrt{s}=$ 7 TeV

CMS Collaboration arXiv:1402.3803 [hep-ex]. 10.1007/JHEP04(2014)191. JHEP 1404 (2014) 191.

## Search for W' $\to$ tb decays in the lepton + jets final state in pp collisions at $\sqrt{s}$ = 8 TeV

CMS Collaboration arXiv:1402.2176 [hep-ex]. 10.1007/JHEP05(2014)108. JHEP 1405 (2014) 108.

## Measurement of the production cross sections for a Z boson and one or more b jets in pp collisions at sqrt(s) = 7 TeV

CMS Collaboration arXiv:1402.1521 [hep-ex]. 10.1007/JHEP06(2014)120. JHEP 1406 (2014) 120.

# Measurement of inclusive W and Z boson production cross sections in pp collisions at $\sqrt{s}$ = 8 TeV

CMS Collaboration arXiv:1402.0923 [hep-ex]. 10.1103/PhysRevLett.112.191802. Phys.Rev.Lett. 112 (2014) 191802.

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CMS Collaboration arXiv:1401.6527 [hep-ex]. 10.1038/nphys3005. Nature Phys. 10 (2014) 557-560.

#### Evidence for the 125 GeV Higgs boson decaying to a pair of $\tau$ leptons

CMS Collaboration arXiv:1401.5041 [hep-ex]. 10.1007/JHEP05(2014)104. JHEP 1405 (2014) 104.

## Studies of dijet transverse momentum balance and pseudorapidity distributions in pPb collisions at $\sqrt{s_{\rm NN}}=5.02~\text{TeV}$

CMS Collaboration

arXiv:1401.4433 [nucl-ex].

10.1140/epjc/s10052-014-2951-y.

Eur. Phys. J. C74 (2014) 7, 2951.

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

CMS Collaboration

arXiv:1312.7582 [hep-ex], arXiv:1312.7582.

10.1007/JHEP02(2014)024, 10.1007/JHEP02(2014)102.

JHEP 1402 (2014) 024, Erratum-ibid. 1402 (2014) 102.

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CMS Collaboration

arXiv:1312.6608 [hep-ex].

10.1016/j.physletb.2014.06.041.

Phys.Lett. B735 (2014) 204.

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

CMS Collaboration

arXiv:1312.6440 [hep-ex].

10.1103/PhysRevD.89.092010.

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

arXiv:1312.6300 [nucl-ex].

10.1007/JHEP04(2014)103.

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

arXiv:1312.5729 [hep-ex].

10.1007/JHEP03(2014)032. JHEP 1403 (2014) 032.

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CMS Collaboration

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#### 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.

## Search for Flavor-Changing Neutral Currents in Top-Quark Decays $t\to Zq$ in pp Collisions at $\sqrt{s}=8$ TeV

CMS Collaboration

arXiv:1312.4194 [hep-ex].

10.1103/PhysRevLett.112.171802.

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

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CMS Collaboration

arXiv:1312.3310 [hep-ex].

10.1103/PhysRevLett.112.161802.

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

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

CMS Collaboration

arXiv:1312.2391 [hep-ex].

10.1103/PhysRevLett.112.171801.

Phys.Rev.Lett. 112 (2014) 171801.

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CMS Collaboration

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10.1007/JHEP02(2014)088.

JHEP 1402 (2014) 088.

# Inclusive search for a vector-like T quark with charge $\frac{2}{3}$ in pp collisions at $\sqrt{s}=$ 8 TeV CMS Collaboration

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

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CMS Collaboration

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10.1007/JHEP01(2014)163.

JHEP 1401 (2014) 163.

# Measurement of the triple-differential cross section for photon+jets production in proton-proton collisions at $\sqrt{s}$ =7 TeV

CMS Collaboration

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10.1007/JHEP06(2014)009.

JHEP 1406 (2014) 009.

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CMS Collaboration

arXiv:1311.5815 [hep-ex].

10.1140/epjc/s10052-014-2901-8.

Eur. Phys. J. C74 (2014) 6, 2901.

#### Search for pair production of excited top quarks in the lepton + jets final state

CMS Collaboration

arXiv:1311.5357 [hep-ex].

10.1007/JHEP06(2014)125.

JHEP 1406 (2014) 125.

## Search for supersymmetry in pp collisions at $\sqrt{s}$ =8 TeV in events with a single lepton, large jet multiplicity, and multiple b jets

CMS Collaboration

arXiv:1311.4937 [hep-ex].

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Phys.Lett. B733 (2014) 328-353.

# Measurements of $t\bar{t}$ spin correlations and top-quark polarization using dilepton final states in pp collisions at $\sqrt{s}$ = 7 TeV

CMS Collaboration

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

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CMS Collaboration

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Phys.Lett. B730 (2014) 193-214.

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CMS Collaboration arXiv:1310.7291 [hep-ex]. 10.1007/JHEP12(2013)030. JHEP 1312 (2013) 030.

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CMS Collaboration arXiv:1310.4554 [hep-ex]. 10.1140/epjc/s10052-013-2674-5. Eur.Phys.J. C73 (2013) 12, 2674.

### Search for the standard model Higgs boson produced in association with a W or a Z boson and decaying to bottom quarks

CMS Collaboration arXiv:1310.3687 [hep-ex]. 10.1103/PhysRevD.89.012003. Phys.Rev. D89 (2014) 1, 012003.

### Rapidity distributions in exclusive Z + jet and $\gamma$ + jet events in pp collisions at $\sqrt{s}$ =7 TeV CMS Collaboration

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CMS Collaboration arXiv:1310.1618 [hep-ex]. 10.1016/j.physletb.2014.02.033. Phys.Lett. B731 (2014) 173-196.

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CMS Collaboration arXiv:1310.1349 [hep-ex].

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

CMS Collaboration

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10.1007/JHEP02(2014)013.

JHEP 1402 (2014) 013.

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CMS Collaboration

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Phys.Lett. B730 (2014) 243-263.

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CMS Collaboration

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Phys.Lett. B734 (2014) 261.

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CMS Collaboration

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Phys.Rev.Lett. 111 (2013) 21, 211804, Erratum-ibid. 112 (2014) 11, 119903.

# Measurement of the production cross section for $Z\gamma \to \nu\bar{\nu}\gamma$ in pp collisions at $\sqrt{s}=$ 7 TeV and limits on $ZZ\gamma$ and $Z\gamma\gamma$ triple gauge boson couplings

CMS Collaboration

arXiv:1309.1117 [hep-ex].

10.1007/JHEP10(2013)164.

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CMS Collaboration

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Phys.Lett. B727 (2013) 57-76.

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CMS Collaboration arXiv:1308.3409 [hep-ex]. 10.1016/j.physletb.2013.10.017. Phys.Lett. B727 (2013) 77-100.

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CMS Collaboration arXiv:1307.5515 [hep-ex]. 10.1016/j.physletb.2013.09.057. Phys.Lett. B726 (2013) 587-609.

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CMS Collaboration arXiv:1307.5025 [hep-ex]. 10.1103/PhysRevLett.111.101804. Phys.Rev.Lett. 111 (2013) 101804.

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CMS Collaboration arXiv:1306.6643 [hep-ex]. 10.1103/PhysRevLett.111.221801. Phys.Rev.Lett. 111 (2013) 22, 221801.

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CMS Collaboration arXiv:1306.2016 [hep-ex]. 10.1088/1748-0221/8/09/P09009. JINST 8 (2013) P09009.

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CMS Collaboration arXiv:1306.1126 [hep-ex]. 10.1140/epjc/s10052-013-2610-8. Eur.Phys.J. C73 (2013) 10, 2610.

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CMS Collaboration arXiv:1305.6016 [hep-ex]. 10.1103/PhysRevD.88.052001. Phys.Rev. D88 (2013) 052001.

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CMS Collaboration arXiv:1305.5596 [hep-ex]. 10.1007/JHEP07(2013)116. JHEP 1307 (2013) 116.

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

CMS Collaboration arXiv:1303.4811 [hep-ex]. 10.1007/JHEP05(2013)090. JHEP 1305 (2013) 090.

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CMS Collaboration 10.1126/science.1230816. Science 338 (2012) 1569-1575.

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CMS Collaboration arXiv:1303.2985 [hep-ex]. 10.1140/epjc/s10052-013-2568-6. 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]. 10.1007/JHEP05(2013)145. 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]. 10.1103/PhysRevD.87.114015. Phys.Rev. D87 (2013) 11, 114015.

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CMS Collaboration arXiv:1302.3968 [hep-ex]. 10.1007/JHEP04(2013)154. JHEP 1304 (2013) 154.

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#### quarks in proton-proton collisions at 7 TeV

CMS Collaboration

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10.1016/j.physletb.2013.04.017.

Phys.Lett. B722 (2013) 207-232.

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CMS Collaboration

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10.1103/PhysRevD.87.072005.

Phys.Rev. D87 (2013) 7, 072005.

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CMS Collaboration

arXiv:1302.2394 [hep-ex].

10.1007/JHEP04(2013)072.

JHEP 1304 (2013) 072.

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CMS Collaboration

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10.1016/j.physletb.2013.06.043.

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].

10.1103/PhysRevLett.110.141802.

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

 $arXiv:1302.0508 \ [hep-ex].$ 

10.1007/JHEP05(2013)065.

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].

10.1140/epjc/s10052-013-2386-x.

Eur. Phys. J. C73 (2013) 4, 2386.

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CMS Collaboration

arXiv:1301.5023 [hep-ex].

10.1103/PhysRevD.87.052017.

Phys.Rev. D87 (2013) 5, 052017.

### Measurement of W+Wand ZZ production cross sections in pp collisions at sqrt(s) = 8 TeV

CMS Collaboration

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10.1016/j.physletb.2013.03.027.

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

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10.1140/epjc/s10052-013-2493-8.

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

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CMS Collaboration

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10.1103/PhysRevD.88.052017.

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

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CMS Collaboration

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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

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10.1103/PhysRevD.87.072001.

Phys.Rev. D87 (2013) 072001.

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CMS Collaboration arXiv:1212.6639 [hep-ex]. 10.1103/PhysRevLett.110.081803. Phys.Rev.Lett. 110 (2013) 081803.

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CMS Collaboration arXiv:1212.6660 [hep-ex]. 10.1103/PhysRevD.87.112002. 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. 10.1016/j.physletb.2013.02.021. Phys.Lett. B720 (2013) 83-104.

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CMS Collaboration arXiv:1212.6961 [hep-ex]. 10.1103/PhysRevLett.111.081802. Phys.Rev.Lett. 111 (2013) 8, 081802.

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

CMS Collaboration arXiv:1212.6194 [hep-ex]. 10.1007/JHEP07(2013)041, 10.1007/JHEP03(2013)037. 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]. 10.1016/j.physletb.2013.02.003. Phys.Lett. B720 (2013) 63-82.

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CMS Collaboration

arXiv:1212.4563 [hep-ex].

10.1103/PhysRevD.87.032001.

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

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CMS Collaboration

arXiv:1212.1910 [hep-ex].

10.1016/j.physletb.2013.05.040.

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

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

CMS Collaboration

arXiv:1212.1838 [hep-ex].

10.1016/j.physletb.2013.04.027.

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].

10.1007/JHEP02(2013)036.

JHEP 1302 (2013) 036.

# Measurement of the ZZ production cross section and search for anomalous couplings in 2 I2I ' final states in pp collisions at $\sqrt{s}=7$ TeV

CMS Collaboration

arXiv:1211.4890 [hep-ex].

10.1007/JHEP01(2013)063.

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].

10.1007/JHEP03(2013)111.

JHEP 1303 (2013) 111.

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

CMS Collaboration

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10.1088/1748-0221/8/04/P04013.

JINST 8 (2013) P04013.

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

CMS Collaboration

arXiv:1211.3338 [hep-ex].

10.1103/PhysRevD.87.072002.

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].

10.1103/PhysRevD.87.052006.

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].

10.1007/JHEP02(2013)085.

JHEP 1302 (2013) 085.

## Measurement of differential top-quark pair production cross sections in pp colisions at $\sqrt{s}=7~\text{TeV}$

CMS Collaboration

arXiv:1211.2220 [hep-ex].

10.1140/epjc/s10052-013-2339-4.

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 alphaT

CMS Collaboration

arXiv:1210.8115 [hep-ex].

10.1007/JHEP01(2013)077.

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].

10.1016/j.physletb.2013.09.009.

Phys.Lett. B726 (2013) 564-586.

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

CMS Collaboration

arXiv:1210.7544 [hep-ex].

10.1140/epjc/s10052-013-2283-3.

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]. 10.1007/JHEP01(2013)154. JHEP 1301 (2013) 154.

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

CMS Collaboration arXiv:1210.6718 [hep-ex]. 10.1016/j.physletb.2013.03.024. Phys.Lett. B722 (2013) 5-27.

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

CMS Collaboration arXiv:1210.5629 [hep-ex]. 10.1103/PhysRevLett.110.081801. 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]. 10.1007/JHEP12(2012)055. 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]. 10.1016/j.physletb.2012.11.025. 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]. 10.1007/JHEP12(2012)034. JHEP 1212 (2012) 034.

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

CMS Collaboration arXiv:1210.2422 [hep-ex]. 10.1016/j.physletb.2013.02.031.

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].

10.1103/PhysRevLett.109.261802.

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].

10.1007/JHEP01(2013)013.

JHEP 1301 (2013) 013.

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

CMS Collaboration

arXiv:1210.2311 [hep-ex].

10.1103/PhysRevD.87.092008.

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

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

CMS Collaboration

arXiv:1210.2052 [hep-ex].

10.1016/j.physletb.2012.12.055.

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].

10.1016/j.physletb.2012.10.070.

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].

10.1140/epic/s10052-012-2251-3.

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

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

arXiv:1210.0867 [hep-ex]. 10.1016/j.physletb.2013.03.037. Phys.Lett. B722 (2013) 28-47.

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

CMS Collaboration arXiv:1209.4533 [hep-ex]. 10.1007/JHEP12(2012)035. 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]. 10.1007/JHEP12(2012)015.

JHEP 1212 (2012) 015.

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

CMS Collaboration arXiv:1209.3937 [hep-ex]. 10.1007/JHEP11(2012)088. 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]. 10.1016/j.physletb.2012.11.063. 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]. 10.1103/PhysRevLett.110.081802. 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 $\sqrt{s}=7~\text{TeV}$

CMS Collaboration arXiv:1209.2393 [hep-ex]. 10.1140/epjc/s10052-012-2202-z. 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 $\sqrt{s}=7~\text{TeV}$

CMS Collaboration arXiv:1209.2319 [hep-ex]. 10.1007/JHEP12(2012)105. JHEP 1212 (2012) 105.

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

CMS Collaboration arXiv:1209.1805 [hep-ex]. 10.1103/PhysRevD.87.012006. 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]. 10.1007/JHEP11(2012)080. JHEP 1211 (2012) 080.

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

CMS Collaboration arXiv:1209.1062 [hep-ex]. 10.1103/PhysRevD.86.112003. 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]. 10.1016/j.physletb.2012.10.038. 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]. 10.1103/PhysRevD.86.072010. Phys.Rev. D86 (2012) 072010.

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

CMS Collaboration arXiv:1208.3477 [hep-ex]. 10.1103/PhysRevLett.109.251801. 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]. 10.1016/j.physletb.2012.10.048. Phys.Lett. B718 (2012) 329-347.

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

CMS Collaboration arXiv:1208.2826 [nucl-ex]. 10.1103/PhysRevLett.109.222301. Phys.Rev.Lett. 109 (2012) 222301.

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

CMS Collaboration arXiv:1208.2671 [hep-ex]. 10.1007/JHEP11(2012)067. JHEP 1211 (2012) 067.

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

CMS Collaboration arXiv:1208.2470 [nucl-ex]. 10.1103/PhysRevLett.110.042301. 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]. 10.1016/j.physletb.2012.12.045. Phys.Lett. B718 (2013) 1252-1272.

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

CMS Collaboration arXiv:1208.0956 [hep-ex]. 10.1016/j.physletb.2012.12.008. Phys.Lett. B718 (2013) 1229-1251.

### Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC

CMS Collaboration arXiv:1207.7235 [hep-ex]. 10.1016/j.physletb.2012.08.021. Phys.Lett. B716 (2012) 30-61.

Search for heavy Majorana neutrinos in  $\mu^+\mu^+[\mu^-\mu^-]$  and  $e^+e^+[e^-e^-]$  events in pp colli-

#### sions at $\sqrt{s} = 7$ TeV

CMS Collaboration

arXiv:1207.6079 [hep-ex].

10.1016/j.physletb.2012.09.012.

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

## Search for pair production of firstand second-generation scalar leptoquarks in pp collisions at $\sqrt{s}=7~\text{TeV}$

CMS Collaboration

arXiv:1207.5406 [hep-ex].

10.1103/PhysRevD.86.052013.

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].

10.1140/epjc/s10052-012-2164-1.

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].

10.1016/j.physletb.2012.10.082.

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].

10.1140/epjc/s10052-012-2189-5.

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].

10.1007/JHEP08(2012)130.

JHEP 1208 (2012) 130.

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

CMS Collaboration

arXiv:1207.1898 [hep-ex].

10.1103/PhysRevLett.109.171803.

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

### Search for supersymmetry in hadronic final states using MT2 in pp collisions at $\sqrt{s}=7$ TeV

CMS Collaboration arXiv:1207.1798 [hep-ex]. 10.1007/JHEP10(2012)018. 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]. 10.1007/JHEP09(2012)111. 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]. 10.1007/JHEP11(2012)172. 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]. 10.1007/JHEP08(2012)026. 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]. 10.1016/j.physletb.2012.09.028. 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]. 10.1103/PhysRevLett.109.121801. Phys.Rev.Lett. 109 (2012) 121801.

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

CMS Collaboration arXiv:1206.5663 [hep-ex]. 10.1007/JHEP09(2012)094. 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].

10.1016/j.physletb.2012.11.036.

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

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

CMS Collaboration

arXiv:1206.3921 [hep-ex].

10.1016/j.physletb.2012.09.048.

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

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

CMS Collaboration

arXiv:1206.2598 [hep-ex].

10.1103/PhysRevLett.109.111806.

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].

10.1016/j.physletb.2012.06.051.

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].

10.1016/j.physletb.2012.07.062.

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].

10.1103/PhysRevLett.109.141801.

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].

10.1103/PhysRevLett.109.071803. 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].

10.1016/j.physletb.2012.07.025.

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

#### Measurement of jet fragmentation into charged particles in pp and PbPb collisions at

 $\sqrt{s_{NN}} = 2.76 \text{ TeV}$ 

CMS Collaboration

arXiv:1205.5872 [nucl-ex].

10.1007/JHEP10(2012)087.

JHEP 1210 (2012) 087.

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

CMS Collaboration

arXiv:1205.5736 [hep-ex].

10.1007/JHEP07(2012)143.

JHEP 1207 (2012) 143.

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

CMS Collaboration

arXiv:1205.3933 [hep-ex].

10.1007/JHEP08(2012)110.

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].

10.1103/PhysRevLett.109.152303.

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

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

CMS Collaboration

arXiv:1205.0594 [hep-ex].

10.1016/j.physletb.2012.05.063.

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

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

arXiv:1205.0272 [hep-ex]. 10.1016/j.physletb.2012.06.023.

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].

10.1016/j.physletb.2012.11.003.

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

#### Observation of a new Xi(b) baryon

CMS Collaboration

arXiv:1204.5955 [hep-ex].

10.1103/PhysRevLett.108.252002.

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].

10.1007/JHEP06(2012)169.

JHEP 1206 (2012) 169.

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

CMS Collaboration

arXiv:1204.4764 [hep-ex].

10.1007/JHEP08(2012)023.

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].

10.1007/JHEP06(2012)160.

JHEP 1206 (2012) 160.

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

CMS Collaboration

arXiv:1204.2807 [hep-ex].

10.1007/JHEP06(2012)109.

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].

10.1007/JHEP03(2014)132, 10.1007/JHEP09(2012)029. JHEP 1209 (2012) 029, Erratum-ibid. 1403 (2014) 132.

#### Azimuthal anisotropy of charged particles at high transverse momenta in PbPb collisions

at  $\sqrt{s_{NN}} = 2.76 \text{ TeV}$ 

CMS Collaboration

arXiv:1204.1850 [nucl-ex].

10.1103/PhysRevLett.109.022301.

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].

10.1007/JHEP06(2012)126.

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

arXiv:1204.1409 [nucl-ex].

10.1103/PhysRevC.87.014902.

Phys.Rev. C87 (2013) 014902.

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

CMS Collaboration

arXiv:1204.1411 [hep-ex].

10.1140/epjc/s10052-012-2080-4.

Eur. Phys. J. C72 (2012) 2080.

### Search for heavy bottom-like quarks in 4.9 inverse femtobarns of pp collisions at $\sqrt{s}=7$ TeV

CMS Collaboration

arXiv:1204.1088 [hep-ex].

10.1007/JHEP05(2012)123.

JHEP 1205 (2012) 123.

# Search for Dark Matter and Large Extra Dimensions in pp Collisions Yielding a Photon and Missing Transverse Energy

CMS Collaboration

arXiv:1204.0821 [hep-ex].

10.1103/PhysRevLett.108.261803.

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 arXiv:1204.0696 [hep-ex]. 10.1140/epjc/s10052-012-2216-6. 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 arXiv:1203.6810 [hep-ex]. 10.1103/PhysRevD.85.112007. Phys.Rev. D85 (2012) 112007.

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

CMS Collaboration arXiv:1203.5410 [hep-ex]. 10.1016/j.physletb.2012.07.059. Phys.Lett. B716 (2012) 103-121.

# Search for $B^0_s \to \mu^+\mu^-$ and $B^0 \to \mu^+\mu^-$ decays CMS Collaboration arXiv:1203.3976 [hep-ex].

10.1007/JHEP04(2012)033. JHEP 1204 (2012) 033.

### Measurement of the cross section for production of $bb^-$ bar X, decaying to muons in pp collisions at $\sqrt{s}=7$ TeV

CMS Collaboration arXiv:1203.3458 [hep-ex]. 10.1007/JHEP06(2012)110. JHEP 1206 (2012) 110.

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

CMS Collaboration arXiv:1202.6396 [hep-ex]. 10.1007/JHEP04(2012)061. 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]. 10.1007/JHEP05(2012)055. 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]. 10.1016/j.physletb.2012.04.058. 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]. 10.1007/JHEP04(2012)084. JHEP 1204 (2012) 084.

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

CMS Collaboration arXiv:1202.4195 [hep-ex]. 10.1016/j.physletb.2012.02.085. 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]. 10.1016/j.physletb.2012.05.028. Phys.Lett. B713 (2012) 68-90.

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

CMS Collaboration arXiv:1202.3827 [hep-ex]. 10.1016/j.physletb.2012.03.029. 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 $\sqrt{s}=7~\text{TeV}$

CMS Collaboration arXiv:1202.3478 [hep-ex]. 10.1007/JHEP03(2012)040. 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 arXiv:1202.3617 [hep-ex]. 10.1007/JHEP03(2012)081. JHEP 1203 (2012) 081.

Study of high-pT charged particle suppression in PbPb compared to pp collisions at

 $\sqrt{s_{NN}} = 2.76 \text{ TeV}$  CMS Collaboration arXiv:1202.2554 [nucl-ex]. 10.1140/epjc/s10052-012-1945-x. 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]. 10.1103/PhysRevLett.108.111804. 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 arXiv:1202.1488 [hep-ex]. 10.1016/j.physletb.2012.02.064. Phys.Lett. B710 (2012) 26-48.

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

CMS Collaboration arXiv:1202.1487 [hep-ex]. 10.1016/j.physletb.2012.03.003. Phys.Lett. B710 (2012) 403-425.

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

CMS Collaboration arXiv:1202.1416 [hep-ex]. 10.1007/JHEP04(2012)036. 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]. 10.1007/JHEP06(2012)036. JHEP 1206 (2012) 036.

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

CMS Collaboration arXiv:1201.5069 [nucl-ex]. 10.1007/JHEP05(2012)063.

JHEP 1205 (2012) 063.

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

CMS Collaboration

arXiv:1201.3158 [nucl-ex].

10.1140/epjc/s10052-012-2012-3.

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

arXiv:1201.3093 [nucl-ex].

10.1016/j.physletb.2012.02.077.

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

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

CMS Collaboration

arXiv:1112.5100 [hep-ex].

10.1016/j.physletb.2012.01.078.

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].

10.1103/PhysRevLett.108.111801.

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

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

CMS Collaboration

arXiv:1111.5536 [hep-ex].

10.1007/JHEP01(2012)052.

JHEP 1201 (2012) 052.

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

CMS Collaboration

arXiv:1111.1557 [hep-ex].

10.1007/JHEP02(2012)011.

JHEP 1202 (2012) 011.

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

arXiv:1110.6461 [hep-ex]. 10.1007/JHEP01(2012)133. JHEP 1201 (2012) 133.

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

CMS Collaboration arXiv:1110.4973 [hep-ex]. 10.1103/PhysRevD.85.032002. Phys.Rev. D85 (2012) 032002.

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# The CMS experiment at the CERN LHC

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## Conference proceedings

**Run-1 Single-top measurements at CMS**, *Rebeca Gonzalez Suarez*, Proceedings DPF 2015, arXiv:1510.05235

**Inclusive single top cross section at the LHC**, *Rebeca Gonzalez Suarez on behalf of the CMS and ATLAS collaborations*, Proceedings TOP 2013, DOI:10.3204/DESY-PROC-2014-02/16

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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:

'Search for Higgs boson pair production in the  $b\bar{b}l\nu l\nu$  final state at  $\sqrt{s}=13$  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  $\sqrt{s}=13$  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 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  $\sqrt{s}=13$  TeV' - HIG-15-003 [ED- HWW]

'Combination of cross-section measurements of associated production of a single top quark and a W boson at  $\sqrt{s}=8$  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  $\sqrt{s}=13$  TeV' - HIG-16-011 [R - Higgs to WW]

'Search for ttH production in multilepton final states at  $\sqrt{s}=13$  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  $H\to WW$  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 TeV' (CMS-PAS-HIG-15-002) [C]

'Measurement of the W boson helicity using  $t\bar{t}$  events in the dilepton final state at  $\sqrt{s}=8$  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  $H\to b\bar b$  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  $\sqrt{s}=8$  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  $H\to b\bar{b}$  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  $3000 fb^{-1}$  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  $B^0_s \to \mu^+\mu^-$  and  $B^0 \to \mu^+\mu^-$  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  $\sqrt{s}=8{\rm TeV}'$  (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 2nu' (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:

'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  $H\rightarrow$ bb 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  $pb^{-1}$  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  $\sqrt(s)=7$  TeV' (*G. Bauer, J. Bendavid et al.*) [C]

**CMS AN2010/344** - 'First Measurement of pp  $\to$  WW Production Cross-Section at  $\sqrt(s)=7$  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  $\sqrt{s}=7~TeV$ ' ( J.~Brochero,~A.~Calder'on~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  $\sqrt{s}=10$  TeV' (*G. Bauer, J. Bendavid et al.*)

CMS AN-2009/185 - 'Analysis strategy for the measurement of the  $WW\to \mu\nu\mu\nu$  cross-section with 200  $pb^{-1}$  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  $WW \to \mu\nu\mu\nu$  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  $\to$  WW and ZZ decay channels' (S. Baffioni, C. Botta et al.) [PA]

CMS AN-2008/074 - 'Measurement of muon charge asymmetry in the  $W\to \mu\nu$  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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