

Rebeca Gonzalez Suarez - Publication List

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Metrics

As of March 27, 2018:

	Citeable papers	Published only
Number of papers	762	691
Number of citations	72629	72254
Average citations per paper	95.3	104.6
h index	126	126

Breakdown of papers by citations:

	Citeable papers	Published only
Renowned papers (500+)	13	13
Famous papers (250-499)	29	29
Very well-known papers (100-249)	134	133
Well-known papers (50-99)	190	190
Known papers (10-49)	254	246
Less known papers (1-9)	116	73
Unknown papers (0)	26	7

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]
500th 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 28.

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 [292](#) (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*, 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 56.

★ **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 [158](#) (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 [353](#) (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 [140](#) (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 [8111](#) (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 [171](#) (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 [133](#) (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 [172](#) (100+).

Publications from top

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

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*, Submitted to PRD, 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*, Submitted to JHEP, 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*, Submitted to JHEP, 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*, Submitted to JHEP, 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*, Submitted to Eur. Phys. J. C, 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*, Accepted by JHEP, 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*, Accepted by JHEP, 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:

Evidence for associated production of a Higgs boson with a top quark pair in final states with electrons, muons, and hadronically decaying τ leptons at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1803.05485 [hep-ex].

Search for a heavy resonance decaying into a Z boson and a vector boson in the $\nu\bar{\nu}q\bar{q}$ final state CMS Collaboration
arXiv:1803.03838 [hep-ex].

Test beam demonstration of silicon microstrip modules with transverse momentum discrimination for the future CMS tracking detector CMS Tracker Collaboration
10.1088/1748-0221/13/03/P03003.
JINST 13 (2018) no.03, P03003.

Search for third-generation scalar leptoquarks decaying to a top quark and a τ lepton at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1803.02864 [hep-ex].

Jet properties in PbPb and pp collisions at $\sqrt{s_{NN}} = 5.02$ TeV CMS Collaboration
arXiv:1803.00042 [nucl-ex].

Search for a heavy resonance decaying to a pair of vector bosons in the lepton plus merged jet final state at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1802.09407 [hep-ex].

Search for narrow resonances in the b-tagged dijet mass spectrum in proton-proton collisions at $\sqrt{s} = 8$ TeV CMS Collaboration
arXiv:1802.06149 [hep-ex].

Measurement of the Λ_b polarization and angular parameters in $\Lambda_b \rightarrow J/\psi \Lambda$ decays from pp collisions at $\sqrt{s} = 7$ and 8 TeV CMS Collaboration
arXiv:1802.04867 [hep-ex].

Search for heavy neutral leptons in events with three charged leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1802.02965 [hep-ex].

Measurement of the inelastic proton-proton cross section at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1802.02613 [hep-ex].

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
arXiv:1802.02110 [hep-ex].

Search for single production of vector-like quarks decaying to a b quark and a Higgs boson CMS Collaboration
arXiv:1802.01486 [hep-ex].

Search for lepton-flavor violating decays of heavy resonances and quantum black holes to $e\mu$ final states in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1802.01122 [hep-ex].

Comparing transverse momentum balance of b jet pairs in pp and PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV

CMS Collaboration
arXiv:1802.00707 [hep-ex].

Search for dark matter in events with energetic, hadronically decaying top quarks and missing transverse momentum at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1801.08427 [hep-ex].

Observation of medium induced modifications of jet fragmentation in PbPb collisions using isolated-photon-tagged jets CMS Collaboration
arXiv:1801.04895 [hep-ex].

Combined search for electroweak production of charginos and neutralinos in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1801.03957 [hep-ex].

Measurement of the $Z\gamma^* \rightarrow \tau\tau$ cross section in pp collisions at $\sqrt{s} = 13$ TeV and validation of τ lepton analysis techniques CMS Collaboration
arXiv:1801.03535 [hep-ex].

Search for new physics in events with two soft oppositely charged leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1801.01846 [hep-ex].

Search for decays of stopped exotic long-lived particles produced in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1801.00359 [hep-ex].

Electroweak production of two jets in association with a Z boson in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1712.09814 [hep-ex].

Measurement of prompt and nonprompt charmonium suppression in PbPb collisions at 5.02 TeV CMS Collaboration
arXiv:1712.08959 [nucl-ex].

Search for R -parity violating supersymmetry in pp collisions at $\sqrt{s} = 13$ TeV using b jets in a final state with a single lepton, many jets, and high sum of large-radius jet masses CMS Collaboration
arXiv:1712.08920 [hep-ex].

Search for physics beyond the standard model in events with high-momentum Higgs bosons and missing transverse momentum in proton-proton collisions at 13 TeV CMS Collaboration
arXiv:1712.08501 [hep-ex].

Study of Bose-Einstein correlations in pp, pPb, and PbPb collisions at the LHC CMS Collaboration
arXiv:1712.07198 [hep-ex].

Search for lepton flavour violating decays of the Higgs boson to $\mu\tau$ and $e\tau$ in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1712.07173 [hep-ex].

Identification of heavy-flavour jets with the CMS detector in pp collisions at 13 TeV CMS Collaboration
arXiv:1712.07158 [physics.ins-det].

Search for the $X(5568)$ state decaying into $B_s^0\pi^\pm$ in proton-proton collisions at $\sqrt{s} = 8$ TeV CMS Collaboration
arXiv:1712.06144 [hep-ex].

Azimuthal correlations for inclusive 2-jet, 3-jet, and 4-jet events in pp collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1712.05471 [hep-ex].

Search for $Z\gamma$ resonances using leptonic and hadronic final states in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1712.03143 [hep-ex].

Search for new physics in final states with an energetic jet or a hadronically decaying W or Z boson and transverse momentum imbalance at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1712.02345 [hep-ex].

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
arXiv:1712.02280 [hep-ex].

Search for pair production of excited top quarks in the lepton+jets final state CMS Collaboration
arXiv:1711.10949 [hep-ex].

Study of jet quenching with isolated-photon+jet correlations in PbPb and pp collisions at $\sqrt{s_{NN}} = 5.02$ TeV CMS Collaboration
arXiv:1711.09738 [nucl-ex].

Search for new long-lived particles at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1711.09120 [hep-ex].

Search for gauge-mediated supersymmetry in events with at least one photon and missing transverse momentum in pp collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1711.08008 [hep-ex].

Non-Gaussian elliptic-flow fluctuations in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV CMS Collaboration
arXiv:1711.05594 [nucl-ex].

Search for excited states of light and heavy flavor quarks in the γ +jet final state in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1711.04652 [hep-ex].

Search for diboson resonances in the $2\ell 2\nu$ final state CMS Collaboration
arXiv:1711.04370 [hep-ex].

Measurement of the underlying event activity in inclusive Z boson production in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1711.04299 [hep-ex].

Measurement of associated Z + charm production in proton-proton collisions at $\sqrt{s} = 8$ TeV CMS Collaboration
arXiv:1711.02143 [hep-ex].

Search for top squarks and dark matter particles in opposite-charge dilepton final states at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1711.00752 [hep-ex].

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
arXiv:1711.00431 [hep-ex].

Search for supersymmetry in proton-proton collisions at 13 TeV using identified top quarks CMS Collaboration
arXiv:1710.11188 [hep-ex].

Measurement of quarkonium production cross sections in pp collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1710.11002 [hep-ex].

Pseudorapidity distributions of charged hadrons in proton-lead collisions at $\sqrt{s_{\text{NN}}} = 5.02$ and 8.16 TeV CMS Collaboration
arXiv:1710.09355 [hep-ex].

Search for supersymmetry in events with at least three electrons or muons, jets, and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1710.09154 [hep-ex].

Measurement of b hadron lifetimes in pp collisions at $\sqrt{s} = 8$ TeV CMS Collaboration
arXiv:1710.08949 [hep-ex].

Measurement of differential cross sections in the ϕ^* variable for inclusive Z boson production in pp collisions at $\sqrt{s} = 8$ TeV CMS Collaboration
arXiv:1710.07955 [hep-ex].

Pseudorapidity and transverse momentum dependence of flow harmonics in pPb and PbPb collisions CMS Collaboration
arXiv:1710.07864 [nucl-ex].

Search for a massive resonance decaying to a pair of Higgs bosons in the four b quark final state in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1710.04960 [hep-ex].

Measurement of angular parameters from the decay $B^0 \rightarrow K^{*0} \mu^+ \mu^-$ in proton-proton collisions at $\sqrt{s} = 8$ TeV CMS Collaboration
arXiv:1710.02846 [hep-ex].

Study of dijet events with a large rapidity gap between the two leading jets in pp collisions at $\sqrt{s} = 7$ TeV CMS Collaboration
arXiv:1710.02586 [hep-ex].

Search for pair production of vector-like quarks in the $bW\bar{b}W$ channel from proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1710.01539 [hep-ex].

Search for low mass vector resonances decaying into quark-antiquark pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1710.00159 [hep-ex].

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
arXiv:1709.09814 [hep-ex].

Observation of correlated azimuthal anisotropy Fourier harmonics in pp and pPb collisions at the LHC CMS Collaboration
arXiv:1709.09189 [nucl-ex].

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
arXiv:1709.08908 [hep-ex].

Measurements of the $pp \rightarrow ZZ$ production cross section and the $Z \rightarrow 4\ell$ branching fraction, and constraints on anomalous triple gauge couplings at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1709.08601 [hep-ex].

Evidence for the Higgs boson decay to a bottom quark-antiquark pair CMS Collaboration
arXiv:1709.07497 [hep-ex].

Observation of top quark production in proton-nucleus collisions CMS Collaboration
arXiv:1709.07411 [nucl-ex].

Observation of electroweak production of same-sign W boson pairs in the two jet and two same-sign lepton final state in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1709.05822 [hep-ex].

Inclusive search for a highly boosted Higgs boson decaying to a bottom quark-antiquark pair CMS Collaboration
arXiv:1709.05543 [hep-ex].

Search for electroweak production of charginos and neutralinos in multilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1709.05406 [hep-ex].

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
arXiv:1709.04896 [hep-ex].

Search for supersymmetry with Higgs boson to diphoton decays using the razor variables at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1709.00384 [hep-ex].

Measurement of the splitting function in pp and PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV CMS Collaboration
arXiv:1708.09429 [nucl-ex].

Challenges to the chiral magnetic wave using charge-dependent azimuthal anisotropies in pPb and PbPb collisions at $\sqrt{[b]s_{NN}} = 5.02$ TeV CMS Collaboration
arXiv:1708.08901 [nucl-ex].

Search for heavy resonances decaying to a top quark and a bottom quark in the lepton+jets final state in proton-proton collisions at 13 TeV CMS Collaboration
arXiv:1708.08539 [hep-ex].

Search for evidence of the type-III seesaw mechanism in multilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1708.07962 [hep-ex].

Principal-component analysis of two-particle azimuthal correlations in PbPb and pPb collisions at CMS CMS Collaboration
arXiv:1708.07113 [nucl-ex].

Search for massive resonances decaying into WW, WZ, ZZ, qW, and qZ with dijet final states at $\sqrt{s} =$

13 TeV CMS Collaboration
arXiv:1708.05379 [hep-ex].

Nuclear modification factor of D0 mesons in PbPb collisions at $\sqrt{s[NN]} = 5.02$ TeV CMS Collaboration
arXiv:1708.04962 [nucl-ex].

Search for resonant and nonresonant Higgs boson pair production in the $b\bar{b}\ell\ell\nu$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1708.04188 [hep-ex].

Measurement of prompt D^0 meson azimuthal anisotropy in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV CMS Collaboration
arXiv:1708.03497 [nucl-ex].

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
arXiv:1708.02812 [hep-ex].

Search for vector-like light-flavor quark partners in proton-proton collisions at $\sqrt{s}=8$ TeV CMS Collaboration
arXiv:1708.02510 [hep-ex].

Constraints on the chiral magnetic effect using charge-dependent azimuthal correlations in pPb and PbPb collisions at the LHC CMS Collaboration
arXiv:1708.01602 [nucl-ex].

Search for single production of a vector-like T quark decaying to a Z boson and a top quark in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration
arXiv:1708.01062 [hep-ex].

Observation of the Higgs boson decay to a pair of tau leptons CMS Collaboration
arXiv:1708.00373 [hep-ex].

Search for a light pseudoscalar Higgs boson produced in association with bottom quarks in pp collisions at $\sqrt{s}=8$ TeV CMS Collaboration
arXiv:1707.07283 [hep-ex].

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
arXiv:1707.07274 [hep-ex].

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
arXiv:1707.06193 [hep-ex].

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
arXiv:1707.05979 [hep-ex].

Search for natural supersymmetry in events with top quark pairs and photons in pp collisions at $\sqrt{s} = 8$ TeV CMS Collaboration
arXiv:1707.03325 [hep-ex].

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

arXiv:1707.02909 [hep-ex].

Search for heavy resonances that decay into a vector boson and a Higgs boson in hadronic final states at $\sqrt{s}=13$ TeV CMS Collaboration

arXiv:1707.01303 [hep-ex].

Constraints on anomalous Higgs boson couplings using production and decay information in the four-lepton final state CMS Collaboration

arXiv:1707.00541 [hep-ex].

A search for Higgs boson pair production in the bbtatau final state in proton-proton collisions at $\sqrt{s} = 8$ TeV CMS Collaboration

arXiv:1707.00350 [hep-ex].

Measurement of charged pion, kaon, and proton production in proton-proton collisions at $\sqrt{s} = 13$ TeV CMS Collaboration

arXiv:1706.10194 [hep-ex].

Measurements of properties of the Higgs boson decaying into the four-lepton final state in pp collisions at $\sqrt{s} = 13$ TeV CMS Collaboration

arXiv:1706.09936 [hep-ex].

Search for electroweak production of charginos and neutralinos in WH events in proton-proton collisions at $\sqrt{s}=13$ TeV CMS Collaboration

arXiv:1706.09933 [hep-ex].

Search for a heavy composite Majorana neutrino in the final state with two leptons and two quarks at $\sqrt{s} = 13$ TeV CMS Collaboration

arXiv:1706.08578 [hep-ex].

Exclusive and semi-exclusive $\pi^+\pi^-$ production in proton-proton collisions at $\sqrt{s} = 7$ TeV CMS Collaboration

arXiv:1706.08310 [hep-ex].

Suppression of excited Upsilon states relative to the ground state in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV CMS Collaboration

arXiv:1706.05984 [hep-ex].

Measurements of jet charge with dijet events in pp collisions at $\sqrt{s} = 8$ TeV CMS Collaboration

arXiv:1706.05868 [hep-ex].

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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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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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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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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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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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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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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 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 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:

'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 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 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]

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