# Rebeca Gonzalez Suarez - Publication List

## Contents



## Metrics

As of October 21, 2021:

| | **Citeable papers** | **Published only** |
|---|---|---|
| Number of papers | 1,068 | 1,022 |
| Number of citations | 128,560 | 128,168 |
| Average citations per paper | 120.4 | 125.4 |
| h index | 160 | 160 |

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

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

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

I am an ATLAS Collaboration author since 2019. I was an author of the CMS collaboration from 2006 until 2018.

## Main publications

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

**Hunt for rare processes and long-lived particles at FCC-ee**, *Marcin Chrzaszcz, Rebeca Gonzalez Suarez, Stéphane Monteil*, arXiv:2106.15459, Eur. Phys. J. Plus 136, 1056 (2021) [PA, ED]

**Searches for Long-Lived Particles at the FCC-ee** Snowmass2021 - Letter of Interest. [PA, ED]

**To catch a long-lived particle: hit selection towards a regional hardware track trigger implementation**, *Mikael Mårtensson, Max Isacson, Hampus Hahne, Rebeca Gonzalez Suarez, Richard Brenner*, arXiv:1907.09846 JINST 14 P11009 (2019) [PA, ED]

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

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

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

**Measurements of the Higgs boson production and decay rates and constraints on its couplings from a combined ATLAS and CMS analysis of the LHC $pp$ collision data at $\sqrt{s} =$ 7 and 8 TeV**, *ATLAS and CMS Collaborations*, arXiv:1606.02266, JHEP 1608 (2016) 045. [C]

**Search for Higgs boson off-shell production in proton-proton collisions at 7 and 8 TeV and derivation of constraints on its total decay width**, *CMS Collaboration*, arXiv:1605.02329, JHEP 09 (2016) 051 [R - Higgs to WW]
**$500^{th}$ 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 52.

**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 **475**.

**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 **79**.

⋆ **Observation of the associated production of a single top quark and a W boson in pp collisions at $\sqrt{s} = 8$TeV**, *CMS Collaboration*, arXiv:1401.2942, Phys. Rev. Lett. 112, 231802. [PA]
Cited by **198** .

**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*, 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 **443** .

**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 **166** .

**Search for electroweak production of charginos and neutralinos using leptonic final states in pp collisions at $\sqrt(s) = 7$ 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. B716 (2012) 30-61 [C]
Cited by **11,745**.

**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*, 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 $\sqrt(s) = 7$ TeV**, *CMS Collaboration*, arXiv:1202.1489, Phys.Lett. B 710 (2012) 91-113 [C]
Cited by **184**.

⋆ **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 **138** .

⋆ **Measurement of $W^+W^-$ Production and Search for the Higgs Boson in $pp$ Collisions at $\sqrt{s} = 7$ TeV**, *CMS Collaboration*, arXiv:1102.5429, Phys.Lett. B 699 (2011) 25-47 [C]
Cited by **179** .

## Publications from top

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

**Search for new physics in top quark production in dilepton final states in proton-proton collisions at $\sqrt{s}$ = 13 TeVs** *CMS Collaboration*, Eur. Phys. J. C 79 (2019) 886, arXiv:1903.11144

**Combinations of single-top-quark production cross-section measurements and $|f_{LV}V_{tb}|$ determinations at $\sqrt{s} = 7$ and 8 TeV with the ATLAS and CMS experiments** *ATLAS and CMS Collaborations*, JHEP 05 (2019) 088, arXiv:1902.07158

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Measurements of $t\bar{t}$ cross sections in association with b jets and inclusive jets and their ratio using dilepton final states in pp collisions at $\sqrt{s}$= 13 TeV** *CMS Collaboration*, Phys. Lett. B 776 (2017) 355, arXiv:1705.10141

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

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

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

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

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

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

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

**Search for CP violation in $\mathrm{t\bar{t}}$ 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

## Conference proceedings

**Long-Lived Particles at Future Colliders**, *Rebeca Gonzalez Suarez*, Proceedings for the XXVII Epiphany Conference Acta Phys. Pol. B 52, 953 (2021), arXiv:2102.07597

**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

**Single top Production at $\sqrt{s} = 7$ TeV**, *Rebeca Gonzalez Suarez on behalf of the CMS, ATLAS collaborations*, Proceedings Moriond 2012, arXiv:1205.2786

**Higgs search prospects at the LHC**, *Rebeca Gonzalez Suarez*, Proceedings BEACH 2010, Nucl.Phys.Proc.Suppl. 210-211 (2011) 283-288

**Discovery Potential for the SM Higgs Boson in the $H \rightarrow WW^* \rightarrow 2l2\nu$ channel at LHC**, *Rebeca Gonzalez Suarez*, Proceedings ICHEP 2008, arXiv:0810.1468

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

## Public Analysis Summaries

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

'Higgs to WW measurements with 15.2 $fb^{-1}$ 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 $\sqrt{s} = 13$ 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 $\sqrt{s} = 8$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 $\sqrt{s} = 8$ 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 $\sqrt{s} = 8$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 $\sqrt{s} = 8$ 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 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 $B_s^0 \rightarrow \mu^+\mu^-$ 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 $\sqrt{s} = 8$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 $\sqrt{s} = 8$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 $\sqrt{s} = 8$TeV' (CMS-PAS-TOP-12-040) [PA]

'Search for Flavor-Changing Neutral Currents in tZ events in proton-proton collisions at $\sqrt{s} = 7$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:

'Measurement of the single top quark and antiquark production cross sections in the t channel and their ratio in pp collisions at $\sqrt{s} = 13$ TeV' TOP-17-011

'Measurement of the top quark mass in the all-jets final state at $\sqrt{s} = 13$ TeV' TOP-17-008

'Measurements of differential cross sections for $t\bar{t}$ production in proton-proton collisions at $\sqrt{s} = 13$ TeV using events containing two leptons' TOP-17-014

'Search for top+photon production in pp collisions at 13 TeV in the muon+jets channel' TOP-17-016

'Study of the underlying event in top quark pair production at $\sqrt{s} = 13$ TeV' TOP-17-015

'Measurement of jet substructure observables in $t\bar{t}$ events from pp collisions at $\sqrt{s} = 13$ TeV' TOP-17-013

'Search for the flavor-changing interactions of the top quark with the Higgs boson in $\mathrm{H} \to b\bar{b}$ 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→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→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→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]

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**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]

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the H $\to WW$ and $ZZ$ decay channels' (*S. Baffioni, C. Botta et al.*) [PA]

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**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]

## Full Publication list

Full list of publications of which I am an author, in reverse chronological order:

G. Aad *et al.* [ATLAS], "Measurement of the energy asymmetry in $t\bar{t}j$ production at 13 TeV with the ATLAS experiment and interpretation in the SMEFT framework," [arXiv:2110.05453 [hep-ex]].

G. Aad *et al.* [ATLAS], "Search for Higgs boson decays into a pair of pseudoscalar particles in the $bb\mu\mu$ final state with the ATLAS detector in $pp$ collisions at $\sqrt{s} = 13$ TeV," [arXiv:2110.00313 [hep-ex]].

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