Publication List from all Collaborations and Experiments

Oliver Gutsche

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A. Tumasyan et al., **Search for top squark pair production in a final state with at least one hadronically decaying tau lepton in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, (2023). http://arxiv.org/abs/2304.07174, arXiv:2304.07174 [hep-ex]

A. Tumasyan et al., **First measurement of the top quark pair production cross section in proton-proton collisions at $\sqrt{s}$ = 13.6 TeV**, (2023). http://arxiv.org/abs/2303.10680, arXiv:2303.10680 [hep-ex]

V. Khachatryan et al., **Exclusive and semi-exclusive pi+pi- production in proton-proton collisions at sqrt(s) = 7 TeV**, (2017). http://arxiv.org/abs/1706.08310, arXiv:1706.08310 [hep-ex]

G.L. Bayatian et al., **CMS expression of interest in the SLHC**, (2007)

A. Tumasyan et al., **Observation of triple J/ψ meson production in proton-proton collisions**, *Nature Phys.* 19 (2023) 338–350, doi:10.1038/s41567-022-01838-y, arXiv:2111.05370 [hep-ex]

A. Tumasyan et al., **Search for electroweak production of charginos and neutralinos in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 04 (2022) 147, doi:10.1007/JHEP04(2022)147, arXiv:2106.14246 [hep-ex]

A. Tumasyan et al., **Measurement of W $^{\pm}\gamma$ differential cross sections in proton-proton collisions at $\sqrt{s}$ = 13 TeV and effective field theory constraints**, *Phys. Rev. D.* 105 (2022) 052003, doi:10.1103/PhysRevD.105.052003, arXiv:2111.13948 [hep-ex]

A. Tumasyan et al., **Search for a right-handed W boson and a heavy neutrino in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 04 (2022) 047, doi:10.1007/JHEP04(2022)047, arXiv:2112.03949 [hep-ex]

A. Tumasyan et al., **Search for resonant production of strongly coupled dark matter in proton-proton collisions at 13 TeV**, *JHEP.* 06 (2022) 156, doi:10.1007/JHEP06(2022)156, arXiv:2112.11125 [hep-ex]

A. Tumasyan et al., **Search for supersymmetry in final states with two or three soft leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 04 (2022) 091, doi:10.1007/JHEP04(2022)091, arXiv:2111.06296 [hep-ex]

A. Tumasyan et al., **Search for flavor-changing neutral current interactions of the top quark and the Higgs boson decaying to a bottom quark-antiquark pair at $\sqrt{s}$ = 13 TeV**, *JHEP.* 02 (2022) 169, doi:10.1007/JHEP02(2022)169, arXiv:2112.09734 [hep-ex]

A. Tumasyan et al., **Measurement of the inclusive $t\bar{t}$ production cross section in proton-proton collisions at $\sqrt{s}$ = 5.02 TeV**, *JHEP.* 04 (2022) 144, doi:10.1007/JHEP04(2022)144, arXiv:2112.09114 [hep-ex]

A. Tumasyan et al., **Measurement of the inclusive and differential Higgs boson production cross sections in the decay mode to a pair of τ leptons in pp collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. Lett.* 128 (2022) 081805, doi:10.1103/PhysRevLett.128.081805, arXiv:2107.11486 [hep-ex]

A. Tumasyan et al., **Search for Flavor-Changing Neutral Current Interactions of the Top Quark and Higgs Boson in Final States with Two Photons in Proton-Proton Collisions at $\sqrt{s} = 13TeV$**, *Phys. Rev. Lett.* 129 (2022) 032001, doi:10.1103/PhysRevLett.129.032001, arXiv:2111.02219 [hep-ex]

A. Tumasyan et al., **Measurement of the inclusive and differential WZ production cross sections, polarization angles, and triple gauge couplings in pp collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 07 (2022) 032, doi:10.1007/JHEP07(2022)032, arXiv:2110.11231 [hep-ex]

A. Tumasyan et al., **Strategies and performance of the CMS silicon tracker alignment during LHC Run 2**, *Nucl. Instrum. Meth. A.* 1037 (2022) 166795, doi:10.1016/j.nima.2022.166795, arXiv:2111.08757 [physics.ins-det]

A. Tumasyan et al., **Search for heavy resonances decaying to Z($\nu\bar{\nu}$)V(q $\bar{q}$') in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 106 (2022) 012004, doi:10.1103/PhysRevD.106.012004, arXiv:2109.08268 [hep-ex]

A. Tumasyan et al., **Study of quark and gluon jet substructure in Z+jet and dijet events from pp collisions**, *JHEP.* 01 (2022) 188, doi:10.1007/JHEP01(2022)188, arXiv:2109.03340 [hep-ex]

A. Tumasyan et al., **Search for long-lived particles decaying to leptons with large impact parameter in proton-proton collisions at** $\sqrt{s} = 13TeV$, *Eur. Phys. J. C.* 82 (2022) 153, doi:10.1140/epjc/s10052-022-10027-3, arXiv:2110.04809 [hep-ex]

A. Tumasyan et al., **Search for heavy resonances decaying to WW, WZ, or WH boson pairs in the lepton plus merged jet final state in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 105 (2022) 032008, doi:10.1103/PhysRevD.105.032008, arXiv:2109.06055 [hep-ex]

A. Tumasyan et al., **Measurement of double-parton scattering in inclusive production of four jets with low transverse momentum in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 01 (2022) 177, doi:10.1007/JHEP01(2022)177, arXiv:2109.13822 [hep-ex]

A. Tumasyan et al., **Study of dijet events with large rapidity separation in proton-proton collisions at $\sqrt{s}$ = 2.76 TeV**, *JHEP.* 03 (2022) 189, doi:10.1007/JHEP03(2022)189, arXiv:2111.04605 [hep-ex]

A. Tumasyan et al., **Search for resonances decaying to three W bosons in the hadronic final state in proton-proton collisions at $\sqrt{s}$ =13 TeV**, *Phys. Rev. D.* 106 (2022) 012002, doi:10.1103/PhysRevD.106.012002, arXiv:2112.13090 [hep-ex]

A. Tumasyan et al., **Search for a heavy resonance decaying into a top quark and a W boson in the lepton+jets final state at $\sqrt{s}$ = 13 TeV**, *JHEP.* 04 (2022) 048, doi:10.1007/JHEP04(2022)048, arXiv:2111.10216 [hep-ex]

A. Tumasyan et al., **Observation of Bs0 mesons and measurement of the Bs0/B+ yield ratio in PbPb collisions at Image 1 TeV**, *Phys. Lett. B.* 829 (2022) 137062, doi:10.1016/j.physletb.2022.137062, arXiv:2109.01908 [hep-ex]

A.M. Sirunyan et al., **Using Z Boson Events to Study Parton-Medium Interactions in Pb-Pb Collisions**, *Phys. Rev. Lett.* 128 (2022) 122301, doi:10.1103/PhysRevLett.128.122301, arXiv:2103.04377 [hep-ex]

A. Tumasyan et al., **Measurements of the associated production of a W boson and a charm quark in protonproton collisions at** $\sqrt{s} = 8TeV$, *Eur. Phys. J. C.* 82 (2022) 1094, doi:10.1140/epjc/s10052-022-10897-7, arXiv:2112.00895 [hep-ex]

A. Tumasyan et al., **Measurement of the production cross section for Z+b jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 105 (2022) 092014, doi:10.1103/PhysRevD.105.092014, arXiv:2112.09659 [hep-ex]

A. Tumasyan et al., **Search for low-mass dilepton resonances in Higgs boson decays to four-lepton final states in protonproton collisions at** $\sqrt{s} = 13TeV$, *Eur. Phys. J. C.* 82 (2022) 290, doi:10.1140/epjc/s10052-022-10127-0, arXiv:2111.01299 [hep-ex]

A. Tumasyan et al., **Fragmentation of jets containing a prompt J /ψ meson in PbPb and pp collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Lett. B.* 825 (2022) 136842, doi:10.1016/j.physletb.2021.136842, arXiv:2106.13235 [hep-ex]

A. Tumasyan et al., **Probing Charm Quark Dynamics via Multiparticle Correlations in Pb-Pb Collisions at $\sqrt{s_{NN}}$ =5.02 TeV**, *Phys. Rev. Lett.* 129 (2022) 022001, doi:10.1103/PhysRevLett.129.022001, arXiv:2112.12236 [hep-ex]

A. Tumasyan et al., **Evidence for WW/WZ vector boson scattering in the decay channel $\ell\nu$qq produced in association with two jets in proton-proton collisions at s=13 TeV**, *Phys. Lett. B.* 834 (2022) 137438, doi:10.1016/j.physletb.2022.137438, arXiv:2112.05259 [hep-ex]

A. Tumasyan et al., **Search for heavy resonances decaying to a pair of Lorentz-boosted Higgs bosons in final states with leptons and a bottom quark pair at $\sqrt{s}$= 13 TeV**, *JHEP.* 05 (2022) 005, doi:10.1007/JHEP05(2022)005, arXiv:2112.03161 [hep-ex]

A. Tumasyan et al., **Search for strongly interacting massive particles generating trackless jets in protonproton collisions at** $\sqrt{s} = 13TeV$, *Eur. Phys. J. C.* 82 (2022) 213, doi:10.1140/epjc/s10052-022-10095-5, arXiv:2105.09178 [hep-ex]

A. Tumasyan et al., **A new calibration method for charm jet identification validated with proton-proton collision events at $\sqrt{s}$ =13 TeV**, *JINST.* 17 (2022) P03014, doi:10.1088/1748-0221/17/03/P03014, arXiv:2111.03027 [hep-ex]

A. Tumasyan et al., **Search for long-lived particles decaying into muon pairs in proton-proton collisions at $\sqrt{s}$ = 13 TeV collected with a dedicated high-rate data stream**, *JHEP.* 04 (2022) 062, doi:10.1007/JHEP04(2022)062, arXiv:2112.13769 [hep-ex]

A. Tumasyan et al., **Analysis of the CP structure of the Yukawa coupling between the Higgs boson and τ leptons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 06 (2022) 012, doi:10.1007/JHEP06(2022)012, arXiv:2110.04836 [hep-ex]

A. Tumasyan et al., **Inclusive and differential cross section measurements of single top quark production in association with a Z boson in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 02 (2022) 107, doi:10.1007/JHEP02(2022)107, arXiv:2111.02860 [hep-ex]

A. Tumasyan et al., **Search for heavy resonances decaying to ZZ or ZW and axion-like particles mediating nonresonant ZZ or ZH production at $\sqrt{s}$ = 13 TeV**, *JHEP*. 04 (2022) 087, doi:10.1007/JHEP04(2022)087, arXiv:2111.13669 [hep-ex]

A. Tumasyan et al., **Search for long-lived particles produced in association with a Z boson in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 03 (2022) 160, doi:10.1007/JHEP03(2022)160, arXiv:2110.13218 [hep-ex]

A. Tumasyan et al., **Measurement and QCD analysis of double-differential inclusive jet cross sections in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 02 (2022) 142, doi:10.1007/JHEP02(2022)142, arXiv:2111.10431 [hep-ex]

A.M. Sirunyan et al., **Evidence for X(3872) in Pb-Pb Collisions and Studies of its Prompt Production at $\sqrt{s_{NN}}$=5.02 TeV**, *Phys. Rev. Lett.* 128 (2022) 032001, doi:10.1103/PhysRevLett.128.032001, arXiv:2102.13048 [hep-ex]

A. Tumasyan et al., **Search for W γ resonances in proton-proton collisions at $\sqrt{s}$ = 13 TeV using hadronic decays of Lorentz-boosted W bosons**, *Phys. Lett. B*. 826 (2022) 136888, doi:10.1016/j.physletb.2022.136888, arXiv:2106.10509 [hep-ex]

A. Tumasyan et al., **Observation of B ^{0}→ψ(2S)K $^0_S\pi^+\pi^-$ and B ^0_S→ψ(2S)K ^0_S decays**, *Eur. Phys. J. C*. 82 (2022) 499, doi:10.1140/epjc/s10052-022-10315-y, arXiv:2201.09131 [hep-ex]

A. Tumasyan et al., **Search for Higgs Boson Pair Production in the Four b Quark Final State in Proton-Proton Collisions at s=13 TeV**, *Phys. Rev. Lett.* 129 (2022) 081802, doi:10.1103/PhysRevLett.129.081802, arXiv:2202.09617 [hep-ex]

A. Tumasyan et al., **Search for long-lived heavy neutral leptons with displaced vertices in proton-proton collisions at $\sqrt{s}$ =13 TeV**, *JHEP*. 07 (2022) 081, doi:10.1007/JHEP07(2022)081, arXiv:2201.05578 [hep-ex]

A. Tumasyan et al., **Search for new physics in the lepton plus missing transverse momentum final state in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 07 (2022) 067, doi:10.1007/JHEP07(2022)067, arXiv:2202.06075 [hep-ex]

A. Tumasyan et al., **Measurement of the Higgs boson width and evidence of its off-shell contributions to ZZ production**, *Nature Phys.* 18 (2022) 1329–1334, doi:10.1038/s41567-022-01682-0, arXiv:2202.06923 [hep-ex]

A. Tumasyan et al., **Measurement of the inclusive and differential $t\bar{t}\gamma$ cross sections in the dilepton channel and effective field theory interpretation in proton-proton collisions at $\sqrt{s}$ =13 TeV**, *JHEP*. 05 (2022) 091, doi:10.1007/JHEP05(2022)091, arXiv:2201.07301 [hep-ex]

A. Tumasyan et al., **Search for resonances decaying to three W bosons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. Lett.* 129 (2022) 021802, doi:10.1103/PhysRevLett.129.021802, arXiv:2201.08476 [hep-ex]

A. Tumasyan et al., **Precision measurement of the W boson decay branching fractions in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D*. 105 (2022) 072008, doi:10.1103/PhysRevD.105.072008, arXiv:2201.07861 [hep-ex]

A. Tumasyan et al., **Inclusive nonresonant multilepton probes of new phenomena at $\sqrt{s}$=13 TeV**, *Phys. Rev. D*. 105 (2022) 112007, doi:10.1103/PhysRevD.105.112007, arXiv:2202.08676 [hep-ex]

A. Tumasyan et al., **Identification of hadronic tau lepton decays using a deep neural network**, *JINST*. 17 (2022) P07023, doi:10.1088/1748-0221/17/07/P07023, arXiv:2201.08458 [hep-ex]

A. Tumasyan et al., **Search for invisible decays of the Higgs boson produced via vector boson fusion in proton-proton collisions at s=13 TeV**, *Phys. Rev. D*. 105 (2022) 092007, doi:10.1103/PhysRevD.105.092007, arXiv:2201.11585 [hep-ex]

A. Tumasyan et al., **Search for new particles in an extended Higgs sector with four b quarks in the final state at s=13TeV**, *Phys. Lett. B*. 835 (2022) 137566, doi:10.1016/j.physletb.2022.137566, arXiv:2203.00480 [hep-ex]

A. Tumasyan et al., **Observation of the B_c^+ Meson in Pb-Pb and pp Collisions at $\sqrt{s_{NN}}$=5.02 TeV and Measurement of its Nuclear Modification Factor**, *Phys. Rev. Lett.* 128 (2022) 252301, doi:10.1103/PhysRevLett.128.252301, arXiv:2201.02659 [hep-ex]

A. Tumasyan et al., **Search for a W' boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state at $\sqrt{s} = 13$ TeV**, *JHEP.* 09 (2022) 088, doi:10.1007/JHEP09(2022)088, arXiv:2202.12988 [hep-ex]

A. Tumasyan et al., **Search for high-mass resonances decaying to a jet and a Lorentz-boosted resonance in proton-proton collisions at s=13TeV**, *Phys. Lett. B.* 832 (2022) 137263, doi:10.1016/j.physletb.2022.137263, arXiv:2201.02140 [hep-ex]

A. Tumasyan et al., **Measurement of the Drell-Yan forward-backward asymmetry at high dilepton masses in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 2022 (2022) 063, doi:10.1007/JHEP08(2022)063, arXiv:2202.12327 [hep-ex]

A. Tumasyan et al., **Search for higgsinos decaying to two Higgs bosons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 05 (2022) 014, doi:10.1007/JHEP05(2022)014, arXiv:2201.04206 [hep-ex]

A. Tumasyan et al., **Nuclear modification of Υ states in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 835 (2022) 137397, doi:10.1016/j.physletb.2022.137397, arXiv:2202.11807 [hep-ex]

A. Tumasyan et al., **Search for single production of a vector-like T quark decaying to a top quark and a Z boson in the final state with jets and missing transverse momentum at $\sqrt{s} = 13$ TeV**, *JHEP.* 05 (2022) 093, doi:10.1007/JHEP05(2022)093, arXiv:2201.02227 [hep-ex]

A. Tumasyan et al., **Search for charged-lepton flavor violation in top quark production and decay in pp collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 06 (2022) 082, doi:10.1007/JHEP06(2022)082, arXiv:2201.07859 [hep-ex]

A. Tumasyan et al., **First Search for Exclusive Diphoton Production at High Mass with Tagged Protons in Proton-Proton Collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. Lett.* 129 (2022) 011801, doi:10.1103/PhysRevLett.129.011801, arXiv:2110.05916 [hep-ex]

A.M. Sirunyan et al., **Correlations of azimuthal anisotropy Fourier harmonics with subevent cumulants in pPb collisions at $\sqrt{s_{NN}} = 8.16$TeV**, *Phys. Rev. C.* 103 (2021) 014902, doi:10.1103/PhysRevC.103.014902, arXiv:1905.09935 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry in final states with two oppositely charged same-flavor leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 04 (2021) 123, doi:10.1007/JHEP04(2021)123, arXiv:2012.08600 [hep-ex]

A.M. Sirunyan et al., **Measurement of prompt D^0 and $\overline{D}^0$ meson azimuthal anisotropy and search for strong electric fields in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 816 (2021) 136253, doi:10.1016/j.physletb.2021.136253, arXiv:2009.12628 [hep-ex]

A.M. Sirunyan et al., **Measurement of differential cross sections for Z bosons produced in association with charm jets in pp collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 04 (2021) 109, doi:10.1007/JHEP04(2021)109, arXiv:2012.04119 [hep-ex]

A.M. Sirunyan et al., **Development and validation of HERWIG 7 tunes from CMS underlying-event measurements**, *Eur. Phys. J. C.* 81 (2021) 312, doi:10.1140/epjc/s10052-021-08949-5, arXiv:2011.03422 [hep-ex]

A.M. Sirunyan et al., **Measurement of the inclusive and differential Higgs boson production cross sections in the leptonic WW decay mode at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2021) 003, doi:10.1007/JHEP03(2021)003, arXiv:2007.01984 [hep-ex]

A.M. Sirunyan et al., **Measurement of the CP-violating phase ϕ_s in the $B_s^0 \to J/\psi\,\phi(1020) \to \mu^+\mu^- K^+K^-$ channel in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 816 (2021) 136188, doi:10.1016/j.physletb.2021.136188, arXiv:2007.02434 [hep-ex]

A.M. Sirunyan et al., **Measurement of the azimuthal anisotropy of Image 1 and Image 2 mesons in PbPb collisions at sNN=5.02TeV**, *Phys. Lett. B.* 819 (2021) 136385, doi:10.1016/j.physletb.2021.136385, arXiv:2006.07707 [hep-ex]

A.M. Sirunyan et al., **Measurements of production cross sections of polarized same-sign W boson pairs in association with two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 812 (2021) 136018, doi:10.1016/j.physletb.2020.136018, arXiv:2009.09429 [hep-ex]

A.M. Sirunyan et al., **Evidence for electroweak production of four charged leptons and two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 812 (2021) 135992, doi:10.1016/j.physletb.2020.135992, arXiv:2008.07013 [hep-ex]

A.M. Sirunyan et al., **Measurement of b jet shapes in proton-proton collisions at $\sqrt{s} = 5.02$ TeV**, *JHEP.* 05 (2021) 054, doi:10.1007/JHEP05(2021)054, arXiv:2005.14219 [hep-ex]

A.M. Sirunyan et al., **Measurements of $pp \to ZZ$ production cross sections and constraints on anomalous triple gauge couplings at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 81 (2021) 200, doi:10.1140/epjc/s10052-020-08817-8, arXiv:2009.01186 [hep-ex]

A.M. Sirunyan et al., **Measurement of the Z boson differential production cross section using its invisible decay mode (Z $\nu\bar{\nu}$) in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 05 (2021) 205, doi:10.1007/JHEP05(2021)205, arXiv:2012.09254 [hep-ex]

A.M. Sirunyan et al., **Search for long-lived particles using displaced jets in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 104 (2021) 012015, doi:10.1103/PhysRevD.104.012015, arXiv:2012.01581 [hep-ex]

T.C. Collaboration et al., **Search for dark photons in Higgs boson production via vector boson fusion in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2021) 011, doi:10.1007/JHEP03(2021)011, arXiv:2009.14009 [hep-ex]

A.M. Sirunyan et al., **Search for the lepton flavor violating decay $\tau \to 3\ \mu$ in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 01 (2021) 163, doi:10.1007/JHEP01(2021)163, arXiv:2007.05658 [hep-ex]

V. Khachatryan et al., **The very forward CASTOR calorimeter of the CMS experiment**, *JINST.* 16 (2021) P02010, doi:10.1088/1748-0221/16/02/P02010, arXiv:2011.01185 [physics.ins-det]

T.C. Collaboration et al., **Search for new physics in top quark production with additional leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV using effective field theory**, *JHEP.* 03 (2021) 095, doi:10.1007/JHEP03(2021)095, arXiv:2012.04120 [hep-ex]

A.M. Sirunyan et al., **Measurement of the Higgs boson production rate in association with top quarks in final states with electrons, muons, and hadronically decaying tau leptons at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 81 (2021) 378, doi:10.1140/epjc/s10052-021-09014-x, arXiv:2011.03652 [hep-ex]

A.M. Sirunyan et al., **Angular analysis of the decay B $^{+}\to$ K *(892) $^{+}\mu^{+}\mu^{-}$ in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 04 (2021) 124, doi:10.1007/JHEP04(2021)124, arXiv:2010.13968 [hep-ex]

A.M. Sirunyan et al., **Search for the rare decay of the W boson into a pion and a photon in proton-proton collisions at s=13TeV**, *Phys. Lett. B.* 819 (2021) 136409, doi:10.1016/j.physletb.2021.136409, arXiv:2011.06028 [hep-ex]

A.M. Sirunyan et al., **Search for top squark pair production using dilepton final states in pp collision data collected at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 81 (2021) 3, doi:10.1140/epjc/s10052-020-08701-5, arXiv:2008.05936 [hep-ex]

A.M. Sirunyan et al., **Studies of charm and beauty hadron long-range correlations in pp and pPb collisions at LHC energies**, *Phys. Lett. B.* 813 (2021) 136036, doi:10.1016/j.physletb.2020.136036, arXiv:2009.07065 [hep-ex]

A.M. Sirunyan et al., **Observation of Forward Neutron Multiplicity Dependence of Dimuon Acoplanarity in Ultraperipheral Pb-Pb Collisions at $\sqrt{s_{NN}}$=5.02 TeV**, *Phys. Rev. Lett.* 127 (2021) 122001, doi:10.1103/PhysRevLett.127.122001, arXiv:2011.05239 [hep-ex]

A.M. Sirunyan et al., **Search for nonresonant Higgs boson pair production in final states with two bottom quarks and two photons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2021) 257, doi:10.1007/JHEP03(2021)257, arXiv:2011.12373 [hep-ex]

A.M. Sirunyan et al., **Measurement of differential $t\bar{t}$ production cross sections using top quarks at large transverse momenta in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 103 (2021) 052008, doi:10.1103/PhysRevD.103.052008, arXiv:2008.07860 [hep-ex]

A.M. Sirunyan et al., **Electron and photon reconstruction and identification with the CMS experiment at the CERN LHC**, *JINST.* 16 (2021) P05014, doi:10.1088/1748-0221/16/05/P05014, arXiv:2012.06888 [hep-ex]

A.M. Sirunyan et al., **Search for dark matter produced in association with a leptonically decaying Z boson in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 81 (2021) 13, doi:10.1140/epjc/s10052-020-08739-5, arXiv:2008.04735 [hep-ex]

A.M. Sirunyan et al., **First measurement of the cross section for top quark pair production with additional charm jets using dileptonic final states in pp collisions at s=13TeV**, *Phys. Lett. B.* 820 (2021) 136565, doi:10.1016/j.physletb.2021.136565, arXiv:2012.09225 [hep-ex]

A.M. Sirunyan et al., **Search for singly and pair-produced leptoquarks coupling to third-generation fermions in proton-proton collisions at s=13 TeV**, *Phys. Lett. B.* 819 (2021) 136446, doi:10.1016/j.physletb.2021.136446, arXiv:2012.04178 [hep-ex]

A.M. Sirunyan et al., **Evidence for Higgs boson decay to a pair of muons**, *JHEP.* 01 (2021) 148, doi:10.1007/JHEP01(2021)148, arXiv:2009.04363 [hep-ex]

A.M. Sirunyan et al., **MUSiC: a model-unspecific search for new physics in protonproton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 81 (2021) 629, doi:10.1140/epjc/s10052-021-09236-z, arXiv:2010.02984 [hep-ex]

K. Lee et al., **Probing effective field theory operators in the associated production of top quarks with a Z boson in multilepton final states at $\sqrt{s} = 13$ TeV**, *JHEP.* 12 (2021) 083, doi:10.1007/JHEP12(2021)083, arXiv:2107.13896 [hep-ex]

A.M. Sirunyan et al., **Search for top squark production in fully-hadronic final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 104 (2021) 052001, doi:10.1103/PhysRevD.104.052001, arXiv:2103.01290 [hep-ex]

A.M. Sirunyan et al., **Search for resonant and nonresonant new phenomena in high-mass dilepton final states at $\sqrt{s} = 13$ TeV**, *JHEP.* 07 (2021) 208, doi:10.1007/JHEP07(2021)208, arXiv:2103.02708 [hep-ex]

A. Tumasyan et al., **Combined searches for the production of supersymmetric top quark partners in protonproton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 81 (2021) 970, doi:10.1140/epjc/s10052-021-09721-5, arXiv:2107.10892 [hep-ex]

A. Tumasyan et al., **Search for new particles in events with energetic jets and large missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 11 (2021) 153, doi:10.1007/JHEP11(2021)153, arXiv:2107.13021 [hep-ex]

A. Tumasyan et al., **Search for chargino-neutralino production in events with Higgs and W bosons using 137 fb $^{-1}$ of proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 10 (2021) 045, doi:10.1007/JHEP10(2021)045, arXiv:2107.12553 [hep-ex]

A.M. Sirunyan et al., **Measurement of the W γ Production Cross Section in Proton-Proton Collisions at $\sqrt{s}$=13 TeV and Constraints on Effective Field Theory Coefficients**, *Phys. Rev. Lett.* 126 (2021) 252002, doi:10.1103/PhysRevLett.126.252002, arXiv:2102.02283 [hep-ex]

A.M. Sirunyan et al., **Measurements of the differential cross sections of the production of Z + jets and γ + jets and of Z boson emission collinear with a jet in pp collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 05 (2021) 285, doi:10.1007/JHEP05(2021)285, arXiv:2102.02238 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy vector resonance decaying to a Z boson and a Higgs boson in proton-proton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 81 (2021) 688, doi:10.1140/epjc/s10052-021-09348-6, arXiv:2102.08198 [hep-ex]

A. Tumasyan et al., **Measurement of the electroweak production of Z γ and two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV and constraints on anomalous quartic gauge couplings**, *Phys. Rev. D.* 104 (2021) 072001, doi:10.1103/PhysRevD.104.072001, arXiv:2106.11082 [hep-ex]

A.M. Sirunyan et al., **Measurements of angular distance and momentum ratio distributions in three-jet and Z + two-jet final states in pp collisions**, *Eur. Phys. J. C.* 81 (2021) 852, doi:10.1140/epjc/s10052-021-09570-2, arXiv:2102.08816 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy resonance decaying to a top quark and a W boson at $\sqrt{s} = 13$ TeV in the fully hadronic final state**, *JHEP.* 12 (2021) 106, doi:10.1007/JHEP12(2021)106, arXiv:2104.12853 [hep-ex]

A. Tumasyan et al., **Measurements of the pp $\rightarrow$ W $^{\pm}\gamma\gamma$ and pp $\rightarrow$ Z $\gamma\gamma$ cross sections at $\sqrt{s} = 13$ TeV and limits on anomalous quartic gauge couplings**, *JHEP.* 10 (2021) 174, doi:10.1007/JHEP10(2021)174, arXiv:2105.12780 [hep-ex]

A. Tumasyan et al., **Measurement of the top quark mass using events with a single reconstructed top quark in pp collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 12 (2021) 161, doi:10.1007/JHEP12(2021)161, arXiv:2108.10407 [hep-ex]

A. Tumasyan et al., **Search for Long-Lived Particles Decaying in the CMS End Cap Muon Detectors in Proton-Proton Collisions at $\sqrt{s}$ =13 TeV**, *Phys. Rev. Lett.* 127 (2021) 261804, doi:10.1103/PhysRevLett.127.261804, arXiv:2107.04838 [hep-ex]

A. Tumasyan et al., **Measurement of the inclusive and differential t $\bar{t}\gamma$ cross sections in the single-lepton channel and EFT interpretation at $\sqrt{s}$ = 13 TeV**, *JHEP.* 12 (2021) 180, doi:10.1007/JHEP12(2021)180, arXiv:2107.01508 [hep-ex]

A.M. Sirunyan et al., **Search for top squarks in final states with two top quarks and several light-flavor jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 104 (2021) 032006, doi:10.1103/PhysRevD.104.032006, arXiv:2102.06976 [hep-ex]

A.M. Sirunyan et al., **Measurements of Higgs boson production cross sections and couplings in the diphoton decay channel at $\sqrt{s}$ = 13 TeV**, *JHEP.* 07 (2021) 027, doi:10.1007/JHEP07(2021)027, arXiv:2103.06956 [hep-ex]

A.M. Sirunyan et al., **Constraints on the Initial State of Pb-Pb Collisions via Measurements of Z-Boson Yields and Azimuthal Anisotropy at $\sqrt{s_{NN}}$=5.02 TeV**, *Phys. Rev. Lett.* 127 (2021) 102002, doi:10.1103/PhysRevLett.127.102002, arXiv:2103.14089 [hep-ex]

A. Tumasyan et al., **Measurement of prompt open-charm production cross sections in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 11 (2021) 225, doi:10.1007/JHEP11(2021)225, arXiv:2107.01476 [hep-ex]

A.M. Sirunyan et al., **Search for W' bosons decaying to a top and a bottom quark at s=13TeV in the hadronic final state**, *Phys. Lett. B.* 820 (2021) 136535, doi:10.1016/j.physletb.2021.136535, arXiv:2104.04831 [hep-ex]

A.M. Sirunyan et al., **In-medium modification of dijets in PbPb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *JHEP.* 05 (2021) 116, doi:10.1007/JHEP05(2021)116, arXiv:2101.04720 [hep-ex]

A.M. Sirunyan et al., **Constraints on anomalous Higgs boson couplings to vector bosons and fermions in its production and decay using the four-lepton final state**, *Phys. Rev. D.* 104 (2021) 052004, doi:10.1103/PhysRevD.104.052004, arXiv:2104.12152 [hep-ex]

A. Tumasyan et al., **Measurements of the electroweak diboson production cross sections in proton-proton collisions at $\sqrt{s}$ = 5.02 TeV using leptonic decays**, *Phys. Rev. Lett.* 127 (2021) 191801, doi:10.1103/PhysRevLett.127.191801, arXiv:2107.01137 [hep-ex]

A.M. Sirunyan et al., **Search for lepton-flavor violating decays of the Higgs boson in the $\mu\tau$ and e τ final states in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 104 (2021) 032013, doi:10.1103/PhysRevD.104.032013, arXiv:2105.03007 [hep-ex]

A.M. Sirunyan et al., **Observation of a New Excited Beauty Strange Baryon Decaying to $\Xi_b^-\pi^+\pi^-$**, *Phys. Rev. Lett.* 126 (2021) 252003, doi:10.1103/PhysRevLett.126.252003, arXiv:2102.04524 [hep-ex]

A.M. Sirunyan et al., **Search for long-lived particles decaying to jets with displaced vertices in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 104 (2021) 052011, doi:10.1103/PhysRevD.104.052011, arXiv:2104.13474 [hep-ex]

A.M. Sirunyan et al., **Measurements of production cross sections of the Higgs boson in the four-lepton final state in protonproton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 81 (2021) 488, doi:10.1140/epjc/s10052-021-09200-x, arXiv:2103.04956 [hep-ex]

A. Tumasyan et al., **Measurement of differential $t\bar{t}$ production cross sections in the full kinematic range using lepton+jets events from proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 104 (2021) 092013, doi:10.1103/PhysRevD.104.092013, arXiv:2108.02803 [hep-ex]

A. Tumasyan et al., **Observation of tW production in the single-lepton channel in pp collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 11 (2021) 111, doi:10.1007/JHEP11(2021)111, arXiv:2109.01706 [hep-ex]

A.M. Sirunyan et al., **First measurement of large area jet transverse momentum spectra in heavy-ion collisions**, *JHEP.* 05 (2021) 284, doi:10.1007/JHEP05(2021)284, arXiv:2102.13080 [hep-ex]

A. Tumasyan et al., **Study of Z boson plus jets events using variables sensitive to double-parton scattering in pp collisions at 13 TeV**, *JHEP.* 10 (2021) 176, doi:10.1007/JHEP10(2021)176, arXiv:2105.14511 [hep-ex]

A.M. Sirunyan et al., **Search for charged Higgs bosons produced in vector boson fusion processes and decaying into vector boson pairs in protonproton collisions at $\sqrt{s} = 13\,TeV$**, *Eur. Phys. J. C.* 81 (2021) 723, doi:10.1140/epjc/s10052-021-09472-3, arXiv:2104.04762 [hep-ex]

A.M. Sirunyan et al., **Precision luminosity measurement in proton-proton collisions at $\sqrt{s}$ = 13 TeV in 2015 and 2016 at CMS**, *Eur. Phys. J. C.* 81 (2021) 800, doi:10.1140/epjc/s10052-021-09538-2, arXiv:2104.01927 [hep-ex]

A. Tumasyan et al., **Search for a heavy Higgs boson decaying into two lighter Higgs bosons in the $\tau\tau$bb final state at 13 TeV**, *JHEP.* 11 (2021) 057, doi:10.1007/JHEP11(2021)057, arXiv:2106.10361 [hep-ex]

A.M. Sirunyan et al., **Study of Drell-Yan dimuon production in proton-lead collisions at $\sqrt{s_{NN}} = 8.16$ TeV**, *JHEP*. 05 (2021) 182, doi:10.1007/JHEP05(2021)182, arXiv:2102.13648 [hep-ex]

A.M. Sirunyan et al., **Performance of the CMS muon trigger system in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JINST*. 16 (2021) P07001, doi:10.1088/1748-0221/16/07/P07001, arXiv:2102.04790 [hep-ex]

A.M. Sirunyan et al., **Hard color-singlet exchange in dijet events in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D*. 104 (2021) 032009, doi:10.1103/PhysRevD.104.032009, arXiv:2102.06945 [hep-ex]

A.M. Sirunyan et al., **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**, *Phys. Lett. B*. 800 (2020) 135042, doi:10.1016/j.physletb.2019.135042, arXiv:1812.10514 [hep-ex]

A.M. Sirunyan et al., **Search for electroweak production of a vector-like T quark using fully hadronic final states**, *JHEP*. 01 (2020) 036, doi:10.1007/JHEP01(2020)036, arXiv:1909.04721 [hep-ex]

A.M. Sirunyan et al., **Measurement of properties of B $^0_s \to \mu^+\mu^-$ decays and search for B $^0 \to \mu^+\mu^-$ with the CMS experiment**, *JHEP*. 04 (2020) 188, doi:10.1007/JHEP04(2020)188, arXiv:1910.12127 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy Higgs boson decaying to a pair of W bosons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP*. 03 (2020) 034, doi:10.1007/JHEP03(2020)034, arXiv:1912.01594 [hep-ex]

A.M. Sirunyan et al., **Search for a Narrow Resonance Lighter than 200 GeV Decaying to a Pair of Muons in Proton-Proton Collisions at $\sqrt{s} =$ TeV**, *Phys. Rev. Lett.* 124 (2020) 131802, doi:10.1103/PhysRevLett.124.131802, arXiv:1912.04776 [hep-ex]

A.M. Sirunyan et al., **Extraction and validation of a new set of CMS PYTHIA8 tunes from underlying-event measurements**, *Eur. Phys. J. C*. 80 (2020) 4, doi:10.1140/epjc/s10052-019-7499-4, arXiv:1903.12179 [hep-ex]

A.M. Sirunyan et al., **A deep neural network to search for new long-lived particles decaying to jets**, *Mach. Learn. Sci. Tech.* 1 (2020) 035012, doi:10.1088/2632-2153/ab9023, arXiv:1912.12238 [hep-ex]

A.M. Sirunyan et al., **Study of J/ ψ meson production inside jets in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B*. 804 (2020) 135409, doi:10.1016/j.physletb.2020.135409, arXiv:1910.01686 [hep-ex]

A.M. Sirunyan et al., **Measurement of the $t\bar{t}b\bar{b}$ production cross section in the all-jet final state in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B*. 803 (2020) 135285, doi:10.1016/j.physletb.2020.135285, arXiv:1909.05306 [hep-ex]

A.M. Sirunyan et al., **Search for direct pair production of supersymmetric partners to the τ lepton in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C*. 80 (2020) 189, doi:10.1140/epjc/s10052-020-7739-7, arXiv:1907.13179 [hep-ex]

A.M. Sirunyan et al., **Measurement of $t\bar{t}$ normalised multi-differential cross sections in pp collisions at $\sqrt{s} = 13$ TeV, and simultaneous determination of the strong coupling strength, top quark pole mass, and parton distribution functions**, *Eur. Phys. J. C*. 80 (2020) 658, doi:10.1140/epjc/s10052-020-7917-7, arXiv:1904.05237 [hep-ex]

A.M. Sirunyan et al., **Measurement of the Jet Mass Distribution and Top Quark Mass in Hadronic Decays of Boosted Top Quarks in pp Collisions at $\sqrt{s} =$ TeV**, *Phys. Rev. Lett.* 124 (2020) 202001, doi:10.1103/PhysRevLett.124.202001, arXiv:1911.03800 [hep-ex]

A.M. Sirunyan et al., **Bose-Einstein correlations of charged hadrons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP*. 03 (2020) 014, doi:10.1007/JHEP03(2020)014, arXiv:1910.08815 [hep-ex]

A.M. Sirunyan et al., **Search for high mass dijet resonances with a new background prediction method in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP*. 05 (2020) 033, doi:10.1007/JHEP05(2020)033, arXiv:1911.03947 [hep-ex]

A.M. Sirunyan et al., **Calibration of the CMS hadron calorimeters using proton-proton collision data at $\sqrt{s} = 13$ TeV**, *JINST*. 15 (2020) P05002, doi:10.1088/1748-0221/15/05/P05002, arXiv:1910.00079 [physics.ins-det]

A.M. Sirunyan et al., **A search for the standard model Higgs boson decaying to charm quarks**, *JHEP*. 03 (2020) 131, doi:10.1007/JHEP03(2020)131, arXiv:1912.01662 [hep-ex]

A.M. Sirunyan et al., **Performance of the reconstruction and identification of high-momentum muons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JINST*. 15 (2020) P02027, doi:10.1088/1748-0221/15/02/P02027, arXiv:1912.03516 [physics.ins-det]

A.M. Sirunyan et al., **Strange hadron production in pp and pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Rev. C*. 101 (2020) 064906, doi:10.1103/PhysRevC.101.064906, arXiv:1910.04812 [hep-ex]

A.M. Sirunyan et al., **Constraints on the χ_{c1} versus χ_{c2} Polarizations in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. Lett.* 124 (2020) 162002, doi:10.1103/PhysRevLett.124.162002, arXiv:1912.07706 [hep-ex]

A.M. Sirunyan et al., **Evidence for WW production from double-parton interactions in protonproton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 80 (2020) 41, doi:10.1140/epjc/s10052-019-7541-6, arXiv:1909.06265 [hep-ex]

A.M. Sirunyan et al., **Studies of charm quark diffusion inside jets using PbPb and pp collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Rev. Lett.* 125 (2020) 102001, doi:10.1103/PhysRevLett.125.102001, arXiv:1911.01461 [hep-ex]

A.M. Sirunyan et al., **Measurement of differential cross sections and charge ratios for t-channel single top quark production in protonproton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 80 (2020) 370, doi:10.1140/epjc/s10052-020-7858-1, arXiv:1907.08330 [hep-ex]

A.M. Sirunyan et al., **Running of the top quark mass from proton-proton collisions at $\sqrt{s} = 13$TeV**, *Phys. Lett. B.* 803 (2020) 135263, doi:10.1016/j.physletb.2020.135263, arXiv:1909.09193 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy pseudoscalar Higgs boson decaying into a 125 GeV Higgs boson and a Z boson in final states with two tau and two light leptons at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2020) 065, doi:10.1007/JHEP03(2020)065, arXiv:1910.11634 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark forward-backward production asymmetry and the anomalous chromoelectric and chromomagnetic moments in pp collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 06 (2020) 146, doi:10.1007/JHEP06(2020)146, arXiv:1912.09540 [hep-ex]

A.M. Sirunyan et al., **Observation of nuclear modifications in W $^{\pm}$ boson production in pPb collisions at $\sqrt{s_{NN}} = 8.16$ TeV**, *Phys. Lett. B.* 800 (2020) 135048, doi:10.1016/j.physletb.2019.135048, arXiv:1905.01486 [hep-ex]

A.M. Sirunyan et al., **Search for top squark pair production in a final state with two tau leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 02 (2020) 015, doi:10.1007/JHEP02(2020)015, arXiv:1910.12932 [hep-ex]

A.M. Sirunyan et al., **Search for physics beyond the standard model in multilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2020) 051, doi:10.1007/JHEP03(2020)051, arXiv:1911.04968 [hep-ex]

A.M. Sirunyan et al., **Search for dijet resonances using events with three jets in proton-proton collisions at s=13TeV**, *Phys. Lett. B.* 805 (2020) 135448, doi:10.1016/j.physletb.2020.135448, arXiv:1911.03761 [hep-ex]

A.M. Sirunyan et al., **Observation of the $\Lambda_b^0 \to$ J/ $\psi\Lambda\phi$ decay in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 802 (2020) 135203, doi:10.1016/j.physletb.2020.135203, arXiv:1911.03789 [hep-ex]

A.M. Sirunyan et al., **Mixed higher-order anisotropic flow and nonlinear response coefficients of charged particles in $PbPb$ collisions at $\sqrt{s_{_{NN}}} = 2.76$ and 5.02 TeV**, *Eur. Phys. J. C.* 80 (2020) 534, doi:10.1140/epjc/s10052-020-7834-9, arXiv:1910.08789 [hep-ex]

A.M. Sirunyan et al., **Measurement of electroweak production of a W boson in association with two jets in proton-proton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 80 (2020) 43, doi:10.1140/epjc/s10052-019-7585-7, arXiv:1903.04040 [hep-ex]

A.M. Sirunyan et al., **Determination of the strong coupling constant $\alpha_S(m_Z)$ from measurements of inclusive W $^{\pm}$ and Z boson production cross sections in proton-proton collisions at $\sqrt{s} = 7$ and 8 TeV**, *JHEP.* 06 (2020) 018, doi:10.1007/JHEP06(2020)018, arXiv:1912.04387 [hep-ex]

A.M. Sirunyan et al., **Search for new neutral Higgs bosons through the H $\to$ ZA $\to \ell^+\ell^- b\bar{b}$ process in pp collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2020) 055, doi:10.1007/JHEP03(2020)055, arXiv:1911.03781 [hep-ex]

A.M. Sirunyan et al., **Combined search for supersymmetry with photons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 801 (2020) 135183, doi:10.1016/j.physletb.2019.135183, arXiv:1907.00857 [hep-ex]

A.M. Sirunyan et al., **Search for lepton flavour violating decays of a neutral heavy Higgs boson to $\mu\tau$ and e τ in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2020) 103, doi:10.1007/JHEP03(2020)103, arXiv:1911.10267 [hep-ex]

A.M. Sirunyan et al., **A multi-dimensional search for new heavy resonances decaying to boosted WW, WZ, or ZZ boson pairs in the dijet final state at 13 TeV**, *Eur. Phys. J. C.* 80 (2020) 237, doi:10.1140/epjc/s10052-020-7773-5, arXiv:1906.05977 [hep-ex]

A.M. Sirunyan et al., **Search for a charged Higgs boson decaying into top and bottom quarks in events with electrons or muons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 01 (2020) 096, doi:10.1007/JHEP01(2020)096, arXiv:1908.09206 [hep-ex]

A.M. Sirunyan et al., **Search for production of four top quarks in final states with same-sign or multiple leptons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 80 (2020) 75, doi:10.1140/epjc/s10052-019-7593-7, arXiv:1908.06463 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark pair production cross section in dilepton final states containing one τ lepton in pp collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 02 (2020) 191, doi:10.1007/JHEP02(2020)191, arXiv:1911.13204 [hep-ex]

A.M. Sirunyan et al., **Search for light pseudoscalar boson pairs produced from decays of the 125 GeV Higgs boson in final states with two muons and two nearby tracks in pp collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 800 (2020) 135087, doi:10.1016/j.physletb.2019.135087, arXiv:1907.07235 [hep-ex]

A.M. Sirunyan et al., **Measurement of top quark pair production in association with a Z boson in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 03 (2020) 056, doi:10.1007/JHEP03(2020)056, arXiv:1907.11270 [hep-ex]

A.M. Sirunyan et al., **Production of Λ_c^+ baryons in proton-proton and lead-lead collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Lett. B.* 803 (2020) 135328, doi:10.1016/j.physletb.2020.135328, arXiv:1906.03322 [hep-ex]

A.M. Sirunyan et al., **A Deep Neural Network for Simultaneous Estimation of b Jet Energy and Resolution**, *Comput. Softw. Big Sci.* 4 (2020) 10, doi:10.1007/s41781-020-00041-z, arXiv:1912.06046 [physics.data-an]

A.M. Sirunyan et al., **Multiparticle correlation studies in pPb collisions at $\sqrt{s_{NN}}$ = 8.16 TeV**, *Phys. Rev. C.* 101 (2020) 014912, doi:10.1103/PhysRevC.101.014912, arXiv:1904.11519 [hep-ex]

A.M. Sirunyan et al., **Searches for physics beyond the standard model with the M_{T2} variable in hadronic final states with and without disappearing tracks in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 80 (2020) 3, doi:10.1140/epjc/s10052-019-7493-x, arXiv:1909.03460 [hep-ex]

A.M. Sirunyan et al., **Search for dark matter particles produced in association with a Higgs boson in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 03 (2020) 025, doi:10.1007/JHEP03(2020)025, arXiv:1908.01713 [hep-ex]

A.M. Sirunyan et al., **Search for direct top squark pair production in events with one lepton, jets, and missing transverse momentum at 13 TeV with the CMS experiment**, *JHEP.* 05 (2020) 032, doi:10.1007/JHEP05(2020)032, arXiv:1912.08887 [hep-ex]

A.M. Sirunyan et al., **Search for Supersymmetry with a Compressed Mass Spectrum in Events with a Soft τ Lepton, a Highly Energetic Jet, and Large Missing Transverse Momentum in Proton-Proton Collisions at $\sqrt{s}$ = TeV**, *Phys. Rev. Lett.* 124 (2020) 041803, doi:10.1103/PhysRevLett.124.041803, arXiv:1910.01185 [hep-ex]

A.M. Sirunyan et al., **Evidence for Top Quark Production in Nucleus-Nucleus Collisions**, *Phys. Rev. Lett.* 125 (2020) 222001, doi:10.1103/PhysRevLett.125.222001, arXiv:2006.11110 [hep-ex]

A.M. Sirunyan et al., **Search for disappearing tracks in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 806 (2020) 135502, doi:10.1016/j.physletb.2020.135502, arXiv:2004.05153 [hep-ex]

A.M. Sirunyan et al., **Dependence of inclusive jet production on the anti-k $_T$ distance parameter in pp collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 12 (2020) 082, doi:10.1007/JHEP12(2020)082, arXiv:2005.05159 [hep-ex]

A.M. Sirunyan et al., **Search for an excited lepton that decays via a contact interaction to a lepton and two jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 05 (2020) 052, doi:10.1007/JHEP05(2020)052, arXiv:2001.04521 [hep-ex]

A.M. Sirunyan et al., **Measurements of $t\bar{t}H$ Production and the CP Structure of the Yukawa Interaction between the Higgs Boson and Top Quark in the Diphoton Decay Channel**, *Phys. Rev. Lett.* 125 (2020) 061801, doi:10.1103/PhysRevLett.125.061801, arXiv:2003.10866 [hep-ex]

A.M. Sirunyan et al., **Performance of the CMS Level-1 trigger in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JINST.* 15 (2020) P10017, doi:10.1088/1748-0221/15/10/P10017, arXiv:2006.10165 [hep-ex]

A.M. Sirunyan et al., **Measurements of the W boson rapidity, helicity, double-differential cross sections, and charge asymmetry in pp collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 102 (2020) 092012, doi:10.1103/PhysRevD.102.092012, arXiv:2008.04174 [hep-ex]

A.M. Sirunyan et al., **Search for physics beyond the standard model in events with jets and two same-sign or at least three charged leptons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 80 (2020) 752, doi:10.1140/epjc/s10052-020-8168-3, arXiv:2001.10086 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry in pp collisions at $\sqrt{s}$ = 13 TeV with 137 fb $^{-1}$ in final states with a single lepton using the sum of masses of large-radius jets**, *Phys. Rev. D.* 101 (2020) 052010, doi:10.1103/PhysRevD.101.052010, arXiv:1911.07558 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark Yukawa coupling from $t\bar{t}$ kinematic distributions in the dilepton final state in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 102 (2020) 092013, doi:10.1103/PhysRevD.102.092013, arXiv:2009.07123 [hep-ex]

A.M. Sirunyan et al., **Measurement of single-diffractive dijet production in proton-proton collisions at $\sqrt{s}$ = 8 TeV with the CMS and TOTEM experiments**, *Eur. Phys. J. C.* 80 (2020) 1164, doi:10.1140/epjc/s10052-020-08562-y, arXiv:2002.12146 [hep-ex]

A.M. Sirunyan et al., **Pileup mitigation at CMS in 13 TeV data**, *JINST.* 15 (2020) P09018, doi:10.1088/1748-0221/15/09/P09018, arXiv:2003.00503 [hep-ex]

A.M. Sirunyan et al., **Observation of the B $^{0}_{s}$ $\rightarrow$X(3872) ϕ decay**, *Phys. Rev. Lett.* 125 (2020) 152001, doi:10.1103/PhysRevLett.125.152001, arXiv:2005.04764 [hep-ex]

G. Aad et al., **Combination of the W boson polarization measurements in top quark decays using ATLAS and CMS data at $\sqrt{s}$ = 8 TeV**, *JHEP.* 08 (2020) 051, doi:10.1007/JHEP08(2020)051, arXiv:2005.03799 [hep-ex]

A.M. Sirunyan et al., **Investigation into the event-activity dependence of Υ(nS) relative production in proton-proton collisions at $\sqrt{s}$ = 7 TeV**, *JHEP.* 11 (2020) 001, doi:10.1007/JHEP11(2020)001, arXiv:2007.04277 [hep-ex]

A.M. Sirunyan et al., **Search for a light pseudoscalar Higgs boson in the boosted $\mu\mu\tau\tau$ final state in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 08 (2020) 139, doi:10.1007/JHEP08(2020)139, arXiv:2005.08694 [hep-ex]

T.C. Collaboration et al., **Search for supersymmetry in proton-proton collisions at $\sqrt{s}$ = 13 TeV in events with high-momentum Z bosons and missing transverse momentum**, *JHEP.* 09 (2020) 149, doi:10.1007/JHEP09(2020)149, arXiv:2008.04422 [hep-ex]

A.M. Sirunyan et al., **Measurements of production cross sections of WZ and same-sign WW boson pairs in association with two jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 809 (2020) 135710, doi:10.1016/j.physletb.2020.135710, arXiv:2005.01173 [hep-ex]

A.M. Sirunyan et al., **Search for decays of the 125 GeV Higgs boson into a Z boson and a ρ or ϕ meson**, *JHEP.* 11 (2020) 039, doi:10.1007/JHEP11(2020)039, arXiv:2007.05122 [hep-ex]

A.M. Sirunyan et al., **Measurement of the cross section for $t\bar{t}$ production with additional jets and b jets in pp collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 07 (2020) 125, doi:10.1007/JHEP07(2020)125, arXiv:2003.06467 [hep-ex]

A.M. Sirunyan et al., **Measurement of the associated production of a Z boson with charm or bottom quark jets in proton-proton collisions at $\sqrt{s}$=13 TeV**, *Phys. Rev. D.* 102 (2020) 032007, doi:10.1103/PhysRevD.102.032007, arXiv:2001.06899 [hep-ex]

A.M. Sirunyan et al., **Search for charged Higgs bosons decaying into a top and a bottom quark in the all-jet final state of pp collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 07 (2020) 126, doi:10.1007/JHEP07(2020)126, arXiv:2001.07763 [hep-ex]

A.M. Sirunyan et al., **Measurement of the cross section for electroweak production of a Z boson, a photon and two jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV and constraints on anomalous quartic couplings**, *JHEP.* 06 (2020) 076, doi:10.1007/JHEP06(2020)076, arXiv:2002.09902 [hep-ex]

A.M. Sirunyan et al., **Study of central exclusive $\pi^+\pi^-$ production in proton-proton collisions at $\sqrt{s}$ = 5.02 and 13 TeV**, *Eur. Phys. J. C.* 80 (2020) 718, doi:10.1140/epjc/s10052-020-8166-5, arXiv:2003.02811 [hep-ex]

A.M. Sirunyan et al., **Search for resonant pair production of Higgs bosons in the $bbZZ$ channel in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 102 (2020) 032003, doi:10.1103/PhysRevD.102.032003, arXiv:2006.06391 [hep-ex]

A.M. Sirunyan et al., **Measurements with silicon photomultipliers of dose-rate effects in the radiation damage of plastic scintillator tiles in the CMS hadron endcap calorimeter**, *JINST.* 15 (2020) P06009, doi:10.1088/1748-0221/15/06/P06009, arXiv:2001.06553 [physics.ins-det]

A.M. Sirunyan et al., **W $^{+}$W $^{-}$ boson pair production in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 102 (2020) 092001, doi:10.1103/PhysRevD.102.092001, arXiv:2009.00119 [hep-ex]

A.M. Sirunyan et al., **The production of isolated photons in PbPb and pp collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *JHEP.* 07 (2020) 116, doi:10.1007/JHEP07(2020)116, arXiv:2003.12797 [hep-ex]

A.M. Sirunyan et al., **Search for a light charged Higgs boson in the H $^{\pm}\rightarrow$ cs channel in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 102 (2020) 072001, doi:10.1103/PhysRevD.102.072001, arXiv:2005.08900 [hep-ex]

A.M. Sirunyan et al., **Measurement of quark- and gluon-like jet fractions using jet charge in PbPb and pp collisions at 5.02 TeV**, *JHEP.* 07 (2020) 115, doi:10.1007/JHEP07(2020)115, arXiv:2004.00602 [hep-ex]

A.M. Sirunyan et al., **Identification of heavy, energetic, hadronically decaying particles using machine-learning techniques**, *JINST.* 15 (2020) P06005, doi:10.1088/1748-0221/15/06/P06005, arXiv:2004.08262 [hep-ex]

A.M. Sirunyan et al., **Measurement of the Υ(1S) pair production cross section and search for resonances decaying to Υ(1S) $\mu^+\mu^-$ in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 808 (2020) 135578, doi:10.1016/j.physletb.2020.135578, arXiv:2002.06393 [hep-ex]

A.M. Sirunyan et al., **Measurement of B $_c$(2S) $^+$ and B $^*_c$(2S) $^+$ cross section ratios in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 102 (2020) 092007, doi:10.1103/PhysRevD.102.092007, arXiv:2008.08629 [hep-ex]

A.M. Sirunyan et al., **A search for bottom-type, vector-like quark pair production in a fully hadronic final state in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 102 (2020) 112004, doi:10.1103/PhysRevD.102.112004, arXiv:2008.09835 [hep-ex]

A.M. Sirunyan et al., **Measurement of CKM matrix elements in single top quark t-channel production in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 808 (2020) 135609, doi:10.1016/j.physletb.2020.135609, arXiv:2004.12181 [hep-ex]

A.M. Sirunyan et al., **Reconstruction of signal amplitudes in the CMS electromagnetic calorimeter in the presence of overlapping proton-proton interactions**, *JINST.* 15 (2020) P10002, doi:10.1088/1748-0221/15/10/P10002, arXiv:2006.14359 [physics.ins-det]

A.M. Sirunyan et al., **A measurement of the Higgs boson mass in the diphoton decay channel**, *Phys. Lett. B.* 805 (2020) 135425, doi:10.1016/j.physletb.2020.135425, arXiv:2002.06398 [hep-ex]

A.M. Sirunyan et al., **Observation of electroweak production of W γ with two jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 811 (2020) 135988, doi:10.1016/j.physletb.2020.135988, arXiv:2008.10521 [hep-ex]

A.M. Sirunyan et al., **Inclusive search for highly boosted Higgs bosons decaying to bottom quark-antiquark pairs in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 12 (2020) 085, doi:10.1007/JHEP12(2020)085, arXiv:2006.13251 [hep-ex]

A.M. Sirunyan et al., **Study of excited Λ_b^0 states decaying to $\Lambda_b^0\pi^+\pi^-$ in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 803 (2020) 135345, doi:10.1016/j.physletb.2020.135345, arXiv:2001.06533 [hep-ex]

M. Aaboud et al., **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**, *JHEP.* 05 (2019) 088, doi:10.1007/JHEP05(2019)088, arXiv:1902.07158 [hep-ex]

A.M. Sirunyan et al., **Non-Gaussian elliptic-flow fluctuations in PbPb collisions at $\sqrt{s_{_{NN}}}$ = 5.02 TeV**, *Phys. Lett. B.* 789 (2019) 643–665, doi:10.1016/j.physletb.2018.11.063, arXiv:1711.05594 [nucl-ex]

A.M. Sirunyan et al., **Probing the chiral magnetic wave in pPb and PbPb collisions at $\sqrt{s_{NN}}$ =5.02TeV using charge-dependent azimuthal anisotropies**, *Phys. Rev. C.* 100 (2019) 064908, doi:10.1103/PhysRevC.100.064908, arXiv:1708.08901 [nucl-ex]

A.M. Sirunyan et al., **Measurements of $t\bar{t}$ differential cross sections in proton-proton collisions at $\sqrt{s}$ = 13 TeV using events containing two leptons**, *JHEP.* 02 (2019) 149, doi:10.1007/JHEP02(2019)149, arXiv:1811.06625 [hep-ex]

A.M. Sirunyan et al., **Measurement of exclusive Υ photoproduction from protons in pPb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Eur. Phys. J. C.* 79 (2019) 277, doi:10.1140/epjc/s10052-019-6774-8, arXiv:1809.11080 [hep-ex]

A.M. Sirunyan et al., **Search for new particles decaying to a jet and an emerging jet**, *JHEP.* 02 (2019) 179, doi:10.1007/JHEP02(2019)179, arXiv:1810.10069 [hep-ex]

A.M. Sirunyan et al., **Studies of Beauty Suppression via Nonprompt D^0 Mesons in Pb-Pb Collisions at Q^2 = 4GeV^2**, *Phys. Rev. Lett.* 123 (2019) 022001, doi:10.1103/PhysRevLett.123.022001, arXiv:1810.11102 [hep-ex]

A.M. Sirunyan et al., **Measurement of differential cross sections for Z boson pair production in association with jets at $\sqrt{s}$ = 8 and 13 TeV**, *Phys. Lett. B.* 789 (2019) 19–44, doi:10.1016/j.physletb.2018.11.007, arXiv:1806.11073 [hep-ex]

A.M. Sirunyan et al., **Search for narrow H γ resonances in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. Lett.* 122 (2019) 081804, doi:10.1103/PhysRevLett.122.081804, arXiv:1808.01257 [hep-ex]

A.M. Sirunyan et al., **Measurement of inclusive and differential Higgs boson production cross sections in the diphoton decay channel in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 01 (2019) 183, doi:10.1007/JHEP01(2019)183, arXiv:1807.03825 [hep-ex]

A.M. Sirunyan et al., **Search for a standard model-like Higgs boson in the mass range between 70 and 110 GeV in the diphoton final state in proton-proton collisions at $\sqrt{s} = 8$ and 13 TeV**, *Phys. Lett. B.* 793 (2019) 320–347, doi:10.1016/j.physletb.2019.03.064, arXiv:1811.08459 [hep-ex]

A.M. Sirunyan et al., **Search for single production of vector-like quarks decaying to a top quark and a W boson in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 79 (2019) 90, doi:10.1140/epjc/s10052-019-6556-3, arXiv:1809.08597 [hep-ex]

A.M. Sirunyan et al., **Observation of prompt J/ ψ meson elliptic flow in high-multiplicity pPb collisions at $\sqrt{s_{NN}} = 8.16$ TeV**, *Phys. Lett. B.* 791 (2019) 172–194, doi:10.1016/j.physletb.2019.02.018, arXiv:1810.01473 [hep-ex]

A.M. Sirunyan et al., **Measurement of associated production of a W boson and a charm quark in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 79 (2019) 269, doi:10.1140/epjc/s10052-019-6752-1, arXiv:1811.10021 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetric partners of electrons and muons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 790 (2019) 140–166, doi:10.1016/j.physletb.2019.01.005, arXiv:1806.05264 [hep-ex]

A.M. Sirunyan et al., **Evidence for light-by-light scattering and searches for axion-like particles in ultraperipheral PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 797 (2019) 134826, doi:10.1016/j.physletb.2019.134826, arXiv:1810.04602 [hep-ex]

A.M. Sirunyan et al., **Measurement of B $^{0}_{s}$ meson production in pp and PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 796 (2019) 168–190, doi:10.1016/j.physletb.2019.07.014, arXiv:1810.03022 [hep-ex]

A.M. Sirunyan et al., **Search for new physics in final states with a single photon and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 02 (2019) 074, doi:10.1007/JHEP02(2019)074, arXiv:1810.00196 [hep-ex]

A.M. Sirunyan et al., **Measurement of the $t\bar{t}$ production cross section, the top quark mass, and the strong coupling constant using dilepton events in pp collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 79 (2019) 368, doi:10.1140/epjc/s10052-019-6863-8, arXiv:1812.10505 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry in events with a photon, a lepton, and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 01 (2019) 154, doi:10.1007/JHEP01(2019)154, arXiv:1812.04066 [hep-ex]

A.M. Sirunyan et al., **Search for a W' boson decaying to a τ lepton and a neutrino in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 792 (2019) 107–131, doi:10.1016/j.physletb.2019.01.069, arXiv:1807.11421 [hep-ex]

A.M. Sirunyan et al., **Measurement of prompt ψ(2S) production cross sections in proton-lead and proton-proton collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 790 (2019) 509–532, doi:10.1016/j.physletb.2019.01.058, arXiv:1805.02248 [hep-ex]

A.M. Sirunyan et al., **Search for rare decays of Z and Higgs bosons to J /ψ and a photon in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 79 (2019) 94, doi:10.1140/epjc/s10052-019-6562-5, arXiv:1810.10056 [hep-ex]

A.M. Sirunyan et al., **Measurement and interpretation of differential cross sections for Higgs boson production at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 792 (2019) 369–396, doi:10.1016/j.physletb.2019.03.059, arXiv:1812.06504 [hep-ex]

A.M. Sirunyan et al., **Search for $t\bar{t}H$ production in the $H \to b\bar{b}$ decay channel with leptonic $t\bar{t}$ decays in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2019) 026, doi:10.1007/JHEP03(2019)026, arXiv:1804.03682 [hep-ex]

A.M. Sirunyan et al., **Search for pair-produced three-jet resonances in proton-proton collisions at $\sqrt{s}$ =13 TeV**, *Phys. Rev. D.* 99 (2019) 012010, doi:10.1103/PhysRevD.99.012010, arXiv:1810.10092 [hep-ex]

A.M. Sirunyan et al., **Combination of searches for Higgs boson pair production in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. Lett.* 122 (2019) 121803, doi:10.1103/PhysRevLett.122.121803, arXiv:1811.09689 [hep-ex]

A.M. Sirunyan et al., **Search for heavy neutrinos and third-generation leptoquarks in hadronic states of two τ leptons and two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2019) 170, doi:10.1007/JHEP03(2019)170, arXiv:1811.00806 [hep-ex]

A.M. Sirunyan et al., **Jet Shapes of Isolated Photon-Tagged Jets in Pb-Pb and pp Collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Rev. Lett.* 122 (2019) 152001, doi:10.1103/PhysRevLett.122.152001, arXiv:1809.08602 [hep-ex]

A.M. Sirunyan et al., **Search for associated production of a Higgs boson and a single top quark in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 99 (2019) 092005, doi:10.1103/PhysRevD.99.092005, arXiv:1811.09696 [hep-ex]

A.M. Sirunyan et al., **A search for pair production of new light bosons decaying into muons in proton-proton collisions at 13 TeV**, *Phys. Lett. B.* 796 (2019) 131–154, doi:10.1016/j.physletb.2019.07.013, arXiv:1812.00380 [hep-ex]

A.M. Sirunyan et al., **Search for heavy Majorana neutrinos in same-sign dilepton channels in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 01 (2019) 122, doi:10.1007/JHEP01(2019)122, arXiv:1806.10905 [hep-ex]

A.M. Sirunyan et al., **Search for heavy resonances decaying into two Higgs bosons or into a Higgs boson and a W or Z boson in proton-proton collisions at 13 TeV**, *JHEP.* 01 (2019) 051, doi:10.1007/JHEP01(2019)051, arXiv:1808.01365 [hep-ex]

A.M. Sirunyan et al., **Search for pair production of second-generation leptoquarks at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 99 (2019) 032014, doi:10.1103/PhysRevD.99.032014, arXiv:1808.05082 [hep-ex]

A.M. Sirunyan et al., **Measurement of the energy density as a function of pseudorapidity in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 79 (2019) 391, doi:10.1140/epjc/s10052-019-6861-x, arXiv:1812.04095 [hep-ex]

A.M. Sirunyan et al., **Study of the underlying event in top quark pair production in pp collisions at 13 TeV**, *Eur. Phys. J. C.* 79 (2019) 123, doi:10.1140/epjc/s10052-019-6620-z, arXiv:1807.02810 [hep-ex]

A.M. Sirunyan et al., **Measurement of the differential Drell-Yan cross section in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 12 (2019) 059, doi:10.1007/JHEP12(2019)059, arXiv:1812.10529 [hep-ex]

A.M. Sirunyan et al., **Search for the Higgs boson decaying to two muons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. Lett.* 122 (2019) 021801, doi:10.1103/PhysRevLett.122.021801, arXiv:1807.06325 [hep-ex]

A.M. Sirunyan et al., **Search for pair production of first-generation scalar leptoquarks at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 99 (2019) 052002, doi:10.1103/PhysRevD.99.052002, arXiv:1811.01197 [hep-ex]

A.M. Sirunyan et al., **Search for contact interactions and large extra dimensions in the dilepton mass spectra from proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 04 (2019) 114, doi:10.1007/JHEP04(2019)114, arXiv:1812.10443 [hep-ex]

A.M. Sirunyan et al., **Search for an exotic decay of the Higgs boson to a pair of light pseudoscalars in the final state with two muons and two b quarks in pp collisions at 13 TeV**, *Phys. Lett. B.* 795 (2019) 398–423, doi:10.1016/j.physletb.2019.06.021, arXiv:1812.06359 [hep-ex]

A.M. Sirunyan et al., **Search for low-mass resonances decaying into bottom quark-antiquark pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 99 (2019) 012005, doi:10.1103/PhysRevD.99.012005, arXiv:1810.11822 [hep-ex]

A.M. Sirunyan et al., **Measurement of differential cross sections for inclusive isolated-photon and photon+jets production in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 79 (2019) 20, doi:10.1140/epjc/s10052-018-6482-9, arXiv:1807.00782 [hep-ex]

A.M. Sirunyan et al., **Search for long-lived particles decaying into displaced jets in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 99 (2019) 032011, doi:10.1103/PhysRevD.99.032011, arXiv:1811.07991 [hep-ex]

A.M. Sirunyan et al., **Search for resonant $t\bar{t}$ production in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 04 (2019) 031, doi:10.1007/JHEP04(2019)031, arXiv:1810.05905 [hep-ex]

A.M. Sirunyan et al., **Inclusive search for supersymmetry in pp collisions at $\sqrt{s} = 13$ TeV using razor variables and boosted object identification in zero and one lepton final states**, *JHEP.* 03 (2019) 031, doi:10.1007/JHEP03(2019)031, arXiv:1812.06302 [hep-ex]

A.M. Sirunyan et al., **Search for a W' boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state**, *JHEP.* 03 (2019) 127, doi:10.1007/JHEP03(2019)127, arXiv:1811.07010 [hep-ex]

A.M. Sirunyan et al., **Search for excited leptons in $\ell\ell\gamma$ final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 04 (2019) 015, doi:10.1007/JHEP04(2019)015, arXiv:1811.03052 [hep-ex]

A.M. Sirunyan et al., **Observation of Single Top Quark Production in Association with a Z Boson in Proton-Proton Collisions at $\sqrt{s}$ =13 TeV**, *Phys. Rev. Lett.* 122 (2019) 132003, doi:10.1103/PhysRevLett.122.132003, arXiv:1812.05900 [hep-ex]

A.M. Sirunyan et al., **Search for resonant production of second-generation sleptons with same-sign dimuon events in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 79 (2019) 305, doi:10.1140/epjc/s10052-019-6800-x, arXiv:1811.09760 [hep-ex]

A.M. Sirunyan et al., **Search for nonresonant Higgs boson pair production in the $b\bar{b}b\bar{b}$ final state at $\sqrt{s}$ = 13 TeV**, *JHEP.* 04 (2019) 112, doi:10.1007/JHEP04(2019)112, arXiv:1810.11854 [hep-ex]

A.M. Sirunyan et al., **Search for Higgs boson pair production in the $\gamma\gamma b\bar{b}$ final state in pp collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 788 (2019) 7–36, doi:10.1016/j.physletb.2018.10.056, arXiv:1806.00408 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark mass in the all-jets final state at $\sqrt{s}$ = 13 TeV and combination with the lepton+jets channel**, *Eur. Phys. J. C.* 79 (2019) 313, doi:10.1140/epjc/s10052-019-6788-2, arXiv:1812.10534 [hep-ex]

A.M. Sirunyan et al., **Combined measurements of Higgs boson couplings in protonproton collisions at** $\sqrt{s} = 13TeV$, *Eur. Phys. J. C.* 79 (2019) 421, doi:10.1140/epjc/s10052-019-6909-y, arXiv:1809.10733 [hep-ex]

A.M. Sirunyan et al., **Search for top quark partners with charge 5/3 in the same-sign dilepton and single-lepton final states in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 03 (2019) 082, doi:10.1007/JHEP03(2019)082, arXiv:1810.03188 [hep-ex]

A.M. Sirunyan et al., **Search for production of Higgs boson pairs in the four b quark final state using large-area jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 01 (2019) 040, doi:10.1007/JHEP01(2019)040, arXiv:1808.01473 [hep-ex]

A.M. Sirunyan et al., **Search for the associated production of the Higgs boson and a vector boson in proton-proton collisions at $\sqrt{s}$ = 13 TeV via Higgs boson decays to τ leptons**, *JHEP.* 06 (2019) 093, doi:10.1007/JHEP06(2019)093, arXiv:1809.03590 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy resonance decaying to a top quark and a vector-like top quark in the lepton+jets final state in pp collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 79 (2019) 208, doi:10.1140/epjc/s10052-019-6688-5, arXiv:1812.06489 [hep-ex]

A.M. Sirunyan et al., **Search for vector-like quarks in events with two oppositely charged leptons and jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 79 (2019) 364, doi:10.1140/epjc/s10052-019-6855-8, arXiv:1812.09768 [hep-ex]

A.M. Sirunyan et al., **Centrality and pseudorapidity dependence of the transverse energy density in pPb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Rev. C.* 100 (2019) 024902, doi:10.1103/PhysRevC.100.024902, arXiv:1810.05745 [hep-ex]

A.M. Sirunyan et al., **Search for invisible decays of a Higgs boson produced through vector boson fusion in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 793 (2019) 520–551, doi:10.1016/j.physletb.2019.04.025, arXiv:1809.05937 [hep-ex]

A.M. Sirunyan et al., **Measurement of inclusive very forward jet cross sections in proton-lead collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *JHEP.* 05 (2019) 043, doi:10.1007/JHEP05(2019)043, arXiv:1812.01691 [hep-ex]

A.M. Sirunyan et al., **Search for dark matter in events with a leptoquark and missing transverse momentum in proton-proton collisions at 13 TeV**, *Phys. Lett. B.* 795 (2019) 76–99, doi:10.1016/j.physletb.2019.05.046, arXiv:1811.10151 [hep-ex]

A.M. Sirunyan et al., **Search for dark matter particles produced in association with a top quark pair at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. Lett.* 122 (2019) 011803, doi:10.1103/PhysRevLett.122.011803, arXiv:1807.06522 [hep-ex]

A.M. Sirunyan et al., **Search for an $L_\mu - L_\tau$ gauge boson using $Z \to 4\mu$ events in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 792 (2019) 345–368, doi:10.1016/j.physletb.2019.01.072, arXiv:1808.03684 [hep-ex]

A.M. Sirunyan et al., **Measurement of nuclear modification factors of Υ(1S), Υ(2S), and Υ(3S) mesons in PbPb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Lett. B.* 790 (2019) 270–293, doi:10.1016/j.physletb.2019.01.006, arXiv:1805.09215 [hep-ex]

A.M. Sirunyan et al., **Measurements of properties of the Higgs boson decaying to a W boson pair in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 791 (2019) 96, doi:10.1016/j.physletb.2018.12.073, arXiv:1806.05246 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry in events with a photon, jets, b -jets, and missing transverse momentum in protonproton collisions at 13** TeV, *Eur. Phys. J. C.* 79 (2019) 444, doi:10.1140/epjc/s10052-019-6926-x, arXiv:1901.06726 [hep-ex]

A.M. Sirunyan et al., **Search for dark photons in decays of Higgs bosons produced in association with Z bosons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 10 (2019) 139, doi:10.1007/JHEP10(2019)139, arXiv:1908.02699 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark Yukawa coupling from $t\bar{t}$ kinematic distributions in the lepton+jets final state in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 100 (2019) 072007, doi:10.1103/PhysRevD.100.072007, arXiv:1907.01590 [hep-ex]

A.M. Sirunyan et al., **Measurement of exclusive $\rho(770)^0$ photoproduction in ultraperipheral pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Eur. Phys. J. C.* 79 (2019) 702, doi:10.1140/epjc/s10052-019-7202-9, arXiv:1902.01339 [hep-ex]

A.M. Sirunyan et al., **Search for charged Higgs bosons in the H $^{\pm}\to\tau^{\pm}\nu_{\tau}$ decay channel in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 07 (2019) 142, doi:10.1007/JHEP07(2019)142, arXiv:1903.04560 [hep-ex]

A.M. Sirunyan et al., **Performance of missing transverse momentum reconstruction in proton-proton collisions at $\sqrt{s} = 13$ TeV using the CMS detector**, *JINST.* 14 (2019) P07004, doi:10.1088/1748-0221/14/07/P07004, arXiv:1903.06078 [hep-ex]

A.M. Sirunyan et al., **Charged-particle angular correlations in XeXe collisions at $\sqrt{s_{_{NN}}} = 5.44$ TeV**, *Phys. Rev. C.* 100 (2019) 044902, doi:10.1103/PhysRevC.100.044902, arXiv:1901.07997 [hep-ex]

A.M. Sirunyan et al., **Measurements of the pp $\to$ WZ inclusive and differential production cross section and constraints on charged anomalous triple gauge couplings at $\sqrt{s} = 13$ TeV**, *JHEP.* 04 (2019) 122, doi:10.1007/JHEP04(2019)122, arXiv:1901.03428 [hep-ex]

A.M. Sirunyan et al., **Measurements of the Higgs boson width and anomalous HVV couplings from on-shell and off-shell production in the four-lepton final state**, *Phys. Rev. D.* 99 (2019) 112003, doi:10.1103/PhysRevD.99.112003, arXiv:1901.00174 [hep-ex]

A.M. Sirunyan et al., **Search for low mass vector resonances decaying into quark-antiquark pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 100 (2019) 112007, doi:10.1103/PhysRevD.100.112007, arXiv:1909.04114 [hep-ex]

A.M. Sirunyan et al., **Search for pair production of vectorlike quarks in the fully hadronic final state**, *Phys. Rev. D.* 100 (2019) 072001, doi:10.1103/PhysRevD.100.072001, arXiv:1906.11903 [hep-ex]

A.M. Sirunyan et al., **Pseudorapidity distributions of charged hadrons in xenon-xenon collisions at $\sqrt{s_{NN}} = 5.44$ TeV**, *Phys. Lett. B.* 799 (2019) 135049, doi:10.1016/j.physletb.2019.135049, arXiv:1902.03603 [hep-ex]

A.M. Sirunyan et al., **Search for vector-like leptons in multilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 100 (2019) 052003, doi:10.1103/PhysRevD.100.052003, arXiv:1905.10853 [hep-ex]

A.M. Sirunyan et al., **Search for a low-mass $\tau^+\tau^-$ resonance in association with a bottom quark in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 05 (2019) 210, doi:10.1007/JHEP05(2019)210, arXiv:1903.10228 [hep-ex]

A.M. Sirunyan et al., **Search for a light charged Higgs boson decaying to a W boson and a CP-odd Higgs boson in final states with e $\mu\mu$ or $\mu\mu\mu$ in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. Lett.* 123 (2019) 131802, doi:10.1103/PhysRevLett.123.131802, arXiv:1905.07453 [hep-ex]

A.M. Sirunyan et al., **Constraints on anomalous HVV couplings from the production of Higgs bosons decaying to τ lepton pairs**, *Phys. Rev. D.* 100 (2019) 112002, doi:10.1103/PhysRevD.100.112002, arXiv:1903.06973 [hep-ex]

A.M. Sirunyan et al., **Measurements of triple-differential cross sections for inclusive isolated-photon+jet events in pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 79 (2019) 969, doi:10.1140/epjc/s10052-019-7451-7, arXiv:1907.08155 [hep-ex]

A.M. Sirunyan et al., **Azimuthal separation in nearly back-to-back jet topologies in inclusive 2- and 3-jet events in pp collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 79 (2019) 773, doi:10.1140/epjc/s10052-019-7276-4, arXiv:1902.04374 [hep-ex]

A.M. Sirunyan et al., **Search for the production of four top quarks in the single-lepton and opposite-sign dilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP*. 11 (2019) 082, doi:10.1007/JHEP11(2019)082, arXiv:1906.02805 [hep-ex]

A.M. Sirunyan et al., **Combination of CMS searches for heavy resonances decaying to pairs of bosons or leptons**, *Phys. Lett. B*. 798 (2019) 134952, doi:10.1016/j.physletb.2019.134952, arXiv:1906.00057 [hep-ex]

A.M. Sirunyan et al., **Measurement of the average very forward energy as a function of the track multiplicity at central pseudorapidities in proton-proton collisions at** $\sqrt{s} = 13TeV$, *Eur. Phys. J. C*. 79 (2019) 893, doi:10.1140/epjc/s10052-019-7402-3, arXiv:1908.01750 [hep-ex]

A.M. Sirunyan et al., **Study of the $B^+ \to J/\psi\overline{\Lambda}p$ decay in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP*. 12 (2019) 100, doi:10.1007/JHEP12(2019)100, arXiv:1907.05461 [hep-ex]

A.M. Sirunyan et al., **Search for MSSM Higgs bosons decaying to $\mu + \mu -$ in proton-proton collisions at s=13TeV**, *Phys. Lett. B*. 798 (2019) 134992, doi:10.1016/j.physletb.2019.134992, arXiv:1907.03152 [hep-ex]

A.M. Sirunyan et al., **Search for resonances decaying to a pair of Higgs bosons in the $b\bar{b}q\bar{q}'\ell\nu$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP*. 10 (2019) 125, doi:10.1007/JHEP10(2019)125, arXiv:1904.04193 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark polarization and $t\bar{t}$ spin correlations using dilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D*. 100 (2019) 072002, doi:10.1103/PhysRevD.100.072002, arXiv:1907.03729 [hep-ex]

A.M. Sirunyan et al., **An embedding technique to determine $\tau\tau$ backgrounds in proton-proton collision data**, *JINST*. 14 (2019) P06032, doi:10.1088/1748-0221/14/06/P06032, arXiv:1903.01216 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry using Higgs boson to diphoton decays at $\sqrt{s} = 13$ TeV**, *JHEP*. 11 (2019) 109, doi:10.1007/JHEP11(2019)109, arXiv:1908.08500 [hep-ex]

A.M. Sirunyan et al., **Search for anomalous triple gauge couplings in WW and WZ production in lepton + jet events in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP*. 12 (2019) 062, doi:10.1007/JHEP12(2019)062, arXiv:1907.08354 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy pseudoscalar boson decaying to a Z and a Higgs boson at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C*. 79 (2019) 564, doi:10.1140/epjc/s10052-019-7058-z, arXiv:1903.00941 [hep-ex]

A.M. Sirunyan et al., **Search for anomalous electroweak production of vector boson pairs in association with two jets in proton-proton collisions at 13 TeV**, *Phys. Lett. B*. 798 (2019) 134985, doi:10.1016/j.physletb.2019.134985, arXiv:1905.07445 [hep-ex]

A.M. Sirunyan et al., **Search for long-lived particles using nonprompt jets and missing transverse momentum with proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B*. 797 (2019) 134876, doi:10.1016/j.physletb.2019.134876, arXiv:1906.06441 [hep-ex]

A.M. Sirunyan et al., **Measurements of differential Z boson production cross sections in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP*. 12 (2019) 061, doi:10.1007/JHEP12(2019)061, arXiv:1909.04133 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry with a compressed mass spectrum in the vector boson fusion topology with 1-lepton and 0-lepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP*. 08 (2019) 150, doi:10.1007/JHEP08(2019)150, arXiv:1905.13059 [hep-ex]

A.M. Sirunyan et al., **Observation of Two Excited B $_c^+$ States and Measurement of the B $_c^+$(2S) Mass in pp Collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. Lett.* 122 (2019) 132001, doi:10.1103/PhysRevLett.122.132001, arXiv:1902.00571 [hep-ex]

A.M. Sirunyan et al., **Measurement of electroweak WZ boson production and search for new physics in WZ + two jets events in pp collisions at $\sqrt{s} = 13$TeV**, *Phys. Lett. B*. 795 (2019) 281–307, doi:10.1016/j.physletb.2019.05.042, arXiv:1901.04060 [hep-ex]

A.M. Sirunyan et al., **Search for Physics beyond the Standard Model in Events with Overlapping Photons and Jets**, *Phys. Rev. Lett.* 123 (2019) 241801, doi:10.1103/PhysRevLett.123.241801, arXiv:1907.06275 [hep-ex]

A.M. Sirunyan et al., **Search for W boson decays to three charged pions**, *Phys. Rev. Lett.* 122 (2019) 151802, doi:10.1103/PhysRevLett.122.151802, arXiv:1901.11201 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry in final states with photons and missing transverse momentum in proton-proton collisions at 13 TeV**, *JHEP*. 06 (2019) 143, doi:10.1007/JHEP06(2019)143, arXiv:1903.07070 [hep-ex]

A.M. Sirunyan et al., **Search for the pair production of light top squarks in the e $^{\pm}\mu^{\mp}$ final state in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 03 (2019) 101, doi:10.1007/JHEP03(2019)101, arXiv:1901.01288 [hep-ex]

A.M. Sirunyan et al., **Search for Higgs and Z boson decays to J/ψ or Y pairs in the four-muon final state in proton-proton collisions at s=13TeV**, *Phys. Lett. B.* 797 (2019) 134811, doi:10.1016/j.physletb.2019.134811, arXiv:1905.10408 [hep-ex]

A.M. Sirunyan et al., **Search for Low-Mass Quark-Antiquark Resonances Produced in Association with a Photon at $\sqrt{s}$ =13 TeV**, *Phys. Rev. Lett.* 123 (2019) 231803, doi:10.1103/PhysRevLett.123.231803, arXiv:1905.10331 [hep-ex]

A.M. Sirunyan et al., **Search for new physics in top quark production in dilepton final states in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 79 (2019) 886, doi:10.1140/epjc/s10052-019-7387-y, arXiv:1903.11144 [hep-ex]

T.C. Collaboration et al., **Search for supersymmetry in proton-proton collisions at 13 TeV in final states with jets and missing transverse momentum**, *JHEP.* 10 (2019) 244, doi:10.1007/JHEP10(2019)244, arXiv:1908.04722 [hep-ex]

A.M. Sirunyan et al., **Search for long-lived particles using delayed photons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 100 (2019) 112003, doi:10.1103/PhysRevD.100.112003, arXiv:1909.06166 [hep-ex]

A.M. Sirunyan et al., **Search for dark matter produced in association with a single top quark or a top quark pair in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 03 (2019) 141, doi:10.1007/JHEP03(2019)141, arXiv:1901.01553 [hep-ex]

M. Aaboud et al., **Combination of inclusive and differential $t\bar{t}$ charge asymmetry measurements using ATLAS and CMS data at $\sqrt{s}$ = 7 and 8 TeV**, *JHEP.* 04 (2018) 033, doi:10.1007/JHEP04(2018)033, arXiv:1709.05327 [hep-ex]

A.M. Sirunyan et al., **Search for vectorlike light-flavor quark partners in proton-proton collisions at $\sqrt{s}$ =8 TeV**, *Phys. Rev. D.* 97 (2018) 072008, doi:10.1103/PhysRevD.97.072008, arXiv:1708.02510 [hep-ex]

A.M. Sirunyan et al., **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**, *Phys. Lett. B.* 781 (2018) 244–269, doi:10.1016/j.physletb.2018.03.084, arXiv:1710.04960 [hep-ex]

A.M. Sirunyan et al., **Inclusive search for a highly boosted Higgs boson decaying to a bottom quark-antiquark pair**, *Phys. Rev. Lett.* 120 (2018) 071802, doi:10.1103/PhysRevLett.120.071802, arXiv:1709.05543 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 06 (2018) 102, doi:10.1007/JHEP06(2018)102, arXiv:1712.02399 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry with Higgs boson to diphoton decays using the razor variables at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 779 (2018) 166–190, doi:10.1016/j.physletb.2017.12.069, arXiv:1709.00384 [hep-ex]

A.M. Sirunyan et al., **Search for gauge-mediated supersymmetry in events with at least one photon and missing transverse momentum in pp collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 780 (2018) 118–143, doi:10.1016/j.physletb.2018.02.045, arXiv:1711.08008 [hep-ex]

A.M. Sirunyan et al., **Search for natural supersymmetry in events with top quark pairs and photons in pp collisions at $\sqrt{s}$ = 8 TeV**, *JHEP.* 03 (2018) 167, doi:10.1007/JHEP03(2018)167, arXiv:1707.03325 [hep-ex]

A.M. Sirunyan et al., **Azimuthal correlations for inclusive 2-jet, 3-jet, and 4-jet events in pp collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 78 (2018) 566, doi:10.1140/epjc/s10052-018-6033-4, arXiv:1712.05471 [hep-ex]

A.M. Sirunyan et al., **Search for lepton flavour violating decays of the Higgs boson to $\mu\tau$ and e τ in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 06 (2018) 001, doi:10.1007/JHEP06(2018)001, arXiv:1712.07173 [hep-ex]

A.M. Sirunyan et al., **Search for low mass vector resonances decaying into quark-antiquark pairs in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 01 (2018) 097, doi:10.1007/JHEP01(2018)097, arXiv:1710.00159 [hep-ex]

A.M. Sirunyan et al., **Measurement of quarkonium production cross sections in pp collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 780 (2018) 251–272, doi:10.1016/j.physletb.2018.02.033, arXiv:1710.11002 [hep-ex]

A.M. Sirunyan et al., **Electroweak production of two jets in association with a Z boson in protonproton collisions at $\sqrt{s}$ = 13 *TeV***, *Eur. Phys. J. C.* 78 (2018) 589, doi:10.1140/epjc/s10052-018-6049-9, arXiv:1712.09814 [hep-ex]

A.M. Sirunyan et al., **Search for ZZ resonances in the 2 $ $2 ν final state in proton-proton collisions at 13 TeV**, *JHEP.* 03 (2018) 003, doi:10.1007/JHEP03(2018)003, arXiv:1711.04370 [hep-ex]

A.M. Sirunyan et al., **Search for Z γ resonances using leptonic and hadronic final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 09 (2018) 148, doi:10.1007/JHEP09(2018)148, arXiv:1712.03143 [hep-ex]

A.M. Sirunyan et al., **Measurements of the $pp \to ZZ$ production cross section and the $Z \to 4\ell$ branching fraction, and constraints on anomalous triple gauge couplings at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 78 (2018) 165, doi:10.1140/epjc/s10052-018-5567-9, arXiv:1709.08601 [hep-ex]

A.M. Sirunyan et al., **Study of jet quenching with isolated-photon+jet correlations in PbPb and pp collisions at $\sqrt{s_{_{NN}}} = 5.02$ TeV**, *Phys. Lett. B.* 785 (2018) 14–39, doi:10.1016/j.physletb.2018.07.061, arXiv:1711.09738 [nucl-ex]

A.M. Sirunyan et al., **Search for massive resonances decaying into WW, WZ, ZZ, qW, and qZ with dijet final states at $\sqrt{s} = 13TeV$**, *Phys. Rev. D.* 97 (2018) 072006, doi:10.1103/PhysRevD.97.072006, arXiv:1708.05379 [hep-ex]

A.M. Sirunyan et al., **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**, *Phys. Rev. Lett.* 120 (2018) 081801, doi:10.1103/PhysRevLett.120.081801, arXiv:1709.05822 [hep-ex]

A.M. Sirunyan et al., **Constraints on the double-parton scattering cross section from same-sign W boson pair production in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 02 (2018) 032, doi:10.1007/JHEP02(2018)032, arXiv:1712.02280 [hep-ex]

A.M. Sirunyan et al., **Search for Higgs boson pair production in events with two bottom quarks and two tau leptons in protonproton collisions at $\sqrt{s} =$13TeV**, *Phys. Lett. B.* 778 (2018) 101–127, doi:10.1016/j.physletb.2018.01.001, arXiv:1707.02909 [hep-ex]

A.M. Sirunyan et al., **Search for the X(5568) state decaying into $B_s^0\pi^\pm$ in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. Lett.* 120 (2018) 202005, doi:10.1103/PhysRevLett.120.202005, arXiv:1712.06144 [hep-ex]

A.M. Sirunyan et al., **Search for pair production of excited top quarks in the lepton + jets final state**, *Phys. Lett. B.* 778 (2018) 349–370, doi:10.1016/j.physletb.2018.01.049, arXiv:1711.10949 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 02 (2018) 067, doi:10.1007/JHEP02(2018)067, arXiv:1710.09154 [hep-ex]

A.M. Sirunyan et al., **Search for top squarks and dark matter particles in opposite-charge dilepton final states at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 97 (2018) 032009, doi:10.1103/PhysRevD.97.032009, arXiv:1711.00752 [hep-ex]

A.M. Sirunyan et al., **Observation of Correlated Azimuthal Anisotropy Fourier Harmonics in pp and $p + Pb$ Collisions at the LHC**, *Phys. Rev. Lett.* 120 (2018) 092301, doi:10.1103/PhysRevLett.120.092301, arXiv:1709.09189 [nucl-ex]

A.M. Sirunyan et al., **Search for the pair production of third-generation squarks with two-body decays to a bottom or charm quark and a neutralino in protonproton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 778 (2018) 263–291, doi:10.1016/j.physletb.2018.01.012, arXiv:1707.07274 [hep-ex]

A.M. Sirunyan et al., **Search for decays of stopped exotic long-lived particles produced in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 05 (2018) 127, doi:10.1007/JHEP05(2018)127, arXiv:1801.00359 [hep-ex]

A.M. Sirunyan et al., **Search for excited quarks of light and heavy flavor in γ+ jet final states in protonproton collisions at $\sqrt{s} =$ 13TeV**, *Phys. Lett. B.* 781 (2018) 390–411, doi:10.1016/j.physletb.2018.04.007, arXiv:1711.04652 [hep-ex]

A.M. Sirunyan et al., **Constraints on the chiral magnetic effect using charge-dependent azimuthal correlations in pPb and PbPb collisions at the CERN Large Hadron Collider**, *Phys. Rev. C.* 97 (2018) 044912, doi:10.1103/PhysRevC.97.044912, arXiv:1708.01602 [nucl-ex]

A.M. Sirunyan et al., **Measurement of differential cross sections in the kinematic angular variable ϕ^* for inclusive Z boson production in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 03 (2018) 172, doi:10.1007/JHEP03(2018)172, arXiv:1710.07955 [hep-ex]

A.M. Sirunyan et al., **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**, *Phys. Rev. Lett.* 120 (2018) 241801, doi:10.1103/PhysRevLett.120.241801, arXiv:1712.08501 [hep-ex]

A.M. Sirunyan et al., **Bose-Einstein correlations in pp, pPb, and PbPb collisions at $\sqrt{s_{NN}} = 0.9 - 7$ TeV**, *Phys. Rev. C.* 97 (2018) 064912, doi:10.1103/PhysRevC.97.064912, arXiv:1712.07198 [hep-ex]

A.M. Sirunyan et al., **Search for electroweak production of charginos and neutralinos in multilepton final states in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 03 (2018) 166, doi:10.1007/JHEP03(2018)166, arXiv:1709.05406 [hep-ex]

A.M. Sirunyan et al., **Measurement of the underlying event activity in inclusive Z boson production in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 07 (2018) 032, doi:10.1007/JHEP07(2018)032, arXiv:1711.04299 [hep-ex]

A.M. Sirunyan et al., **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 $H \to b\bar{b}$**, *Phys. Rev. D.* 97 (2018) 032007, doi:10.1103/PhysRevD.97.032007, arXiv:1709.04896 [hep-ex]

A.M. Sirunyan et al., **Search for new physics in events with a leptonically decaying Z boson and a large transverse momentum imbalance in protonproton collisions at $\sqrt{s}$ = 13 *TeV***, *Eur. Phys. J. C.* 78 (2018) 291, doi:10.1140/epjc/s10052-018-5740-1, arXiv:1711.00431 [hep-ex]

A.M. Sirunyan et al., **Evidence for the Higgs boson decay to a bottom quarkantiquark pair**, *Phys. Lett. B.* 780 (2018) 501–532, doi:10.1016/j.physletb.2018.02.050, arXiv:1709.07497 [hep-ex]

A.M. Sirunyan et al., **Study of dijet events with a large rapidity gap between the two leading jets in pp collisions at $\sqrt{s}$ = 7 TeV**, *Eur. Phys. J. C.* 78 (2018) 242, doi:10.1140/epjc/s10052-018-5691-6, arXiv:1710.02586 [hep-ex]

A.M. Sirunyan et al., **Search for new long-lived particles at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 780 (2018) 432–454, doi:10.1016/j.physletb.2018.03.019, arXiv:1711.09120 [hep-ex]

A.M. Sirunyan et al., **Nuclear modification factor of D ^{0} mesons in PbPb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Lett. B.* 782 (2018) 474–496, doi:10.1016/j.physletb.2018.05.074, arXiv:1708.04962 [nucl-ex]

A.M. Sirunyan et al., **Measurement of the Splitting Function in *pp* and Pb-Pb Collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Rev. Lett.* 120 (2018) 142302, doi:10.1103/PhysRevLett.120.142302, arXiv:1708.09429 [nucl-ex]

A.M. Sirunyan et al., **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**, *Phys. Lett. B.* 780 (2018) 384–409, doi:10.1016/j.physletb.2018.03.028, arXiv:1709.09814 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry in proton-proton collisions at 13 TeV using identified top quarks**, *Phys. Rev. D.* 97 (2018) 012007, doi:10.1103/PhysRevD.97.012007, arXiv:1710.11188 [hep-ex]

A.M. Sirunyan et al., **Search for resonant and nonresonant Higgs boson pair production in the $b\bar{b}\ell\nu\ell\nu$ final state in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 01 (2018) 054, doi:10.1007/JHEP01(2018)054, arXiv:1708.04188 [hep-ex]

A.M. Sirunyan et al., **Measurement of angular parameters from the decay $B^0 \to K^{*0}\mu^+\mu^-$ in proton-proton collisions at $\sqrt{s}$ = 8 TeV**, *Phys. Lett. B.* 781 (2018) 517–541, doi:10.1016/j.physletb.2018.04.030, arXiv:1710.02846 [hep-ex]

A.M. Sirunyan et al., **Pseudorapidity distributions of charged hadrons in proton-lead collisions at $\sqrt{s_{NN}}$ = 5.02 and 8.16 TeV**, *JHEP.* 01 (2018) 045, doi:10.1007/JHEP01(2018)045, arXiv:1710.09355 [hep-ex]

A.M. Sirunyan et al., **Measurement of associated Z + charm production in proton-proton collisions at $\sqrt{s}$ = 8 TeV**, *Eur. Phys. J. C.* 78 (2018) 287, doi:10.1140/epjc/s10052-018-5752-x, arXiv:1711.02143 [hep-ex]

A.M. Sirunyan et al., **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**, *Phys. Lett. B.* 783 (2018) 114–139, doi:10.1016/j.physletb.2018.06.028, arXiv:1712.08920 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 08 (2018) 011, doi:10.1007/JHEP08(2018)011, arXiv:1711.02547 [hep-ex]

A.M. Sirunyan et al., **Measurement of prompt and nonprompt charmonium suppression in *PbPb* collisions at 5.02 *TeV***, *Eur. Phys. J. C.* 78 (2018) 509, doi:10.1140/epjc/s10052-018-5950-6, arXiv:1712.08959 [nucl-ex]

A.M. Sirunyan et al., **Measurement of prompt D^0 meson azimuthal anisotropy in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Rev. Lett.* 120 (2018) 202301, doi:10.1103/PhysRevLett.120.202301, arXiv:1708.03497 [nucl-ex]

A.M. Sirunyan et al., **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**, *Phys. Lett. B.* 781 (2018) 574–600, doi:10.1016/j.physletb.2018.04.036, arXiv:1708.01062 [hep-ex]

A.M. Sirunyan et al., **Measurement of the associated production of a single top quark and a Z boson in pp collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 779 (2018) 358–384, doi:10.1016/j.physletb.2018.02.025, arXiv:1712.02825 [hep-ex]

A.M. Sirunyan et al., **Identification of heavy-flavour jets with the CMS detector in pp collisions at 13 TeV**, *JINST.* 13 (2018) P05011, doi:10.1088/1748-0221/13/05/P05011, arXiv:1712.07158 [physics.ins-det]

A.M. Sirunyan et al., **Azimuthal anisotropy of charged particles with transverse momentum up to 100 GeV/c in PbPb collisions at $\sqrt{s_{NN}}$=5.02 TeV**, *Phys. Lett. B.* 776 (2018) 195–216, doi:10.1016/j.physletb.2017.11.041, arXiv:1702.00630 [hep-ex]

A.M. Sirunyan et al., **Measurement of normalized differential $t\bar{t}$ cross sections in the dilepton channel from pp collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 04 (2018) 060, doi:10.1007/JHEP04(2018)060, arXiv:1708.07638 [hep-ex]

A.M. Sirunyan et al., **Pseudorapidity and transverse momentum dependence of flow harmonics in pPb and PbPb collisions**, *Phys. Rev. C.* 98 (2018) 044902, doi:10.1103/PhysRevC.98.044902, arXiv:1710.07864 [nucl-ex]

A.M. Sirunyan et al., **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**, *Phys. Lett. B.* 776 (2018) 355–378, doi:10.1016/j.physletb.2017.11.043, arXiv:1705.10141 [hep-ex]

A.M. Sirunyan et al., **Suppression of Excited Υ States Relative to the Ground State in Pb-Pb Collisions at $\sqrt{s_{NN}}$=5.02 TeV**, *Phys. Rev. Lett.* 120 (2018) 142301, doi:10.1103/PhysRevLett.120.142301, arXiv:1706.05984 [hep-ex]

A.M. Sirunyan et al., **Measurement of b hadron lifetimes in pp collisions at $\sqrt{s}$ = 8 TeV**, *Eur. Phys. J. C.* 78 (2018) 457, doi:10.1140/epjc/s10052-018-5929-3, arXiv:1710.08949 [hep-ex]

A.M. Sirunyan et al., **Search for pair production of vector-like quarks in the bW $\bar{b}$W channel from proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B.* 779 (2018) 82–106, doi:10.1016/j.physletb.2018.01.077, arXiv:1710.01539 [hep-ex]

A.M. Sirunyan et al., **Search for heavy resonances decaying to a top quark and a bottom quark in the lepton+jets final state in protonproton collisions at 13 TeV**, *Phys. Lett. B.* 777 (2018) 39–63, doi:10.1016/j.physletb.2017.12.006, arXiv:1708.08539 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 03 (2018) 115, doi:10.1007/JHEP03(2018)115, arXiv:1711.03143 [hep-ex]

A.M. Sirunyan et al., **Search for new physics in final states with an energetic jet or a hadronically decaying W or Z boson and transverse momentum imbalance at $\sqrt{s}$ = 13TeV**, *Phys. Rev. D.* 97 (2018) 092005, doi:10.1103/PhysRevD.97.092005, arXiv:1712.02345 [hep-ex]

A.M. Sirunyan et al., **Observation of the Higgs boson decay to a pair of τ leptons with the CMS detector**, *Phys. Lett. B.* 779 (2018) 283–316, doi:10.1016/j.physletb.2018.02.004, arXiv:1708.00373 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy right-handed W boson and a heavy neutrino in events with two same-flavor leptons and two jets at $\sqrt{s}$ = 13 TeV**, *JHEP.* 05 (2018) 148, doi:10.1007/JHEP05(2018)148, arXiv:1803.11116 [hep-ex]

A.M. Sirunyan et al., **Measurement of the production cross section for single top quarks in association with W bosons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 10 (2018) 117, doi:10.1007/JHEP10(2018)117, arXiv:1805.07399 [hep-ex]

A.M. Sirunyan et al., **Search for a new scalar resonance decaying to a pair of Z bosons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 06 (2018) 127, doi:10.1007/JHEP06(2018)127, arXiv:1804.01939 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 05 (2018) 088, doi:10.1007/JHEP05(2018)088, arXiv:1802.09407 [hep-ex]

A.M. Sirunyan et al., **Comparing transverse momentum balance of b jet pairs in pp and PbPb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *JHEP.* 03 (2018) 181, doi:10.1007/JHEP03(2018)181, arXiv:1802.00707 [hep-ex]

A.M. Sirunyan et al., **Search for physics beyond the standard model in high-mass diphoton events from proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 98 (2018) 092001, doi:10.1103/PhysRevD.98.092001, arXiv:1809.00327 [hep-ex]

A.M. Sirunyan et al., **Search for a charged Higgs boson decaying to charm and bottom quarks in proton-proton collisions at $\sqrt{s}$ = 8 TeV**, *JHEP.* 11 (2018) 115, doi:10.1007/JHEP11(2018)115, arXiv:1808.06575 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP*. 08 (2018) 066, doi:10.1007/JHEP08(2018)066, arXiv:1803.05485 [hep-ex]

A.M. Sirunyan et al., **Measurement of the groomed jet mass in PbPb and pp collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *JHEP*. 10 (2018) 161, doi:10.1007/JHEP10(2018)161, arXiv:1805.05145 [hep-ex]

A.M. Sirunyan et al., **Search for high-mass resonances in final states with a lepton and missing transverse momentum at $\sqrt{s}$ = 13 TeV**, *JHEP*. 06 (2018) 128, doi:10.1007/JHEP06(2018)128, arXiv:1803.11133 [hep-ex]

A.M. Sirunyan et al., **Evidence for the associated production of a single top quark and a photon in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. Lett.* 121 (2018) 221802, doi:10.1103/PhysRevLett.121.221802, arXiv:1808.02913 [hep-ex]

A.M. Sirunyan et al., **Search for beyond the standard model Higgs bosons decaying into a $b\bar{b}$ pair in pp collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 08 (2018) 113, doi:10.1007/JHEP08(2018)113, arXiv:1805.12191 [hep-ex]

A.M. Sirunyan et al., **Search for lepton-flavor violating decays of heavy resonances and quantum black holes to eμ final states in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 04 (2018) 073, doi:10.1007/JHEP04(2018)073, arXiv:1802.01122 [hep-ex]

A.M. Sirunyan et al., **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**, *Phys. Rev. D.* 97 (2018) 112003, doi:10.1103/PhysRevD.97.112003, arXiv:1803.08856 [hep-ex]

A.M. Sirunyan et al., **Search for heavy neutral leptons in events with three charged leptons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. Lett.* 120 (2018) 221801, doi:10.1103/PhysRevLett.120.221801, arXiv:1802.02965 [hep-ex]

A.M. Sirunyan et al., **Search for high-mass resonances in dilepton final states in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 06 (2018) 120, doi:10.1007/JHEP06(2018)120, arXiv:1803.06292 [hep-ex]

A.M. Sirunyan et al., **Constraining gluon distributions in nuclei using dijets in proton-proton and proton-lead collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Rev. Lett.* 121 (2018) 062002, doi:10.1103/PhysRevLett.121.062002, arXiv:1805.04736 [hep-ex]

A.M. Sirunyan et al., **Performance of reconstruction and identification of τ leptons decaying to hadrons and ν_τ in pp collisions at $\sqrt{s}$ = 13 TeV**, *JINST*. 13 (2018) P10005, doi:10.1088/1748-0221/13/10/P10005, arXiv:1809.02816 [hep-ex]

A.M. Sirunyan et al., **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**, *Phys. Lett. B.* 782 (2018) 440–467, doi:10.1016/j.physletb.2018.05.062, arXiv:1801.01846 [hep-ex]

A.M. Sirunyan et al., **Search for narrow resonances in the b-tagged dijet mass spectrum in proton-proton collisions at $\sqrt{s}$ = 8 TeV**, *Phys. Rev. Lett.* 120 (2018) 201801, doi:10.1103/PhysRevLett.120.201801, arXiv:1802.06149 [hep-ex]

A.M. Sirunyan et al., **Search for single production of vector-like quarks decaying to a b quark and a Higgs boson**, *JHEP*. 06 (2018) 031, doi:10.1007/JHEP06(2018)031, arXiv:1802.01486 [hep-ex]

A.M. Sirunyan et al., **Measurement of the weak mixing angle using the forward-backward asymmetry of Drell-Yan events in pp collisions at 8 TeV**, *Eur. Phys. J. C.* 78 (2018) 701, doi:10.1140/epjc/s10052-018-6148-7, arXiv:1806.00863 [hep-ex]

A.M. Sirunyan et al., **Search for resonances in the mass spectrum of muon pairs produced in association with b quark jets in proton-proton collisions at $\sqrt{s}$ = 8 and 13 TeV**, *JHEP*. 11 (2018) 161, doi:10.1007/JHEP11(2018)161, arXiv:1808.01890 [hep-ex]

A.M. Sirunyan et al., **Search for heavy resonances decaying into a vector boson and a Higgs boson in final states with charged leptons, neutrinos and b quarks at $\sqrt{s}$ = 13 TeV**, *JHEP*. 11 (2018) 172, doi:10.1007/JHEP11(2018)172, arXiv:1807.02826 [hep-ex]

A.M. Sirunyan et al., **Measurement of the $Z\gamma^* \to \tau\tau$ cross section in pp collisions at $\sqrt{s}$ = 13 TeV and validation of τ lepton analysis techniques**, *Eur. Phys. J. C.* 78 (2018) 708, doi:10.1140/epjc/s10052-018-6146-9, arXiv:1801.03535 [hep-ex]

A.M. Sirunyan et al., **Elliptic flow of charm and strange hadrons in high-multiplicity pPb collisions at $\sqrt{s_{_{NN}}}$ = 8.16 TeV**, *Phys. Rev. Lett.* 121 (2018) 082301, doi:10.1103/PhysRevLett.121.082301, arXiv:1804.09767 [hep-ex]

A.M. Sirunyan et al., **Measurement of differential cross sections for Z boson production in association with jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Eur. Phys. J. C.* 78 (2018) 965, doi:10.1140/epjc/s10052-018-6373-0, arXiv:1804.05252 [hep-ex]

A.M. Sirunyan et al., **Search for narrow and broad dijet resonances in proton-proton collisions at $\sqrt{s}$ = 13 TeV and constraints on dark matter mediators and other new particles**, *JHEP.* 08 (2018) 130, doi:10.1007/JHEP08(2018)130, arXiv:1806.00843 [hep-ex]

A.M. Sirunyan et al., **Measurement of the inelastic proton-proton cross section at $\sqrt{s}$ = 13 TeV**, *JHEP.* 07 (2018) 161, doi:10.1007/JHEP07(2018)161, arXiv:1802.02613 [hep-ex]

A.M. Sirunyan et al., **Observation of Medium-Induced Modifications of Jet Fragmentation in Pb-Pb Collisions at $\sqrt{s_{NN}}$ = 5.02 TeV Using Isolated Photon-Tagged Jets**, *Phys. Rev. Lett.* 121 (2018) 242301, doi:10.1103/PhysRevLett.121.242301, arXiv:1801.04895 [hep-ex]

A.M. Sirunyan et al., **Search for pair-produced resonances decaying to quark pairs in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 98 (2018) 112014, doi:10.1103/PhysRevD.98.112014, arXiv:1808.03124 [hep-ex]

A.M. Sirunyan et al., **Search for the decay of a Higgs boson in the $\ell\ell\gamma$ channel in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 11 (2018) 152, doi:10.1007/JHEP11(2018)152, arXiv:1806.05996 [hep-ex]

A.M. Sirunyan et al., **Search for natural and split supersymmetry in proton-proton collisions at $\sqrt{s}$ = 13 TeV in final states with jets and missing transverse momentum**, *JHEP.* 05 (2018) 025, doi:10.1007/JHEP05(2018)025, arXiv:1802.02110 [hep-ex]

A.M. Sirunyan et al., **Measurement of charged particle spectra in minimum-bias events from protonproton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 78 (2018) 697, doi:10.1140/epjc/s10052-018-6144-y, arXiv:1806.11245 [hep-ex]

A.M. Sirunyan et al., **Search for dark matter produced in association with a Higgs boson decaying to $\gamma\gamma$ or $\tau^+\tau^-$ at $\sqrt{s}$ = 13 TeV**, *JHEP.* 09 (2018) 046, doi:10.1007/JHEP09(2018)046, arXiv:1806.04771 [hep-ex]

A.M. Sirunyan et al., **Observation of Higgs boson decay to bottom quarks**, *Phys. Rev. Lett.* 121 (2018) 121801, doi:10.1103/PhysRevLett.121.121801, arXiv:1808.08242 [hep-ex]

A.M. Sirunyan et al., **Search for leptoquarks coupled to third-generation quarks in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. Lett.* 121 (2018) 241802, doi:10.1103/PhysRevLett.121.241802, arXiv:1809.05558 [hep-ex]

A.M. Sirunyan et al., **Search for black holes and sphalerons in high-multiplicity final states in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 11 (2018) 042, doi:10.1007/JHEP11(2018)042, arXiv:1805.06013 [hep-ex]

A.M. Sirunyan et al., **Search for pair-produced resonances each decaying into at least four quarks in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. Lett.* 121 (2018) 141802, doi:10.1103/PhysRevLett.121.141802, arXiv:1806.01058 [hep-ex]

A.M. Sirunyan et al., **Measurements of Higgs boson properties in the diphoton decay channel in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 11 (2018) 185, doi:10.1007/JHEP11(2018)185, arXiv:1804.02716 [hep-ex]

A.M. Sirunyan et al., **Angular analysis of the decay B $^+ \rightarrow$ K $^+\mu^+\mu^-$ in proton-proton collisions at $\sqrt{s}$ = 8 TeV**, *Phys. Rev. D.* 98 (2018) 112011, doi:10.1103/PhysRevD.98.112011, arXiv:1806.00636 [hep-ex]

A.M. Sirunyan et al., **Search for resonant pair production of Higgs bosons decaying to bottom quark-antiquark pairs in proton-proton collisions at 13 TeV**, *JHEP.* 08 (2018) 152, doi:10.1007/JHEP08(2018)152, arXiv:1806.03548 [hep-ex]

A.M. Sirunyan et al., **Constraints on models of scalar and vector leptoquarks decaying to a quark and a neutrino at $\sqrt{s}$ = 13 TeV**, *Phys. Rev. D.* 98 (2018) 032005, doi:10.1103/PhysRevD.98.032005, arXiv:1805.10228 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark mass with lepton+jets final states using *pp* collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 78 (2018) 891, doi:10.1140/epjc/s10052-018-6332-9, arXiv:1805.01428 [hep-ex]

A.M. Sirunyan et al., **Search for an exotic decay of the Higgs boson to a pair of light pseudoscalars in the final state of two muons and two τ leptons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP.* 11 (2018) 018, doi:10.1007/JHEP11(2018)018, arXiv:1805.04865 [hep-ex]

A.M. Sirunyan et al., **Search for disappearing tracks as a signature of new long-lived particles in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 08 (2018) 016, doi:10.1007/JHEP08(2018)016, arXiv:1804.07321 [hep-ex]

A.M. Sirunyan et al., **Search for additional neutral MSSM Higgs bosons in the $\tau\tau$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 09 (2018) 007, doi:10.1007/JHEP09(2018)007, arXiv:1803.06553 [hep-ex]

A.M. Sirunyan et al., **Performance of the CMS muon detector and muon reconstruction with proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JINST.* 13 (2018) P06015, doi:10.1088/1748-0221/13/06/P06015, arXiv:1804.04528 [physics.ins-det]

A.M. Sirunyan et al., **Search for $t\bar{t}$H production in the all-jet final state in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 06 (2018) 101, doi:10.1007/JHEP06(2018)101, arXiv:1803.06986 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy resonance decaying into a Z boson and a Z or W boson in 2$ $2q final states at $\sqrt{s} = 13$ TeV**, *JHEP.* 09 (2018) 101, doi:10.1007/JHEP09(2018)101, arXiv:1803.10093 [hep-ex]

A.M. Sirunyan et al., **Search for top squarks decaying via four-body or chargino-mediated modes in single-lepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 09 (2018) 065, doi:10.1007/JHEP09(2018)065, arXiv:1805.05784 [hep-ex]

A.M. Sirunyan et al., **Event shape variables measured using multijet final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 12 (2018) 117, doi:10.1007/JHEP12(2018)117, arXiv:1811.00588 [hep-ex]

A.M. Sirunyan et al., **Search for third-generation scalar leptoquarks decaying to a top quark and a τ lepton at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 78 (2018) 707, doi:10.1140/epjc/s10052-018-6143-z, arXiv:1803.02864 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 06 (2018) 002, doi:10.1007/JHEP06(2018)002, arXiv:1803.03991 [hep-ex]

A.M. Sirunyan et al., **Search for long-lived particles with displaced vertices in multijet events in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 98 (2018) 092011, doi:10.1103/PhysRevD.98.092011, arXiv:1808.03078 [hep-ex]

A.M. Sirunyan et al., **Search for a singly produced third-generation scalar leptoquark decaying to a τ lepton and a bottom quark in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 07 (2018) 115, doi:10.1007/JHEP07(2018)115, arXiv:1806.03472 [hep-ex]

A.M. Sirunyan et al., **Search for new physics in dijet angular distributions using protonproton collisions at $\sqrt{s} =$ 13 TeV and constraints on dark matter and other models**, *Eur. Phys. J. C.* 78 (2018) 789, doi:10.1140/epjc/s10052-018-6242-x, arXiv:1803.08030 [hep-ex]

A.M. Sirunyan et al., **Observation of proton-tagged, central (semi)exclusive production of high-mass lepton pairs in pp collisions at 13 TeV with the CMS-TOTEM precision proton spectrometer**, *JHEP.* 07 (2018) 153, doi:10.1007/JHEP07(2018)153, arXiv:1803.04496 [hep-ex]

A.M. Sirunyan et al., **Observation of $t\bar{t}$H production**, *Phys. Rev. Lett.* 120 (2018) 231801, doi:10.1103/PhysRevLett.120.231801, arXiv:1804.02610 [hep-ex]

A.M. Sirunyan et al., **Observation of the Z $\to \psi\ell^+\ell^-$ decay in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. Lett.* 121 (2018) 141801, doi:10.1103/PhysRevLett.121.141801, arXiv:1806.04213 [hep-ex]

A.M. Sirunyan et al., **Observation of the χ_{b1}(3P) and χ_{b2}(3P) and measurement of their masses**, *Phys. Rev. Lett.* 121 (2018) 092002, doi:10.1103/PhysRevLett.121.092002, arXiv:1805.11192 [hep-ex]

A.M. Sirunyan et al., **Measurements of the differential jet cross section as a function of the jet mass in dijet events from proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 11 (2018) 113, doi:10.1007/JHEP11(2018)113, arXiv:1807.05974 [hep-ex]

A.M. Sirunyan et al., **Studies of $B^*_{s2}(5840)^0$ and $B_{s1}(5830)^0$ mesons including the observation of the $B^*_{s2}(5840)^0 \to B^0K^0_S$ decay in proton-proton collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 78 (2018) 939, doi:10.1140/epjc/s10052-018-6390-z, arXiv:1809.03578 [hep-ex]

A.M. Sirunyan et al., **Measurement of the Λ_b polarization and angular parameters in $\Lambda_b \to J/\psi\Lambda$ decays from pp collisions at $\sqrt{s} = 7$ and 8 TeV**, *Phys. Rev. D.* 97 (2018) 072010, doi:10.1103/PhysRevD.97.072010, arXiv:1802.04867 [hep-ex]

A.M. Sirunyan et al., **Precision measurement of the structure of the CMS inner tracking system using nuclear interactions**, *JINST.* 13 (2018) P10034, doi:10.1088/1748-0221/13/10/P10034, arXiv:1807.03289 [physics.ins-det]

A.M. Sirunyan et al., **Searches for pair production of charginos and top squarks in final states with two oppositely charged leptons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 11 (2018) 079, doi:10.1007/JHEP11(2018)079, arXiv:1807.07799 [hep-ex]

A.M. Sirunyan et al., **Search for supersymmetry in events with a τ lepton pair and missing transverse momentum in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 11 (2018) 151, doi:10.1007/JHEP11(2018)151, arXiv:1807.02048 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy resonance decaying into a Z boson and a vector boson in the $\nu\bar{\nu}q\bar{q}$ final state**, *JHEP*. 07 (2018) 075, doi:10.1007/JHEP07(2018)075, arXiv:1803.03838 [hep-ex]

A.M. Sirunyan et al., **Measurement of jet substructure observables in $t\bar{t}$ events from proton-proton collisions at $\sqrt{s}$ = 13TeV**, *Phys. Rev. D*. 98 (2018) 092014, doi:10.1103/PhysRevD.98.092014, arXiv:1808.07340 [hep-ex]

A.M. Sirunyan et al., **Charged-particle nuclear modification factors in XeXe collisions at $\sqrt{s_{NN}}$ = 5.44 TeV**, *JHEP*. 10 (2018) 138, doi:10.1007/JHEP10(2018)138, arXiv:1809.00201 [hep-ex]

A.M. Sirunyan et al., **Search for vector-like T and B quark pairs in final states with leptons at $\sqrt{s}$ = 13 TeV**, *JHEP*. 08 (2018) 177, doi:10.1007/JHEP08(2018)177, arXiv:1805.04758 [hep-ex]

A.M. Sirunyan et al., **Search for an exotic decay of the Higgs boson to a pair of light pseudoscalars in the final state with two b quarks and two τ leptons in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *Phys. Lett. B*. 785 (2018) 462, doi:10.1016/j.physletb.2018.08.057, arXiv:1805.10191 [hep-ex]

A.M. Sirunyan et al., **Jet properties in PbPb and pp collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *JHEP*. 05 (2018) 006, doi:10.1007/JHEP05(2018)006, arXiv:1803.00042 [nucl-ex]

V. Khachatryan et al., **Search for narrow resonances in dilepton mass spectra in proton-proton collisions at $\sqrt{s}$ = 13 TeV and combination with 8 TeV data**, *Phys. Lett. B*. 768 (2017) 57–80, doi:10.1016/j.physletb.2017.02.010, arXiv:1609.05391 [hep-ex]

V. Khachatryan et al., **Measurements of the $t\bar{t}$ production cross section in lepton+jets final states in pp collisions at 8 TeV and ratio of 8 to 7 TeV cross sections**, *Eur. Phys. J. C*. 77 (2017) 15, doi:10.1140/epjc/s10052-016-4504-z, arXiv:1602.09024 [hep-ex]

V. Khachatryan et al., **Searches for invisible decays of the Higgs boson in pp collisions at $\sqrt{s}$ = 7, 8, and 13 TeV**, *JHEP*. 02 (2017) 135, doi:10.1007/JHEP02(2017)135, arXiv:1610.09218 [hep-ex]

V. Khachatryan et al., **Search for single production of a heavy vector-like T quark decaying to a Higgs boson and a top quark with a lepton and jets in the final state**, *Phys. Lett. B*. 771 (2017) 80–105, doi:10.1016/j.physletb.2017.05.019, arXiv:1612.00999 [hep-ex]

V. Khachatryan et al., **A search for new phenomena in pp collisions at $\sqrt{s}$ = 13TeV in final states with missing transverse momentum and at least one jet using the α_T variable**, *Eur. Phys. J. C*. 77 (2017) 294, doi:10.1140/epjc/s10052-017-4787-8, arXiv:1611.00338 [hep-ex]

V. Khachatryan et al., **Measurement of the production cross section of a W boson in association with two b jets in pp collisions at $\sqrt{s}$ = 8TeV**, *Eur. Phys. J. C*. 77 (2017) 92, doi:10.1140/epjc/s10052-016-4573-z, arXiv:1608.07561 [hep-ex]

V. Khachatryan et al., **Pseudorapidity dependence of long-range two-particle correlations in pPb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**, *Phys. Rev. C*. 96 (2017) 014915, doi:10.1103/PhysRevC.96.014915, arXiv:1604.05347 [nucl-ex]

V. Khachatryan et al., **Evidence for collectivity in pp collisions at the LHC**, *Phys. Lett. B*. 765 (2017) 193–220, doi:10.1016/j.physletb.2016.12.009, arXiv:1606.06198 [nucl-ex]

V. Khachatryan et al., **Search for heavy resonances decaying into a vector boson and a Higgs boson in final states with charged leptons, neutrinos, and b quarks**, *Phys. Lett. B*. 768 (2017) 137–162, doi:10.1016/j.physletb.2017.02.040, arXiv:1610.08066 [hep-ex]

V. Khachatryan et al., **Search for heavy neutrinos or third-generation leptoquarks in final states with two hadronically decaying τ leptons and two jets in proton-proton collisions at $\sqrt{s}$ = 13 TeV**, *JHEP*. 03 (2017) 077, doi:10.1007/JHEP03(2017)077, arXiv:1612.01190 [hep-ex]

V. Khachatryan et al., **Measurement of electroweak-induced production of W γ with two jets in pp collisions at $\sqrt{s}$ = 8 TeV and constraints on anomalous quartic gauge couplings**, *JHEP*. 06 (2017) 106, doi:10.1007/JHEP06(2017)106, arXiv:1612.09256 [hep-ex]

V. Khachatryan et al., **Search for electroweak production of charginos in final states with two τ leptons in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 04 (2017) 018, doi:10.1007/JHEP04(2017)018, arXiv:1610.04870 [hep-ex]

V. Khachatryan et al., **Measurements of the associated production of a Z boson and b jets in pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 77 (2017) 751, doi:10.1140/epjc/s10052-017-5140-y, arXiv:1611.06507 [hep-ex]

A.M. Sirunyan et al., **Search for dijet resonances in protonproton collisions at $\sqrt{s} = 13$ TeV and constraints on dark matter and other models**, *Phys. Lett. B.* 769 (2017) 520–542, doi:10.1016/j.physletb.2017.02.012, arXiv:1611.03568 [hep-ex]

V. Khachatryan et al., **Measurement of the $t\bar{t}$ production cross section using events in the e μ final state in pp collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 77 (2017) 172, doi:10.1140/epjc/s10052-017-4718-8, arXiv:1611.04040 [hep-ex]

V. Khachatryan et al., **Search for heavy gauge W' boson in events with an energetic lepton and large missing transverse momentum at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 770 (2017) 278–301, doi:10.1016/j.physletb.2017.04.043, arXiv:1612.09274 [hep-ex]

V. Khachatryan et al., **Inclusive search for supersymmetry using razor variables in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 95 (2017) 012003, doi:10.1103/PhysRevD.95.012003, arXiv:1609.07658 [hep-ex]

V. Khachatryan et al., **Measurement of the transverse momentum spectrum of the Higgs boson produced in pp collisions at $\sqrt{s} = 8$ TeV using $H \to WW$ decays**, *JHEP.* 03 (2017) 032, doi:10.1007/JHEP03(2017)032, arXiv:1606.01522 [hep-ex]

V. Khachatryan et al., **Coherent J/ψ photoproduction in ultra-peripheral PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV with the CMS experiment**, *Phys. Lett. B.* 772 (2017) 489–511, doi:10.1016/j.physletb.2017.07.001, arXiv:1605.06966 [nucl-ex]

A.M. Sirunyan et al., **Search for electroweak production of a vector-like quark decaying to a top quark and a Higgs boson using boosted topologies in fully hadronic final states**, *JHEP.* 04 (2017) 136, doi:10.1007/JHEP04(2017)136, arXiv:1612.05336 [hep-ex]

V. Khachatryan et al., **Measurement of the WZ production cross section in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 766 (2017) 268–290, doi:10.1016/j.physletb.2017.01.011, arXiv:1607.06943 [hep-ex]

V. Khachatryan et al., **Search for high-mass diphoton resonances in protonproton collisions at 13 TeV and combination with 8 TeV search**, *Phys. Lett. B.* 767 (2017) 147–170, doi:10.1016/j.physletb.2017.01.027, arXiv:1609.02507 [hep-ex]

A.M. Sirunyan et al., **Cross section measurement of t-channel single top quark production in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 772 (2017) 752–776, doi:10.1016/j.physletb.2017.07.047, arXiv:1610.00678 [hep-ex]

S. Chatrchyan et al., **Measurement of the mass difference between top quark and antiquark in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 770 (2017) 50–71, doi:10.1016/j.physletb.2017.04.028, arXiv:1610.09551 [hep-ex]

V. Khachatryan et al., **Observation of Υ(1S) pair production in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 05 (2017) 013, doi:10.1007/JHEP05(2017)013, arXiv:1610.07095 [hep-ex]

V. Khachatryan et al., **Jet energy scale and resolution in the CMS experiment in pp collisions at 8 TeV**, *JINST.* 12 (2017) P02014, doi:10.1088/1748-0221/12/02/P02014, arXiv:1607.03663 [hep-ex]

V. Khachatryan et al., **Measurement and QCD analysis of double-differential inclusive jet cross sections in pp collisions at $\sqrt{s} = 8$ TeV and cross section ratios to 2.76 and 7 TeV**, *JHEP.* 03 (2017) 156, doi:10.1007/JHEP03(2017)156, arXiv:1609.05331 [hep-ex]

V. Khachatryan et al., **Suppression and azimuthal anisotropy of prompt and nonprompt J/ψ production in PbPb collisions at $\sqrt{s_{NN}} = 2.76TeV$**, *Eur. Phys. J. C.* 77 (2017) 252, doi:10.1140/epjc/s10052-017-4781-1, arXiv:1610.00613 [nucl-ex]

V. Khachatryan et al., **Search for supersymmetry in events with photons and missing transverse energy in pp collisions at 13 TeV**, *Phys. Lett. B.* 769 (2017) 391–412, doi:10.1016/j.physletb.2017.04.005, arXiv:1611.06604 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry in events with one lepton and multiple jets in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 95 (2017) 012011, doi:10.1103/PhysRevD.95.012011, arXiv:1609.09386 [hep-ex]

V. Khachatryan et al., **Measurement of the transverse momentum spectra of weak vector bosons produced in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 02 (2017) 096, doi:10.1007/JHEP02(2017)096, arXiv:1606.05864 [hep-ex]

V. Khachatryan et al., **The CMS trigger system**, *JINST.* 12 (2017) P01020, doi:10.1088/1748-0221/12/01/P01020, arXiv:1609.02366 [physics.ins-det]

V. Khachatryan et al., **Measurement of differential cross sections for top quark pair production using the lepton+jets final state in proton-proton collisions at 13 TeV**, *Phys. Rev. D.* 95 (2017) 092001, doi:10.1103/PhysRevD.95.092001, arXiv:1610.04191 [hep-ex]

V. Khachatryan et al., **Search for top quark decays via Higgs-boson-mediated flavor-changing neutral currents in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 02 (2017) 079, doi:10.1007/JHEP02(2017)079, arXiv:1610.04857 [hep-ex]

V. Khachatryan et al., **Measurements of differential production cross sections for a Z boson in association with jets in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 04 (2017) 022, doi:10.1007/JHEP04(2017)022, arXiv:1611.03844 [hep-ex]

V. Khachatryan et al., **Measurement of the total and differential inclusive B^+ hadron cross sections in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 771 (2017) 435–456, doi:10.1016/j.physletb.2017.05.074, arXiv:1609.00873 [hep-ex]

V. Khachatryan et al., **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 $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 77 (2017) 236, doi:10.1140/epjc/s10052-017-4730-z, arXiv:1609.05721 [hep-ex]

V. Khachatryan et al., **Search for top squark pair production in compressed-mass-spectrum scenarios in proton-proton collisions at $\sqrt{s} = 8$ TeV using the α_T variable**, *Phys. Lett. B.* 767 (2017) 403–430, doi:10.1016/j.physletb.2017.02.007, arXiv:1605.08993 [hep-ex]

V. Khachatryan et al., **Suppression of $\Upsilon(1S)$, $\Upsilon(2S)$ and $\Upsilon(3S)$ production in PbPb collisions at $\sqrt{s_{\mathrm{NN}}} = 2.76$ TeV**, *Phys. Lett. B.* 770 (2017) 357–379, doi:10.1016/j.physletb.2017.04.031, arXiv:1611.01510 [nucl-ex]

A.M. Sirunyan et al., **Search for massive resonances decaying into WW, WZ or ZZ bosons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2017) 162, doi:10.1007/JHEP03(2017)162, arXiv:1612.09159 [hep-ex]

V. Khachatryan et al., **Search for high-mass Z γ resonances in $e^+e^-\gamma$ and $\mu^+\mu^-\gamma$ final states in proton-proton collisions at $\sqrt{s} = 8$ and 13 TeV**, *JHEP.* 01 (2017) 076, doi:10.1007/JHEP01(2017)076, arXiv:1610.02960 [hep-ex]

V. Khachatryan et al., **Measurements of differential cross sections for associated production of a W boson and jets in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 95 (2017) 052002, doi:10.1103/PhysRevD.95.052002, arXiv:1610.04222 [hep-ex]

V. Khachatryan et al., **Search for CP violation in $t\bar{t}$ production and decay in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 03 (2017) 101, doi:10.1007/JHEP03(2017)101, arXiv:1611.08931 [hep-ex]

V. Khachatryan et al., **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**, *Phys. Rev. Lett.* 118 (2017) 021802, doi:10.1103/PhysRevLett.118.021802, arXiv:1605.09305 [hep-ex]

V. Khachatryan et al., **Measurement of inclusive jet cross sections in pp and PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Rev. C.* 96 (2017) 015202, doi:10.1103/PhysRevC.96.015202, arXiv:1609.05383 [nucl-ex]

V. Khachatryan et al., **Search for anomalous Wtb couplings and flavour-changing neutral currents in t-channel single top quark production in pp collisions at $\sqrt{s} = 7$ and 8 TeV**, *JHEP.* 02 (2017) 028, doi:10.1007/JHEP02(2017)028, arXiv:1610.03545 [hep-ex]

V. Khachatryan et al., **Search for new phenomena in events with high jet multiplicity and low missing transverse momentum in protonproton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 770 (2017) 257–267, doi:10.1016/j.physletb.2017.01.073, arXiv:1608.01224 [hep-ex]

V. Khachatryan et al., **Search for R-parity violating supersymmetry with displaced vertices in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 95 (2017) 012009, doi:10.1103/PhysRevD.95.012009, arXiv:1610.05133 [hep-ex]

V. Khachatryan et al., **Observation of the decay $B^+ \to \psi(2S)\phi(1020)K^+$ in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 764 (2017) 66–86, doi:10.1016/j.physletb.2016.11.001, arXiv:1607.02638 [hep-ex]

V. Khachatryan et al., **Observation of charge-dependent azimuthal correlations in p-Pb collisions and its implication for the search for the chiral magnetic effect**, *Phys. Rev. Lett.* 118 (2017) 122301, doi:10.1103/PhysRevLett.118.122301, arXiv:1610.00263 [nucl-ex]

A.M. Sirunyan et al., **Relative Modification of Prompt ψ(2S) and J/ψ Yields from pp to PbPb Collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Rev. Lett.* 118 (2017) 162301, doi:10.1103/PhysRevLett.118.162301, arXiv:1611.01438 [nucl-ex]

A.M. Sirunyan et al., **Search for high-mass $Z\gamma$ resonances in proton-proton collisions at $\sqrt{s} = 8$ and 13 TeV using jet substructure techniques**, *Phys. Lett. B.* 772 (2017) 363–387, doi:10.1016/j.physletb.2017.06.062, arXiv:1612.09516 [hep-ex]

A.M. Sirunyan et al., **Measurements of the charm jet cross section and nuclear modification factor in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 772 (2017) 306–329, doi:10.1016/j.physletb.2017.06.053, arXiv:1612.08972 [nucl-ex]

V. Khachatryan et al., **Search for heavy resonances decaying to tau lepton pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 02 (2017) 048, doi:10.1007/JHEP02(2017)048, arXiv:1611.06594 [hep-ex]

V. Khachatryan et al., **Charged-particle nuclear modification factors in PbPb and pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *JHEP.* 04 (2017) 039, doi:10.1007/JHEP04(2017)039, arXiv:1611.01664 [nucl-ex]

V. Khachatryan et al., **Multiplicity and rapidity dependence of strange hadron production in pp, pPb, and PbPb collisions at the LHC**, *Phys. Lett. B.* 768 (2017) 103–129, doi:10.1016/j.physletb.2017.01.075, arXiv:1605.06699 [nucl-ex]

A.M. Sirunyan et al., **Search for supersymmetry in multijet events with missing transverse momentum in proton-proton collisions at 13 TeV**, *Phys. Rev. D.* 96 (2017) 032003, doi:10.1103/PhysRevD.96.032003, arXiv:1704.07781 [hep-ex]

A.M. Sirunyan et al., **Searches for W' bosons decaying to a top quark and a bottom quark in proton-proton collisions at 13 TeV**, *JHEP.* 08 (2017) 029, doi:10.1007/JHEP08(2017)029, arXiv:1706.04260 [hep-ex]

A.M. Sirunyan et al., **Search for black holes in high-multiplicity final states in proton-proton collisions at $\sqrt{s} =$ 13 TeV**, *Phys. Lett. B.* 774 (2017) 279–307, doi:10.1016/j.physletb.2017.09.053, arXiv:1705.01403 [hep-ex]

A.M. Sirunyan et al., **Search for new physics with dijet angular distributions in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 07 (2017) 013, doi:10.1007/JHEP07(2017)013, arXiv:1703.09986 [hep-ex]

A.M. Sirunyan et al., **Mechanical stability of the CMS strip tracker measured with a laser alignment system**, *JINST.* 12 (2017) P04023, doi:10.1088/1748-0221/12/04/P04023, arXiv:1701.02022 [physics.ins-det]

A.M. Sirunyan et al., **Search for dark matter produced in association with heavy-flavor quark pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Eur. Phys. J. C.* 77 (2017) 845, doi:10.1140/epjc/s10052-017-5317-4, arXiv:1706.02581 [hep-ex]

A.M. Sirunyan et al., **Measurements of properties of the Higgs boson decaying into the four-lepton final state in pp collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 11 (2017) 047, doi:10.1007/JHEP11(2017)047, arXiv:1706.09936 [hep-ex]

V. Khachatryan et al., **Search for light bosons in decays of the 125 GeV Higgs boson in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 10 (2017) 076, doi:10.1007/JHEP10(2017)076, arXiv:1701.02032 [hep-ex]

A.M. Sirunyan et al., **Measurement of the inclusive energy spectrum in the very forward direction in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 08 (2017) 046, doi:10.1007/JHEP08(2017)046, arXiv:1701.08695 [hep-ex]

A.M. Sirunyan et al., **Combination of searches for heavy resonances decaying to WW, WZ, ZZ, WH, and ZH boson pairs in protonproton collisions at $\sqrt{s} = 8$ and 13 TeV**, *Phys. Lett. B.* 774 (2017) 533–558, doi:10.1016/j.physletb.2017.09.083, arXiv:1705.09171 [hep-ex]

A.M. Sirunyan et al., **Search for anomalous couplings in boosted $WW/WZ \to \ell\nu q\bar{q}$ production in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 772 (2017) 21–42, doi:10.1016/j.physletb.2017.06.009, arXiv:1703.06095 [hep-ex]

A.M. Sirunyan et al., **Measurement of charged pion, kaon, and proton production in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 96 (2017) 112003, doi:10.1103/PhysRevD.96.112003, arXiv:1706.10194 [hep-ex]

A.M. Sirunyan et al., **Study of Jet Quenching with $Z + jet$ Correlations in Pb-Pb and pp Collisions at $\sqrt{s_{NN}} =$ $5.02TeV$**, *Phys. Rev. Lett.* 119 (2017) 082301, doi:10.1103/PhysRevLett.119.082301, arXiv:1702.01060 [nucl-ex]

A.M. Sirunyan et al., **Measurement of prompt and nonprompt J/ψ production in pp and pPb collisions at $\sqrt{s_{NN}} = 5.02TeV$**, *Eur. Phys. J. C.* 77 (2017) 269, doi:10.1140/epjc/s10052-017-4828-3, arXiv:1702.01462 [nucl-ex]

A.M. Sirunyan et al., **Search for Charged Higgs Bosons Produced via Vector Boson Fusion and Decaying into a Pair of W and Z Bosons Using pp Collisions at $\sqrt{s} = 13TeV$**, *Phys. Rev. Lett.* 119 (2017) 141802, doi:10.1103/PhysRevLett.119.141802, arXiv:1705.02942 [hep-ex]

A.M. Sirunyan et al., **Search for single production of vector-like quarks decaying into a b quark and a W boson in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 772 (2017) 634–656, doi:10.1016/j.physletb.2017.07.022, arXiv:1701.08328 [hep-ex]

A.M. Sirunyan et al., **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**, *Phys. Rev. D.* 96 (2017) 072005, doi:10.1103/PhysRevD.96.072005, arXiv:1707.05979 [hep-ex]

A.M. Sirunyan et al., **Search for single production of vector-like quarks decaying to a Z boson and a top or a bottom quark in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 05 (2017) 029, doi:10.1007/JHEP05(2017)029, arXiv:1701.07409 [hep-ex]

A.M. Sirunyan et al., **Observation of top quark production in proton-nucleus collisions**, *Phys. Rev. Lett.* 119 (2017) 242001, doi:10.1103/PhysRevLett.119.242001, arXiv:1709.07411 [nucl-ex]

A.M. Sirunyan et al., **Search for a heavy resonance decaying to a top quark and a vector-like top quark at $\sqrt{s} = 13$ TeV**, *JHEP.* 09 (2017) 053, doi:10.1007/JHEP09(2017)053, arXiv:1703.06352 [hep-ex]

V. Khachatryan et al., **Search for new phenomena with multiple charged leptons in protonproton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 77 (2017) 635, doi:10.1140/epjc/s10052-017-5182-1, arXiv:1701.06940 [hep-ex]

A.M. Sirunyan et al., **Measurement of double-differential cross sections for top quark pair production in pp collisions at $\sqrt{s} = 8TeV$ and impact on parton distribution functions**, *Eur. Phys. J. C.* 77 (2017) 459, doi:10.1140/epjc/s10052-017-4984-5, arXiv:1703.01630 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry in the all-hadronic final state using top quark tagging in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 96 (2017) 012004, doi:10.1103/PhysRevD.96.012004, arXiv:1701.01954 [hep-ex]

A.M. Sirunyan et al., **Search for dark matter produced with an energetic jet or a hadronically decaying W or Z boson at $\sqrt{s} = 13$ TeV**, *JHEP.* 07 (2017) 014, doi:10.1007/JHEP07(2017)014, arXiv:1703.01651 [hep-ex]

A.M. Sirunyan et al., **Measurement of the triple-differential dijet cross section in proton-proton collisions at $\sqrt{s} = 8TeV$ and constraints on parton distribution functions**, *Eur. Phys. J. C.* 77 (2017) 746, doi:10.1140/epjc/s10052-017-5286-7, arXiv:1705.02628 [hep-ex]

A.M. Sirunyan et al., **Search for pair production of vector-like T and B quarks in single-lepton final states using boosted jet substructure in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 11 (2017) 085, doi:10.1007/JHEP11(2017)085, arXiv:1706.03408 [hep-ex]

A.M. Sirunyan et al., **Constraints on anomalous Higgs boson couplings using production and decay information in the four-lepton final state**, *Phys. Lett. B.* 775 (2017) 1–24, doi:10.1016/j.physletb.2017.10.021, arXiv:1707.00541 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 10 (2017) 005, doi:10.1007/JHEP10(2017)005, arXiv:1707.03316 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark mass using single top quark events in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Eur. Phys. J. C.* 77 (2017) 354, doi:10.1140/epjc/s10052-017-4912-8, arXiv:1703.02530 [hep-ex]

A.M. Sirunyan et al., **Search for top quark partners with charge 5/3 in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 08 (2017) 073, doi:10.1007/JHEP08(2017)073, arXiv:1705.10967 [hep-ex]

A.M. Sirunyan et al., **Principal-component analysis of two-particle azimuthal correlations in PbPb and pPb collisions at CMS**, *Phys. Rev. C.* 96 (2017) 064902, doi:10.1103/PhysRevC.96.064902, arXiv:1708.07113 [nucl-ex]

A.M. Sirunyan et al., **Search for a light pseudoscalar Higgs boson produced in association with bottom quarks in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 11 (2017) 010, doi:10.1007/JHEP11(2017)010, arXiv:1707.07283 [hep-ex]

A.M. Sirunyan et al., **Search for standard model production of four top quarks in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 772 (2017) 336–358, doi:10.1016/j.physletb.2017.06.064, arXiv:1702.06164 [hep-ex]

A.M. Sirunyan et al., **Search for Low Mass Vector Resonances Decaying to Quark-Antiquark Pairs in Proton-Proton Collisions at $\sqrt{s} = 13TeV$**, *Phys. Rev. Lett.* 119 (2017) 111802, doi:10.1103/PhysRevLett.119.111802, arXiv:1705.10532 [hep-ex]

A.M. Sirunyan et al., **Measurement of the jet mass in highly boosted $t\bar{t}$ events from pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 77 (2017) 467, doi:10.1140/epjc/s10052-017-5030-3, arXiv:1703.06330 [hep-ex]

A.M. Sirunyan et al., **Search for associated production of dark matter with a Higgs boson decaying to $b\bar{b}$ or $\gamma\gamma$ at $\sqrt{s} = 13$ TeV**, *JHEP.* 10 (2017) 180, doi:10.1007/JHEP10(2017)180, arXiv:1703.05236 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 12 (2017) 142, doi:10.1007/JHEP12(2017)142, arXiv:1707.06193 [hep-ex]

A.M. Sirunyan et al., **Search for new physics in the monophoton final state in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 10 (2017) 073, doi:10.1007/JHEP10(2017)073, arXiv:1706.03794 [hep-ex]

A.M. Sirunyan et al., **Search for dark matter and unparticles in events with a Z boson and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 03 (2017) 061, doi:10.1007/JHEP03(2017)061, arXiv:1701.02042 [hep-ex]

V. Khachatryan et al., **Measurement of the cross section for electroweak production of Z γ in association with two jets and constraints on anomalous quartic gauge couplings in protonproton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 770 (2017) 380–402, doi:10.1016/j.physletb.2017.04.071, arXiv:1702.03025 [hep-ex]

A.M. Sirunyan et al., **Search for heavy resonances that decay into a vector boson and a Higgs boson in hadronic final states at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 77 (2017) 636, doi:10.1140/epjc/s10052-017-5192-z, arXiv:1707.01303 [hep-ex]

A.M. Sirunyan et al., **Search for a heavy composite Majorana neutrino in the final state with two leptons and two quarks at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 775 (2017) 315–337, doi:10.1016/j.physletb.2017.11.001, arXiv:1706.08578 [hep-ex]

V. Khachatryan et al., **Search for leptophobic Z' bosons decaying into four-lepton final states in protonproton collisions at $\sqrt{s}$ =8TeV**, *Phys. Lett. B.* 773 (2017) 563–584, doi:10.1016/j.physletb.2017.08.069, arXiv:1701.01345 [hep-ex]

A.M. Sirunyan et al., **Measurement of the semileptonic $t\bar{t} + \gamma$ production cross section in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 10 (2017) 006, doi:10.1007/JHEP10(2017)006, arXiv:1706.08128 [hep-ex]

A.M. Sirunyan et al., **Measurements of the pp $\to W\gamma\gamma$ and pp $\to Z\gamma\gamma$ cross sections and limits on anomalous quartic gauge couplings at $\sqrt{s} = 8$ TeV**, *JHEP.* 10 (2017) 072, doi:10.1007/JHEP10(2017)072, arXiv:1704.00366 [hep-ex]

A.M. Sirunyan et al., **Search for $t\bar{t}$ resonances in highly boosted lepton+jets and fully hadronic final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 07 (2017) 001, doi:10.1007/JHEP07(2017)001, arXiv:1704.03366 [hep-ex]

A.M. Sirunyan et al., **Search for Supersymmetry in pp Collisions at $\sqrt{s} = 13TeV$ in the Single-Lepton Final State Using the Sum of Masses of Large-Radius Jets**, *Phys. Rev. Lett.* 119 (2017) 151802, doi:10.1103/PhysRevLett.119.151802, arXiv:1705.04673 [hep-ex]

A.M. Sirunyan et al., **Measurement of the $B^{\pm}$ Meson Nuclear Modification Factor in Pb-Pb Collisions at $\sqrt{s_{NN}} = 5.02TeV$**, *Phys. Rev. Lett.* 119 (2017) 152301, doi:10.1103/PhysRevLett.119.152301, arXiv:1705.04727 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 07 (2017) 003, doi:10.1007/JHEP07(2017)003, arXiv:1702.01404 [hep-ex]

A.M. Sirunyan et al., **Search for third-generation scalar leptoquarks and heavy right-handed neutrinos in final states with two tau leptons and two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *JHEP.* 07 (2017) 121, doi:10.1007/JHEP07(2017)121, arXiv:1703.03995 [hep-ex]

A.M. Sirunyan et al., **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**, *JHEP.* 09 (2017) 051, doi:10.1007/JHEP09(2017)051, arXiv:1701.06228 [hep-ex]

A.M. Sirunyan et al., **Search for Evidence of the Type-III Seesaw Mechanism in Multilepton Final States in Proton-Proton Collisions at $\sqrt{s} = 13TeV$**, *Phys. Rev. Lett.* 119 (2017) 221802, doi:10.1103/PhysRevLett.119.221802, arXiv:1708.07962 [hep-ex]

A.M. Sirunyan et al., **Measurements of jet charge with dijet events in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 10 (2017) 131, doi:10.1007/JHEP10(2017)131, arXiv:1706.05868 [hep-ex]

A.M. Sirunyan et al., **Particle-flow reconstruction and global event description with the CMS detector**, *JINST.* 12 (2017) P10003, doi:10.1088/1748-0221/12/10/P10003, arXiv:1706.04965 [physics.ins-det]

A.M. Sirunyan et al., **Search for Higgs boson pair production in the $bb\tau\tau$ final state in proton-proton collisions at $\sqrt{(s)} = 8TeV$**, *Phys. Rev. D.* 96 (2017) 072004, doi:10.1103/PhysRevD.96.072004, arXiv:1707.00350 [hep-ex]

A.M. Sirunyan et al., **Measurement of vector boson scattering and constraints on anomalous quartic couplings from events with four leptons and two jets in protonproton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 774 (2017) 682–705, doi:10.1016/j.physletb.2017.10.020, arXiv:1708.02812 [hep-ex]

A.M. Sirunyan et al., **Measurement of the top quark mass in the dileptonic $t\bar{t}$ decay channel using the mass observables $M_{b\ell}$, M_{T2}, and $M_{b\ell\nu}$ in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 96 (2017) 032002, doi:10.1103/PhysRevD.96.032002, arXiv:1704.06142 [hep-ex]

G. Aad et al., **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**, *JHEP.* 08 (2016) 045, doi:10.1007/JHEP08(2016)045, arXiv:1606.02266 [hep-ex]

V. Khachatryan et al., **Search for new phenomena in monophoton final states in proton-proton collisions at $\sqrt{s} =$ 8 TeV**, *Phys. Lett. B.* 755 (2016) 102–124, doi:10.1016/j.physletb.2016.01.057, arXiv:1410.8812 [hep-ex]

V. Khachatryan et al., **Measurement of the CP-violating weak phase ϕ_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**, *Phys. Lett. B.* 757 (2016) 97–120, doi:10.1016/j.physletb.2016.03.046, arXiv:1507.07527 [hep-ex]

V. Khachatryan et al., **Measurement of the $t\bar{t}$ production cross section in the all-jets final state in pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 76 (2016) 128, doi:10.1140/epjc/s10052-016-3956-5, arXiv:1509.06076 [hep-ex]

V. Khachatryan et al., **Angular analysis of the decay $B^0 \to K^{*0}\mu^+\mu^-$ from pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 753 (2016) 424–448, doi:10.1016/j.physletb.2015.12.020, arXiv:1507.08126 [hep-ex]

V. Khachatryan et al., **Measurement of Spin Correlations in $t\bar{t}$ Production using the Matrix Element Method in the Muon+Jets Final State in pp Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 758 (2016) 321–346, doi:10.1016/j.physletb.2016.05.005, arXiv:1511.06170 [hep-ex]

V. Khachatryan et al., **Measurement of Top Quark Polarisation in T-Channel Single Top Quark Production**, *JHEP.* 04 (2016) 073, doi:10.1007/JHEP04(2016)073, arXiv:1511.02138 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry in events with soft leptons, low jet multiplicity, and missing transverse energy in protonproton collisions at $\sqrt{s}$=8 TeV**, *Phys. Lett. B.* 759 (2016) 9–35, doi:10.1016/j.physletb.2016.05.033, arXiv:1512.08002 [hep-ex]

V. Khachatryan et al., **Search for a massive resonance decaying into a Higgs boson and a W or Z boson in hadronic final states in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 02 (2016) 145, doi:10.1007/JHEP02(2016)145, arXiv:1506.01443 [hep-ex]

V. Khachatryan et al., **Measurement of long-range near-side two-particle angular correlations in pp collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. Lett.* 116 (2016) 172302, doi:10.1103/PhysRevLett.116.172302, arXiv:1510.03068 [nucl-ex]

V. Khachatryan et al., **Search for resonant $t\bar{t}$ production in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 93 (2016) 012001, doi:10.1103/PhysRevD.93.012001, arXiv:1506.03062 [hep-ex]

V. Khachatryan et al., **Measurement of the charge asymmetry in top quark pair production in pp collisions at $\sqrt{s} = 8$ TeV using a template method**, *Phys. Rev. D.* 93 (2016) 034014, doi:10.1103/PhysRevD.93.034014, arXiv:1508.03862 [hep-ex]

V. Khachatryan et al., **Transverse momentum spectra of inclusive b jets in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 754 (2016) 59, doi:10.1016/j.physletb.2016.01.010, arXiv:1510.03373 [nucl-ex]

V. Khachatryan et al., **Search for pair production of first and second generation leptoquarks in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 93 (2016) 032004, doi:10.1103/PhysRevD.93.032004, arXiv:1509.03744 [hep-ex]

V. Khachatryan et al., **Measurement of transverse momentum relative to dijet systems in PbPb and pp collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *JHEP.* 01 (2016) 006, doi:10.1007/JHEP01(2016)006, arXiv:1509.09029 [nucl-ex]

V. Khachatryan et al., **Search for W' decaying to tau lepton and neutrino in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 755 (2016) 196–216, doi:10.1016/j.physletb.2016.02.002, arXiv:1508.04308 [hep-ex]

V. Khachatryan et al., **Search for pair-produced vectorlike B quarks in proton-proton collisions at $\sqrt{s}$=8 TeV**, *Phys. Rev. D.* 93 (2016) 112009, doi:10.1103/PhysRevD.93.112009, arXiv:1507.07129 [hep-ex]

V. Khachatryan et al., **Search for exotic decays of a Higgs boson into undetectable particles and one or more photons**, *Phys. Lett. B.* 753 (2016) 363–388, doi:10.1016/j.physletb.2015.12.017, arXiv:1507.00359 [hep-ex]

V. Khachatryan et al., **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**, *Eur. Phys. J. C.* 76 (2016) 379, doi:10.1140/epjc/s10052-016-4105-x, arXiv:1510.03072 [hep-ex]

V. Khachatryan et al., **Measurement of the inclusive jet cross section in pp collisions at $\sqrt{s} = 2.76TeV$**, *Eur. Phys. J. C.* 76 (2016) 265, doi:10.1140/epjc/s10052-016-4083-z, arXiv:1512.06212 [hep-ex]

V. Khachatryan et al., **Search for the production of an excited bottom quark decaying to tW in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 01 (2016) 166, doi:10.1007/JHEP01(2016)166, arXiv:1509.08141 [hep-ex]

V. Khachatryan et al., **Search for Anomalous Single Top Quark Production in Association with a Photon in pp Collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 04 (2016) 035, doi:10.1007/JHEP04(2016)035, arXiv:1511.03951 [hep-ex]

V. Khachatryan et al., **Search for $W' \to tb$ in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 02 (2016) 122, doi:10.1007/JHEP02(2016)122, arXiv:1509.06051 [hep-ex]

V. Khachatryan et al., **Measurement of the top quark mass using proton-proton data at $\sqrt{(s)} = 7$ and 8 TeV**, *Phys. Rev. D.* 93 (2016) 072004, doi:10.1103/PhysRevD.93.072004, arXiv:1509.04044 [hep-ex]

V. Khachatryan et al., **Search for Excited Leptons in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 03 (2016) 125, doi:10.1007/JHEP03(2016)125, arXiv:1511.01407 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry in events with a photon, a lepton, and missing transverse momentum in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 757 (2016) 6–31, doi:10.1016/j.physletb.2016.03.039, arXiv:1508.01218 [hep-ex]

V. Khachatryan et al., **Search for vector-like charge 2/3 T quarks in proton-proton collisions at sqrt(s) = 8 TeV**, *Phys. Rev. D.* 93 (2016) 012003, doi:10.1103/PhysRevD.93.012003, arXiv:1509.04177 [hep-ex]

V. Khachatryan et al., **A search for pair production of new light bosons decaying into muons**, *Phys. Lett. B.* 752 (2016) 146–168, doi:10.1016/j.physletb.2015.10.067, arXiv:1506.00424 [hep-ex]

V. Khachatryan et al., **Measurement of the inelastic cross section in protonlead collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 759 (2016) 641–662, doi:10.1016/j.physletb.2016.06.027, arXiv:1509.03893 [hep-ex]

V. Khachatryan et al., **Search for the associated production of a Higgs boson with a single top quark in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 06 (2016) 177, doi:10.1007/JHEP06(2016)177, arXiv:1509.08159 [hep-ex]

V. Khachatryan et al., **Search for neutral MSSM Higgs bosons decaying to $\mu^+\mu^-$ in pp collisions at $\sqrt{s} = 7$ and 8 TeV**, *Phys. Lett. B.* 752 (2016) 221–246, doi:10.1016/j.physletb.2015.11.042, arXiv:1508.01437 [hep-ex]

V. Khachatryan et al., **Reconstruction and identification of τ lepton decays to hadrons and ν_τ at CMS**, *JINST.* 11 (2016) P01019, doi:10.1088/1748-0221/11/01/P01019, arXiv:1510.07488 [physics.ins-det]

V. Khachatryan et al., **Inclusive and differential measurements of the $t\bar{t}$ charge asymmetry in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 757 (2016) 154–179, doi:10.1016/j.physletb.2016.03.060, arXiv:1507.03119 [hep-ex]

V. Khachatryan et al., **Measurement of differential cross sections for Higgs boson production in the diphoton decay channel in pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 76 (2016) 13, doi:10.1140/epjc/s10052-015-3853-3, arXiv:1508.07819 [hep-ex]

V. Khachatryan et al., **Search for a Low-Mass Pseudoscalar Higgs Boson Produced in Association with a $b\bar{b}$ Pair in pp Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 758 (2016) 296–320, doi:10.1016/j.physletb.2016.05.003, arXiv:1511.03610 [hep-ex]

V. Khachatryan et al., **Search for dark matter and unparticles produced in association with a Z boson in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 93 (2016) 052011, doi:10.1103/PhysRevD.93.052011, arXiv:1511.09375 [hep-ex]

V. Khachatryan et al., **Study of B Meson Production in p +Pb Collisions at $\sqrt{s_{NN}} = 5.02$ TeV Using Exclusive Hadronic Decays**, *Phys. Rev. Lett.* 116 (2016) 032301, doi:10.1103/PhysRevLett.116.032301, arXiv:1508.06678 [nucl-ex]

V. Khachatryan et al., **Search for a very light NMSSM Higgs boson produced in decays of the 125 GeV scalar boson and decaying into τ leptons in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 01 (2016) 079, doi:10.1007/JHEP01(2016)079, arXiv:1510.06534 [hep-ex]

V. Khachatryan et al., **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**, *Phys. Lett. B.* 753 (2016) 341–362, doi:10.1016/j.physletb.2015.12.039, arXiv:1507.03031 [hep-ex]

V. Khachatryan et al., **Observation of top quark pairs produced in association with a vector boson in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 01 (2016) 096, doi:10.1007/JHEP01(2016)096, arXiv:1510.01131 [hep-ex]

V. Khachatryan et al., **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 $h \to \tau\tau$**, *Phys. Lett. B.* 755 (2016) 217–244, doi:10.1016/j.physletb.2016.01.056, arXiv:1510.01181 [hep-ex]

V. Khachatryan et al., **Event generator tunes obtained from underlying event and multiparton scattering measurements**, *Eur. Phys. J. C.* 76 (2016) 155, doi:10.1140/epjc/s10052-016-3988-x, arXiv:1512.00815 [hep-ex]

V. Khachatryan et al., **Search for narrow resonances decaying to dijets in proton-proton collisions at $\sqrt{s} =$ 13 TeV**, *Phys. Rev. Lett.* 116 (2016) 071801, doi:10.1103/PhysRevLett.116.071801, arXiv:1512.01224 [hep-ex]

V. Khachatryan et al., **Search for single production of scalar leptoquarks in proton-proton collisions at $\sqrt{s} = 8TeV$**, *Phys. Rev. D.* 93 (2016) 032005, doi:10.1103/PhysRevD.93.032005, arXiv:1509.03750 [hep-ex]

V. Khachatryan et al., **Measurement of the top quark pair production cross section in proton-proton collisions at $\sqrt{s} =$ 13 TeV**, *Phys. Rev. Lett.* 116 (2016) 052002, doi:10.1103/PhysRevLett.116.052002, arXiv:1510.05302 [hep-ex]

V. Khachatryan et al., **Study of Z boson production in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 759 (2016) 36–57, doi:10.1016/j.physletb.2016.05.044, arXiv:1512.06461 [hep-ex]

V. Khachatryan et al., **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**, *JHEP.* 04 (2016) 005, doi:10.1007/JHEP04(2016)005, arXiv:1512.08377 [hep-ex]

V. Khachatryan et al., **Measurement of the ratio $B(B_s^0 \to J/\psi f_0(980))$ / $B(B_s^0 \to J/\psi\phi(1020))$ in pp collisions at $\sqrt{s} =$ 7 TeV**, *Phys. Lett. B.* 756 (2016) 84–102, doi:10.1016/j.physletb.2016.02.047, arXiv:1501.06089 [hep-ex]

V. Khachatryan et al., **Measurement of dijet azimuthal decorrelation in pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 76 (2016) 536, doi:10.1140/epjc/s10052-016-4346-8, arXiv:1602.04384 [hep-ex]

V. Khachatryan et al., **Search for heavy Majorana neutrinos in e $^{\pm}$e $^{\pm}$+ jets and e $^{\pm}\mu^{\pm}$+ jets events in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 04 (2016) 169, doi:10.1007/JHEP04(2016)169, arXiv:1603.02248 [hep-ex]

V. Khachatryan et al., **Measurement of the W boson helicity fractions in the decays of top quark pairs to lepton + jets final states produced in pp collisions at $\sqrt{s} =$ 8TeV**, *Phys. Lett. B.* 762 (2016) 512–534, doi:10.1016/j.physletb.2016.10.007, arXiv:1605.09047 [hep-ex]

V. Khachatryan et al., **Search for lepton flavour violating decays of heavy resonances and quantum black holes to an e μ pair in proton-proton collisions at $\sqrt{s} =$ 8 TeV**, *Eur. Phys. J. C.* 76 (2016) 317, doi:10.1140/epjc/s10052-016-4149-y, arXiv:1604.05239 [hep-ex]

V. Khachatryan et al., **Forwardbackward asymmetry of DrellYan lepton pairs in pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 76 (2016) 325, doi:10.1140/epjc/s10052-016-4156-z, arXiv:1601.04768 [hep-ex]

V. Khachatryan et al., **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**, *Phys. Lett. B.* 760 (2016) 448–468, doi:10.1016/j.physletb.2016.06.080, arXiv:1602.07152 [hep-ex]

V. Khachatryan et al., **Search for two Higgs bosons in final states containing two photons and two bottom quarks in proton-proton collisions at 8 TeV**, *Phys. Rev. D.* 94 (2016) 052012, doi:10.1103/PhysRevD.94.052012, arXiv:1603.06896 [hep-ex]

V. Khachatryan et al., **Search for lepton flavour violating decays of the Higgs boson to $e\tau$ and $e\mu$ in protonproton collisions at $\sqrt{s} =$ 8 TeV**, *Phys. Lett. B.* 763 (2016) 472–500, doi:10.1016/j.physletb.2016.09.062, arXiv:1607.03561 [hep-ex]

V. Khachatryan et al., **Decomposing transverse momentum balance contributions for quenched jets in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *JHEP.* 11 (2016) 055, doi:10.1007/JHEP11(2016)055, arXiv:1609.02466 [nucl-ex]

V. Khachatryan et al., **Search for dark matter particles in proton-proton collisions at $\sqrt{s} = 8$ TeV using the razor variables**, *JHEP.* 12 (2016) 088, doi:10.1007/JHEP12(2016)088, arXiv:1603.08914 [hep-ex]

V. Khachatryan et al., **Search for massive WH resonances decaying into the $\ell\nu b\bar{b}$ final state at $\sqrt{s} = 8$ TeV**, *Eur. Phys. J. C.* 76 (2016) 237, doi:10.1140/epjc/s10052-016-4067-z, arXiv:1601.06431 [hep-ex]

V. Khachatryan et al., **Measurement of the top quark mass using charged particles in pp collisions at $\sqrt{s} =$ 8 TeV**, *Phys. Rev. D.* 93 (2016) 092006, doi:10.1103/PhysRevD.93.092006, arXiv:1603.06536 [hep-ex]

V. Khachatryan et al., **Measurement of the mass of the top quark in decays with a J/ψ meson in pp collisions at 8 TeV**, *JHEP.* 12 (2016) 123, doi:10.1007/JHEP12(2016)123, arXiv:1608.03560 [hep-ex]

V. Khachatryan et al., **Measurement of the double-differential inclusive jet cross section in protonproton collisions at $\sqrt{s} = 13TeV$**, *Eur. Phys. J. C.* 76 (2016) 451, doi:10.1140/epjc/s10052-016-4286-3, arXiv:1605.04436 [hep-ex]

V. Khachatryan et al., **Search for heavy resonances decaying to two Higgs bosons in final states containing four b quarks**, *Eur. Phys. J. C.* 76 (2016) 371, doi:10.1140/epjc/s10052-016-4206-6, arXiv:1602.08762 [hep-ex]

V. Khachatryan et al., **Search for long-lived charged particles in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Rev. D.* 94 (2016) 112004, doi:10.1103/PhysRevD.94.112004, arXiv:1609.08382 [hep-ex]

V. Khachatryan et al., **Studies of inclusive four-jet production with two b-tagged jets in proton-proton collisions at 7 TeV**, *Phys. Rev. D.* 94 (2016) 112005, doi:10.1103/PhysRevD.94.112005, arXiv:1609.03489 [hep-ex]

V. Khachatryan et al., **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**, *JHEP.* 08 (2016) 122, doi:10.1007/JHEP08(2016)122, arXiv:1605.04608 [hep-ex]

V. Khachatryan et al., **Phenomenological MSSM interpretation of CMS searches in pp collisions at sqrt(s) = 7 and 8 TeV**, *JHEP.* 10 (2016) 129, doi:10.1007/JHEP10(2016)129, arXiv:1606.03577 [hep-ex]

V. Khachatryan et al., **Search for narrow resonances in dijet final states at $\sqrt{s} = 8$ TeV with the novel CMS technique of data scouting**, *Phys. Rev. Lett.* 117 (2016) 031802, doi:10.1103/PhysRevLett.117.031802, arXiv:1604.08907 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry in pp collisions at sqrt(s) = 8 TeV in final states with boosted W bosons and b jets using razor variables**, *Phys. Rev. D.* 93 (2016) 092009, doi:10.1103/PhysRevD.93.092009, arXiv:1602.02917 [hep-ex]

V. Khachatryan et al., **Measurement of electroweak production of a W boson and two forward jets in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 11 (2016) 147, doi:10.1007/JHEP11(2016)147, arXiv:1607.06975 [hep-ex]

V. Khachatryan et al., **Search for direct pair production of scalar top quarks in the single- and dilepton channels in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 07 (2016) 027, doi:10.1007/JHEP07(2016)027, arXiv:1602.03169 [hep-ex]

V. Khachatryan et al., **Measurement of the ZZ production cross section and $\mathbf{Z} \to \ell^+\ell^-\ell'^+\ell'^-$ branching fraction in pp collisions at $\sqrt{s}$=13 TeV**, *Phys. Lett. B.* 763 (2016) 280–303, doi:10.1016/j.physletb.2016.10.054, arXiv:1607.08834 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry in the multijet and missing transverse momentum final state in pp collisions at 13 TeV**, *Phys. Lett. B.* 758 (2016) 152–180, doi:10.1016/j.physletb.2016.05.002, arXiv:1602.06581 [hep-ex]

V. Khachatryan et al., **Search for R-parity violating decays of a top squark in proton-proton collisions at $\sqrt{s} =$ 8 TeV**, *Phys. Lett. B.* 760 (2016) 178–201, doi:10.1016/j.physletb.2016.06.039, arXiv:1602.04334 [hep-ex]

V. Khachatryan et al., **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**, *JHEP.* 09 (2016) 051, doi:10.1007/JHEP09(2016)051, arXiv:1605.02329 [hep-ex]

V. Khachatryan et al., **Measurement of the integrated and differential $t\bar{t}$ production cross sections for high-p_t top quarks in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 94 (2016) 072002, doi:10.1103/PhysRevD.94.072002, arXiv:1605.00116 [hep-ex]

V. Khachatryan et al., **Azimuthal decorrelation of jets widely separated in rapidity in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 08 (2016) 139, doi:10.1007/JHEP08(2016)139, arXiv:1601.06713 [hep-ex]

V. Khachatryan et al., **Correlations between jets and charged particles in PbPb and pp collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *JHEP.* 02 (2016) 156, doi:10.1007/JHEP02(2016)156, arXiv:1601.00079 [nucl-ex]

V. Khachatryan et al., **Search for direct pair production of supersymmetric top quarks decaying to all-hadronic final states in pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 76 (2016) 460, doi:10.1140/epjc/s10052-016-4292-5, arXiv:1603.00765 [hep-ex]

V. Khachatryan et al., **Measurement of the differential cross section and charge asymmetry for inclusive $pp \to W^{\pm}+X$ production at $\sqrt{s} = 8$ TeV**, *Eur. Phys. J. C.* 76 (2016) 469, doi:10.1140/epjc/s10052-016-4293-4, arXiv:1603.01803 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry in electroweak production with photons and large missing transverse energy in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 759 (2016) 479–500, doi:10.1016/j.physletb.2016.05.088, arXiv:1602.08772 [hep-ex]

V. Khachatryan et al., **Evidence for exclusive $\gamma\gamma \to W^+W^-$ production and constraints on anomalous quartic gauge couplings in pp collisions at $\sqrt{s} = 7$ and 8 TeV**, *JHEP.* 08 (2016) 119, doi:10.1007/JHEP08(2016)119, arXiv:1604.04464 [hep-ex]

V. Khachatryan et al., **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**, *Phys. Rev. D.* 94 (2016) 052006, doi:10.1103/PhysRevD.94.052006, arXiv:1607.00837 [hep-ex]

V. Khachatryan et al., **Measurement of inclusive jet production and nuclear modifications in pPb collisions at $\sqrt{s_{NN}} =$ 5.02 TeV**, *Eur. Phys. J. C.* 76 (2016) 372, doi:10.1140/epjc/s10052-016-4205-7, arXiv:1601.02001 [nucl-ex]

V. Khachatryan et al., **Combined search for anomalous pseudoscalar HVV couplings in VH(H $\to b\bar{b}$) production and H $\to$ VV decay**, *Phys. Lett. B.* 759 (2016) 672–696, doi:10.1016/j.physletb.2016.06.004, arXiv:1602.04305 [hep-ex]

V. Khachatryan et al., **Search for Resonant Production of High-Mass Photon Pairs in Proton-Proton Collisions at $\sqrt{s}$ =8 and 13 TeV**, *Phys. Rev. Lett.* 117 (2016) 051802, doi:10.1103/PhysRevLett.117.051802, arXiv:1606.04093 [hep-ex]

V. Khachatryan et al., **Search for neutral resonances decaying into a Z boson and a pair of b jets or τ leptons**, *Phys. Lett. B.* 759 (2016) 369–394, doi:10.1016/j.physletb.2016.05.087, arXiv:1603.02991 [hep-ex]

V. Khachatryan et al., **Search for s channel single top quark production in pp collisions at $\sqrt{s} = 7$ and 8 TeV**, *JHEP.* 09 (2016) 027, doi:10.1007/JHEP09(2016)027, arXiv:1603.02555 [hep-ex]

V. Khachatryan et al., **$\Upsilon(nS)$ polarizations versus particle multiplicity in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 761 (2016) 31–52, doi:10.1016/j.physletb.2016.07.065, arXiv:1603.02913 [hep-ex]

V. Khachatryan et al., **Search for dark matter in proton-proton collisions at 8 TeV with missing transverse momentum and vector boson tagged jets**, *JHEP.* 12 (2016) 083, doi:10.1007/JHEP12(2016)083, arXiv:1607.05764 [hep-ex]

V. Khachatryan et al., **Measurement of the t-tbar production cross section in the e-mu channel in proton-proton collisions at sqrt(s) = 7 and 8 TeV**, *JHEP.* 08 (2016) 029, doi:10.1007/JHEP08(2016)029, arXiv:1603.02303 [hep-ex]

V. Khachatryan et al., **Searches for R-parity-violating supersymmetry in ppcollisions at $\sqrt{s} = 8$ TeV in final states with 0-4 leptons**, *Phys. Rev. D.* 94 (2016) 112009, doi:10.1103/PhysRevD.94.112009, arXiv:1606.08076 [hep-ex]

G. Aad et al., **Combined Measurement of the Higgs Boson Mass in pp Collisions at $\sqrt{s} = 7$ and 8 TeV with the ATLAS and CMS Experiments**, *Phys. Rev. Lett.* 114 (2015) 191803, doi:10.1103/PhysRevLett.114.191803, arXiv:1503.07589 [hep-ex]

V. Khachatryan et al., **Measurements of jet multiplicity and differential production cross sections of $Z+$ jets events in proton-proton collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 91 (2015) 052008, doi:10.1103/PhysRevD.91.052008, arXiv:1408.3104 [hep-ex]

V. Khachatryan et al., **Measurement of the production cross section ratio σ(Xb2(1P)) / σ(Xb1(1P) in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 743 (2015) 383–402, doi:10.1016/j.physletb.2015.02.048, arXiv:1409.5761 [hep-ex]

V. Khachatryan et al., **Searches for supersymmetry based on events with b jets and four W bosons in pp collisions at 8 TeV**, *Phys. Lett. B.* 745 (2015) 5–28, doi:10.1016/j.physletb.2015.04.002, arXiv:1412.4109 [hep-ex]

V. Khachatryan et al., **Search for a standard model-like Higgs boson in the $\mu^+\mu^-$ and e^+e^- decay channels at the LHC**, *Phys. Lett. B.* 744 (2015) 184–207, doi:10.1016/j.physletb.2015.03.048, arXiv:1410.6679 [hep-ex]

S. Chatrchyan et al., **Study of Z production in PbPb and pp collisions at $\sqrt{s_{NN}} = 2.76$ TeV in the dimuon and dielectron decay channels**, *JHEP.* 03 (2015) 022, doi:10.1007/JHEP03(2015)022, arXiv:1410.4825 [nucl-ex]

V. Khachatryan et al., **Search for quark contact interactions and extra spatial dimensions using dijet angular distributions in protonproton collisions at $\sqrt{s}$ = 8 TeV**, *Phys. Lett. B.* 746 (2015) 79–99, doi:10.1016/j.physletb.2015.04.042, arXiv:1411.2646 [hep-ex]

V. Khachatryan et al., **Search for stealth supersymmetry in events with jets, either photons or leptons, and low missing transverse momentum in pp collisions at 8 TeV**, *Phys. Lett. B.* 743 (2015) 503–525, doi:10.1016/j.physletb.2015.03.017, arXiv:1411.7255 [hep-ex]

V. Khachatryan et al., **Search for physics beyond the standard model in final states with a lepton and missing transverse energy in proton-proton collisions at sqrt(s) = 8 TeV**, *Phys. Rev. D.* 91 (2015) 092005, doi:10.1103/PhysRevD.91.092005, arXiv:1408.2745 [hep-ex]

V. Khachatryan et al., **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**, *Eur. Phys. J. C.* 75 (2015) 212, doi:10.1140/epjc/s10052-015-3351-7, arXiv:1412.8662 [hep-ex]

V. Khachatryan et al., **Search for disappearing tracks in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 01 (2015) 096, doi:10.1007/JHEP01(2015)096, arXiv:1411.6006 [hep-ex]

V. Khachatryan et al., **Search for long-lived particles that decay into final states containing two electrons or two muons in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 91 (2015) 052012, doi:10.1103/PhysRevD.91.052012, arXiv:1411.6977 [hep-ex]

V. Khachatryan et al., **Measurements of differential and double-differential Drell-Yan cross sections in proton-proton collisions at 8 TeV**, *Eur. Phys. J. C.* 75 (2015) 147, doi:10.1140/epjc/s10052-015-3364-2, arXiv:1412.1115 [hep-ex]

V. Khachatryan et al., **Search for New Resonances Decaying via WZ to Leptons in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 740 (2015) 83–104, doi:10.1016/j.physletb.2014.11.026, arXiv:1407.3476 [hep-ex]

V. Khachatryan et al., **Search for dark matter, extra dimensions, and unparticles in monojet events in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Eur. Phys. J. C.* 75 (2015) 235, doi:10.1140/epjc/s10052-015-3451-4, arXiv:1408.3583 [hep-ex]

S. Chatrchyan et al., **Measurement of jet multiplicity distributions in $t\bar{t}$ production in pp collisions at $\sqrt{s} = 7TeV$**, *Eur. Phys. J. C.* 74 (2015) 3014, doi:10.1140/epjc/s10052-014-3014-0, arXiv:1404.3171 [hep-ex]

V. Khachatryan et al., **Search for physics beyond the standard model in dilepton mass spectra in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 04 (2015) 025, doi:10.1007/JHEP04(2015)025, arXiv:1412.6302 [hep-ex]

V. Khachatryan et al., **Measurement of the inclusive 3-jet production differential cross section in protonproton collisions at 7 TeV and determination of the strong coupling constant in the TeV range**, *Eur. Phys. J. C.* 75 (2015) 186, doi:10.1140/epjc/s10052-015-3376-y, arXiv:1412.1633 [hep-ex]

V. Khachatryan et al., **Constraints on the spin-parity and anomalous HVV couplings of the Higgs boson in proton collisions at 7 and 8 TeV**, *Phys. Rev. D.* 92 (2015) 012004, doi:10.1103/PhysRevD.92.012004, arXiv:1411.3441 [hep-ex]

V. Khachatryan et al., **Search for Monotop Signatures in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. Lett.* 114 (2015) 101801, doi:10.1103/PhysRevLett.114.101801, arXiv:1410.1149 [hep-ex]

V. Khachatryan et al., **Differential Cross Section Measurements for the Production of a W Boson in Association with Jets in ProtonProton Collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Lett. B.* 741 (2015) 12–37, doi:10.1016/j.physletb.2014.12.003, arXiv:1406.7533 [hep-ex]

V. Khachatryan et al., **Measurement of the ratio of the production cross sections times branching fractions of $B_c^{\pm} \to J/\psi\pi^{\pm}$ and $B^{\pm} \to J/\psi K^{\pm}$ and $\mathcal{B}(B_c^{\pm} \to J/\psi\pi^{\pm}\pi^{\pm}\pi^{\mp})/\mathcal{B}(B_c^{\pm} \to J/\psi\pi^{\pm})$ in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 01 (2015) 063, doi:10.1007/JHEP01(2015)063, arXiv:1410.5729 [hep-ex]

V. Khachatryan et al., **Constraints on parton distribution functions and extraction of the strong coupling constant from the inclusive jet cross section in pp collisions at $\sqrt{s} = 7TeV$**, *Eur. Phys. J. C.* 75 (2015) 288, doi:10.1140/epjc/s10052-015-3499-1, arXiv:1410.6765 [hep-ex]

V. Khachatryan et al., **Measurement of electroweak production of two jets in association with a Z boson in proton-proton collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 75 (2015) 66, doi:10.1140/epjc/s10052-014-3232-5, arXiv:1410.3153 [hep-ex]

V. Khachatryan et al., **Search for pair-produced resonances decaying to jet pairs in protonproton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 747 (2015) 98–119, doi:10.1016/j.physletb.2015.04.045, arXiv:1412.7706 [hep-ex]

V. Khachatryan et al., **Long-range two-particle correlations of strange hadrons with charged particles in pPb and PbPb collisions at LHC energies**, *Phys. Lett. B.* 742 (2015) 200–224, doi:10.1016/j.physletb.2015.01.034, arXiv:1409.3392 [nucl-ex]

V. Khachatryan et al., **Measurement of the W boson helicity in events with a single reconstructed top quark in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 01 (2015) 053, doi:10.1007/JHEP01(2015)053, arXiv:1410.1154 [hep-ex]

V. Khachatryan et al., **Search for Long-Lived Neutral Particles Decaying to Quark-Antiquark Pairs in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 91 (2015) 012007, doi:10.1103/PhysRevD.91.012007, arXiv:1411.6530 [hep-ex]

V. Khachatryan et al., **Measurement of the $pp \to ZZ$ Production Cross Section and Constraints on Anomalous Triple Gauge Couplings in Four-Lepton Final States at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 740 (2015) 250–272, doi:10.1016/j.physletb.2016.04.010, arXiv:1406.0113 [hep-ex]

V. Khachatryan et al., **Search for Displaced Supersymmetry in events with an electron and a muon with large impact parameters**, *Phys. Rev. Lett.* 114 (2015) 061801, doi:10.1103/PhysRevLett.114.061801, arXiv:1409.4789 [hep-ex]

V. Khachatryan et al., **Performance of the CMS missing transverse momentum reconstruction in pp data at $\sqrt{s}$ = 8 TeV**, *JINST.* 10 (2015) P02006, doi:10.1088/1748-0221/10/02/P02006, arXiv:1411.0511 [physics.ins-det]

V. Khachatryan et al., **Measurement of the cross section ratio $\sigma_{t\bar{t}b\bar{b}}/\sigma_{t\bar{t}jj}$ in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 746 (2015) 132–153, doi:10.1016/j.physletb.2015.04.060, arXiv:1411.5621 [hep-ex]

V. Khachatryan et al., **Search for Supersymmetry Using Razor Variables in Events with b-Tagged Jets in pp Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 91 (2015) 052018, doi:10.1103/PhysRevD.91.052018, arXiv:1502.00300 [hep-ex]

V. Khachatryan et al., **Production of leading charged particles and leading charged-particle jets at small transverse momenta in pp collisions at sqrt(s) = 8 TeV**, *Phys. Rev. D.* 92 (2015) 112001, doi:10.1103/PhysRevD.92.112001, arXiv:1507.00233 [hep-ex]

V. Khachatryan et al., **Searches for third-generation squark production in fully hadronic final states in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 06 (2015) 116, doi:10.1007/JHEP06(2015)116, arXiv:1503.08037 [hep-ex]

V. Khachatryan et al., **Limits on the Higgs boson lifetime and width from its decay to four charged leptons**, *Phys. Rev. D.* 92 (2015) 072010, doi:10.1103/PhysRevD.92.072010, arXiv:1507.06656 [hep-ex]

V. Khachatryan et al., **Angular coefficients of Z bosons produced in pp collisions at $\sqrt{s} = 8$ TeV and decaying to $\mu^+\mu^-$ as a function of transverse momentum and rapidity**, *Phys. Lett. B.* 750 (2015) 154–175, doi:10.1016/j.physletb.2015.08.061, arXiv:1504.03512 [hep-ex]

V. Khachatryan et al., **Search for the standard model Higgs boson produced through vector boson fusion and decaying to $b\bar{b}$**, *Phys. Rev. D.* 92 (2015) 032008, doi:10.1103/PhysRevD.92.032008, arXiv:1506.01010 [hep-ex]

V. Khachatryan et al., **Study of W boson production in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Phys. Lett. B.* 750 (2015) 565–586, doi:10.1016/j.physletb.2015.09.057, arXiv:1503.05825 [nucl-ex]

V. Khachatryan et al., **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**, *Eur. Phys. J. C.* 75 (2015) 251, doi:10.1140/epjc/s10052-015-3454-1, arXiv:1502.02485 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry with photons in pp collisions at $\sqrt{s}$=8 TeV**, *Phys. Rev. D.* 92 (2015) 072006, doi:10.1103/PhysRevD.92.072006, arXiv:1507.02898 [hep-ex]

V. Khachatryan et al., **Search for Narrow High-Mass Resonances in ProtonProton Collisions at $\sqrt{s} = 8$ TeV Decaying to a Z and a Higgs Boson**, *Phys. Lett. B.* 748 (2015) 255–277, doi:10.1016/j.physletb.2015.07.011, arXiv:1502.04994 [hep-ex]

V. Khachatryan et al., **Searches for Supersymmetry using the M $_{T2}$ Variable in Hadronic Events Produced in pp Collisions at 8 TeV**, *JHEP.* 05 (2015) 078, doi:10.1007/JHEP05(2015)078, arXiv:1502.04358 [hep-ex]

V. Khachatryan et al., **Search for a pseudoscalar boson decaying into a Z boson and the 125 GeV Higgs boson in $\ell^+\ell^- b\bar{b}$ final states**, *Phys. Lett. B.* 748 (2015) 221–243, doi:10.1016/j.physletb.2015.07.010, arXiv:1504.04710 [hep-ex]

V. Khachatryan et al., **Search for neutral color-octet weak-triplet scalar particles in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 09 (2015) 201, doi:10.1007/JHEP09(2015)201, arXiv:1505.08118 [hep-ex]

V. Khachatryan et al., **Search for neutral MSSM Higgs bosons decaying into a pair of bottom quarks**, *JHEP.* 11 (2015) 071, doi:10.1007/JHEP11(2015)071, arXiv:1506.08329 [hep-ex]

V. Khachatryan et al., **Search for a Higgs boson in the mass range from 145 to 1000 GeV decaying to a pair of W or Z bosons**, *JHEP.* 10 (2015) 144, doi:10.1007/JHEP10(2015)144, arXiv:1504.00936 [hep-ex]

V. Khachatryan et al., **Measurement of the Z boson differential cross section in transverse momentum and rapidity in protonproton collisions at 8 TeV**, *Phys. Lett. B.* 749 (2015) 187–209, doi:10.1016/j.physletb.2015.07.065, arXiv:1504.03511 [hep-ex]

V. Khachatryan et al., **Measurement of diffraction dissociation cross sections in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 92 (2015) 012003, doi:10.1103/PhysRevD.92.012003, arXiv:1503.08689 [hep-ex]

V. Khachatryan et al., **Search for resonant pair production of Higgs bosons decaying to two bottom quarkanti-quark pairs in protonproton collisions at 8 TeV**, *Phys. Lett. B.* 749 (2015) 560–582, doi:10.1016/j.physletb.2015.08.047, arXiv:1503.04114 [hep-ex]

V. Khachatryan et al., **Search for supersymmetry in the vector-boson fusion topology in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 11 (2015) 189, doi:10.1007/JHEP11(2015)189, arXiv:1508.07628 [hep-ex]

V. Khachatryan et al., **Search for vector-like T quarks decaying to top quarks and Higgs bosons in the all-hadronic channel using jet substructure**, *JHEP.* 06 (2015) 080, doi:10.1007/JHEP06(2015)080, arXiv:1503.01952 [hep-ex]

V. Khachatryan et al., **Search for diphoton resonances in the mass range from 150 to 850 GeV in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 750 (2015) 494–519, doi:10.1016/j.physletb.2015.09.062, arXiv:1506.02301 [hep-ex]

V. Khachatryan et al., **Measurement of J/ψ and ψ(2S) Prompt Double-Differential Cross Sections in pp Collisions at $\sqrt{s}$=7 TeV**, *Phys. Rev. Lett.* 114 (2015) 191802, doi:10.1103/PhysRevLett.114.191802, arXiv:1502.04155 [hep-ex]

V. Khachatryan et al., **Search for a charged Higgs boson in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 11 (2015) 018, doi:10.1007/JHEP11(2015)018, arXiv:1508.07774 [hep-ex]

V. Khachatryan et al., **Constraints on the pMSSM, AMSB model and on other models from the search for long-lived charged particles in proton-proton collisions at sqrt(s) = 8 TeV**, *Eur. Phys. J. C.* 75 (2015) 325, doi:10.1140/epjc/s10052-015-3533-3, arXiv:1502.02522 [hep-ex]

V. Khachatryan et al., **Distributions of Topological Observables in Inclusive Three- and Four-Jet Events in pp Collisions at sqrt(s) = 7 TeV**, *Eur. Phys. J. C.* 75 (2015) 302, doi:10.1140/epjc/s10052-015-3491-9, arXiv:1502.04785 [hep-ex]

V. Khachatryan et al., **Search for Decays of Stopped Long-Lived Particles Produced in ProtonProton Collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 75 (2015) 151, doi:10.1140/epjc/s10052-015-3367-z, arXiv:1501.05603 [hep-ex]

V. Khachatryan et al., **Performance of Photon Reconstruction and Identification with the CMS Detector in Proton-Proton Collisions at sqrt(s) = 8 TeV**, *JINST.* 10 (2015) P08010, doi:10.1088/1748-0221/10/08/P08010, arXiv:1502.02702 [physics.ins-det]

V. Khachatryan et al., **Search for Third-Generation Scalar Leptoquarks in the t τ Channel in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 07 (2015) 042, doi:10.1007/JHEP11(2016)056, arXiv:1503.09049 [hep-ex]

V. Khachatryan et al., **Comparison of the Z/ γ^* + jets to γ + jets cross sections in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 10 (2015) 128, doi:10.1007/JHEP04(2016)010, arXiv:1505.06520 [hep-ex]

V. Khachatryan et al., **Search for Lepton-Flavour-Violating Decays of the Higgs Boson**, *Phys. Lett. B.* 749 (2015) 337–362, doi:10.1016/j.physletb.2015.07.053, arXiv:1502.07400 [hep-ex]

V. Khachatryan et al., **Measurements of the ZZ production cross sections in the $2l2\nu$ channel in protonproton collisions at $\sqrt{s} = 7$ and 8 TeV and combined constraints on triple gauge couplings**, *Eur. Phys. J. C.* 75 (2015) 511, doi:10.1140/epjc/s10052-015-3706-0, arXiv:1503.05467 [hep-ex]

V. Khachatryan et al., **Search for heavy Majorana neutrinos in $\mu^{\pm}\mu^{\pm}$+ jets events in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 748 (2015) 144–166, doi:10.1016/j.physletb.2015.06.070, arXiv:1501.05566 [hep-ex]

V. Khachatryan et al., **Search for resonances and quantum black holes using dijet mass spectra in proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 91 (2015) 052009, doi:10.1103/PhysRevD.91.052009, arXiv:1501.04198 [hep-ex]

V. Khachatryan et al., **Measurement of the differential cross section for top quark pair production in pp collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 75 (2015) 542, doi:10.1140/epjc/s10052-015-3709-x, arXiv:1505.04480 [hep-ex]

V. Khachatryan et al., **Study of Final-State Radiation in Decays of Z Bosons Produced in pp Collisions at 7 TeV**, *Phys. Rev. D.* 91 (2015) 092012, doi:10.1103/PhysRevD.91.092012, arXiv:1502.07940 [hep-ex]

V. Khachatryan et al., **Nuclear Effects on the Transverse Momentum Spectra of Charged Particles in pPb Collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, *Eur. Phys. J. C.* 75 (2015) 237, doi:10.1140/epjc/s10052-015-3435-4, arXiv:1502.05387 [nucl-ex]

V. Khachatryan et al., **Measurement of the Zγ Production Cross Section in pp Collisions at 8 TeV and Search for Anomalous Triple Gauge Boson Couplings**, *JHEP.* 04 (2015) 164, doi:10.1007/JHEP04(2015)164, arXiv:1502.05664 [hep-ex]

V. Khachatryan et al., **Performance of Electron Reconstruction and Selection with the CMS Detector in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV**, *JINST.* 10 (2015) P06005, doi:10.1088/1748-0221/10/06/P06005, arXiv:1502.02701 [physics.ins-det]

V. Khachatryan et al., **Evidence for transverse momentum and pseudorapidity dependent event plane fluctuations in PbPb and pPb collisions**, *Phys. Rev. C.* 92 (2015) 034911, doi:10.1103/PhysRevC.92.034911, arXiv:1503.01692 [nucl-ex]

V. Khachatryan et al., **Measurements of the Υ(1S), Υ(2S), and Υ(3S) differential cross sections in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 749 (2015) 14–34, doi:10.1016/j.physletb.2015.07.037, arXiv:1501.07750 [hep-ex]

V. Khachatryan et al., **Measurement of the underlying event activity using charged-particle jets in proton-proton collisions at sqrt(s) = 2.76 TeV**, *JHEP.* 09 (2015) 137, doi:10.1007/JHEP09(2015)137, arXiv:1507.07229 [hep-ex]

V. Khachatryan et al., **Evidence for Collective Multiparticle Correlations in p-Pb Collisions**, *Phys. Rev. Lett.* 115 (2015) 012301, doi:10.1103/PhysRevLett.115.012301, arXiv:1502.05382 [nucl-ex]

V. Khachatryan et al., **Search for a light charged Higgs boson decaying to $c\bar{s}$ in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 12 (2015) 178, doi:10.1007/JHEP12(2015)178, arXiv:1510.04252 [hep-ex]

V. Khachatryan et al., **Pseudorapidity distribution of charged hadrons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, *Phys. Lett. B.* 751 (2015) 143–163, doi:10.1016/j.physletb.2015.10.004, arXiv:1507.05915 [hep-ex]

V. Khachatryan et al., **Search for the production of dark matter in association with top-quark pairs in the single-lepton final state in proton-proton collisions at sqrt(s) = 8 TeV**, *JHEP.* 06 (2015) 121, doi:10.1007/JHEP06(2015)121, arXiv:1504.03198 [hep-ex]

S. Chatrchyan et al., **Studies of Azimuthal Dihadron Correlations in Ultra-Central PbPb Collisions at $\sqrt{s_{NN}} =$ 2.76 TeV**, *JHEP.* 02 (2014) 088, doi:10.1007/JHEP02(2014)088, arXiv:1312.1845 [nucl-ex]

S. Chatrchyan et al., **Probing Color Coherence Effects in pp Collisions at $\sqrt{s} = 7TeV$**, *Eur. Phys. J. C.* 74 (2014) 2901, doi:10.1140/epjc/s10052-014-2901-8, arXiv:1311.5815 [hep-ex]

S. Chatrchyan et al., **Measurement of the Properties of a Higgs Boson in the Four-Lepton Final State**, *Phys. Rev. D.* 89 (2014) 092007, doi:10.1103/PhysRevD.89.092007, arXiv:1312.5353 [hep-ex]

S. Chatrchyan et al., **Measurement of the $t\bar{t}$ production cross section in the dilepton channel in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 02 (2014) 024, doi:10.1007/JHEP02(2014)024, arXiv:1312.7582 [hep-ex]

S. Chatrchyan et al., **Study of Double Parton Scattering Using W + 2-Jet Events in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 03 (2014) 032, doi:10.1007/JHEP03(2014)032, arXiv:1312.5729 [hep-ex]

S. Chatrchyan et al., **Inclusive Search for a Vector-Like T Quark with Charge $\frac{2}{3}$ in pp Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 729 (2014) 149–171, doi:10.1016/j.physletb.2014.01.006, arXiv:1311.7667 [hep-ex]

S. Chatrchyan et al., **Observation of a Peaking Structure in the $J/\psi\phi$ Mass Spectrum from $B^{\pm} \to J/\psi\phi K^{\pm}$ Decays**, *Phys. Lett. B.* 734 (2014) 261–281, doi:10.1016/j.physletb.2014.05.055, arXiv:1309.6920 [hep-ex]

S. Chatrchyan et al., **Event Activity Dependence of Y(nS) Production in $\sqrt{s_{NN}}$=5.02 TeV pPb and $\sqrt{s}$=2.76 TeV pp Collisions**, *JHEP.* 04 (2014) 103, doi:10.1007/JHEP04(2014)103, arXiv:1312.6300 [nucl-ex]

S. Chatrchyan et al., **Search for Flavor-Changing Neutral Currents in Top-Quark Decays $t \to Zq$ in pp Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. Lett.* 112 (2014) 171802, doi:10.1103/PhysRevLett.112.171802, arXiv:1312.4194 [hep-ex]

S. Chatrchyan et al., **Modification of Jet Shapes in PbPb Collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Lett. B.* 730 (2014) 243–263, doi:10.1016/j.physletb.2014.01.042, arXiv:1310.0878 [nucl-ex]

S. Chatrchyan et al., **Measurement of the Top-Quark Mass in All-Jets $t\bar{t}$ Events in pp Collisions at $\sqrt{s}$=7 TeV**, *Eur. Phys. J. C.* 74 (2014) 2758, doi:10.1140/epjc/s10052-014-2758-x, arXiv:1307.4617 [hep-ex]

S. Chatrchyan et al., **Search for Top Squark and Higgsino Production using Diphoton Higgs Boson Decays**, *Phys. Rev. Lett.* 112 (2014) 161802, doi:10.1103/PhysRevLett.112.161802, arXiv:1312.3310 [hep-ex]

S. Chatrchyan et al., **Measurement of the Triple-Differential Cross Section for Photon+Jets Production in Proton-Proton Collisions at $\sqrt{s}$=7 TeV**, *JHEP.* 06 (2014) 009, doi:10.1007/JHEP06(2014)009, arXiv:1311.6141 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in pp Collisions at $\sqrt{s}$=8 TeV in Events with a Single Lepton, Large Jet Multiplicity, and Multiple b Jets**, *Phys. Lett. B.* 733 (2014) 328–353, doi:10.1016/j.physletb.2014.04.023, arXiv:1311.4937 [hep-ex]

S. Chatrchyan et al., **Study of the Production of Charged Pions, Kaons, and Protons in pPb Collisions at $\sqrt{s_{NN}} =$ 5.02 TeV**, *Eur. Phys. J. C.* 74 (2014) 2847, doi:10.1140/epjc/s10052-014-2847-x, arXiv:1307.3442 [hep-ex]

S. Chatrchyan et al., **Search for the Standard Model Higgs Boson Produced in Association with a W or a Z Boson and Decaying to Bottom Quarks**, *Phys. Rev. D.* 89 (2014) 012003, doi:10.1103/PhysRevD.89.012003, arXiv:1310.3687 [hep-ex]

S. Chatrchyan et al., **Measurement of the Muon Charge Asymmetry in Inclusive $pp \to W + X$ Production at $\sqrt{s} =$ 7 TeV and an Improved Determination of Light Parton Distribution Functions**, *Phys. Rev. D.* 90 (2014) 032004, doi:10.1103/PhysRevD.90.032004, arXiv:1312.6283 [hep-ex]

S. Chatrchyan et al., **Evidence of b-Jet Quenching in PbPb Collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Rev. Lett.* 113 (2014) 132301, doi:10.1103/PhysRevLett.113.132301, arXiv:1312.4198 [nucl-ex]

S. Chatrchyan et al., **Measurement of the $W\gamma$ and $Z\gamma$ Inclusive Cross Sections in pp Collisions at $\sqrt{s} =$ 7 TeV and Limits on Anomalous Triple Gauge Boson Couplings**, *Phys. Rev. D.* 89 (2014) 092005, doi:10.1103/PhysRevD.89.092005, arXiv:1308.6832 [hep-ex]

S. Chatrchyan et al., **Measurement of Four-Jet Production in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 89 (2014) 092010, doi:10.1103/PhysRevD.89.092010, arXiv:1312.6440 [hep-ex]

S. Chatrchyan et al., **Search for Pair Production of Excited Top Quarks in the Lepton + Jets Final State**, *JHEP.* 06 (2014) 125, doi:10.1007/JHEP06(2014)125, arXiv:1311.5357 [hep-ex]

S. Chatrchyan et al., **Measurement of Higher-Order Harmonic Azimuthal Anisotropy in PbPb Collisions at $\sqrt{s_{NN}} =$ 2.76 TeV**, *Phys. Rev. C.* 89 (2014) 044906, doi:10.1103/PhysRevC.89.044906, arXiv:1310.8651 [nucl-ex]

S. Chatrchyan et al., **Search for Top-Quark Partners with Charge 5/3 in the Same-Sign Dilepton Final State**, *Phys. Rev. Lett.* 112 (2014) 171801, doi:10.1103/PhysRevLett.112.171801, arXiv:1312.2391 [hep-ex]

S. Chatrchyan et al., **Measurement of Associated W + Charm Production in pp Collisions at $\sqrt{s} =$ 7 TeV**, *JHEP.* 02 (2014) 013, doi:10.1007/JHEP02(2014)013, arXiv:1310.1138 [hep-ex]

S. Chatrchyan et al., **Measurement of the Production Cross Section for a W Boson and Two b Jets in pp Collisions at $\sqrt{s}$=7 TeV**, *Phys. Lett. B.* 735 (2014) 204–225, doi:10.1016/j.physletb.2014.06.041, arXiv:1312.6608 [hep-ex]

S. Chatrchyan et al., **Searches for Light- and Heavy-Flavour Three-Jet Resonances in pp Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 730 (2014) 193–214, doi:10.1016/j.physletb.2014.01.049, arXiv:1311.1799 [hep-ex]

S. Chatrchyan et al., **Search for Baryon Number Violation in Top-Quark Decays**, *Phys. Lett. B.* 731 (2014) 173–196, doi:10.1016/j.physletb.2014.02.033, arXiv:1310.1618 [hep-ex]

V. Khachatryan et al., **Observation of the Diphoton Decay of the Higgs Boson and Measurement of Its Properties**, *Eur. Phys. J. C.* 74 (2014) 3076, doi:10.1140/epjc/s10052-014-3076-z, arXiv:1407.0558 [hep-ex]

S. Chatrchyan et al., **Search for W' $\to$ tb decays in the lepton + jets final state in pp collisions at $\sqrt{s} =$ 8 TeV**, *JHEP.* 05 (2014) 108, doi:10.1007/JHEP05(2014)108, arXiv:1402.2176 [hep-ex]

V. Khachatryan et al., **Measurement of the $t\bar{t}$ Production Cross Section in pp Collisions at $\sqrt{s} = 8$ TeV in Dilepton Final States Containing One τ Lepton**, *Phys. Lett. B.* 739 (2014) 23–43, doi:10.1016/j.physletb.2014.10.032, arXiv:1407.6643 [hep-ex]

V. Khachatryan et al., **Search for neutral MSSM Higgs bosons decaying to a pair of tau leptons in pp collisions**, *JHEP.* 10 (2014) 160, doi:10.1007/JHEP10(2014)160, arXiv:1408.3316 [hep-ex]

S. Chatrchyan et al., **Search for $WW\gamma$ and $WZ\gamma$ production and constraints on anomalous quartic gauge couplings in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 90 (2014) 032008, doi:10.1103/PhysRevD.90.032008, arXiv:1404.4619 [hep-ex]

V. Khachatryan et al., **Measurement of Prompt J/ψ Pair Production in pp Collisions at $\sqrt{s} = 7$ Tev**, *JHEP.* 09 (2014) 094, doi:10.1007/JHEP09(2014)094, arXiv:1406.0484 [hep-ex]

V. Khachatryan et al., **Search for Excited Quarks in the γ+ Jet Final State in ProtonProton Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 738 (2014) 274–293, doi:10.1016/j.physletb.2014.09.048, arXiv:1406.5171 [hep-ex]

S. Chatrchyan et al., **Alignment of the CMS tracker with LHC and cosmic ray data**, *JINST.* 9 (2014) P06009, doi:10.1088/1748-0221/9/06/P06009, arXiv:1403.2286 [physics.ins-det]

S. Chatrchyan et al., **Observation of the associated production of a single top quark and a W boson in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. Lett.* 112 (2014) 231802, doi:10.1103/PhysRevLett.112.231802, arXiv:1401.2942 [hep-ex]

S. Chatrchyan et al., **Search for invisible decays of Higgs bosons in the vector boson fusion and associated ZH production modes**, *Eur. Phys. J. C.* 74 (2014) 2980, doi:10.1140/epjc/s10052-014-2980-6, arXiv:1404.1344 [hep-ex]

V. Khachatryan et al., **Search for massive resonances in dijet systems containing jets tagged as W or Z boson decays in pp collisions at $\sqrt{s} = 8$ TeV**, *JHEP.* 08 (2014) 173, doi:10.1007/JHEP08(2014)173, arXiv:1405.1994 [hep-ex]

S. Chatrchyan et al., **Measurement of Jet Fragmentation in PbPb and pp Collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Rev. C.* 90 (2014) 024908, doi:10.1103/PhysRevC.90.024908, arXiv:1406.0932 [nucl-ex]

V. Khachatryan et al., **Searches for heavy Higgs bosons in two-Higgs-doublet models and for $t \to ch$ decay using multilepton and diphoton final states in pp collisions at 8 TeV**, *Phys. Rev. D.* 90 (2014) 112013, doi:10.1103/PhysRevD.90.112013, arXiv:1410.2751 [hep-ex]

S. Chatrchyan et al., **Measurement of the production cross sections for a Z boson and one or more b jets in pp collisions at sqrt(s) = 7 TeV**, *JHEP.* 06 (2014) 120, doi:10.1007/JHEP06(2014)120, arXiv:1402.1521 [hep-ex]

S. Chatrchyan et al., **Measurement of pseudorapidity distributions of charged particles in proton-proton collisions at $\sqrt{s} = 8$ TeV by the CMS and TOTEM experiments**, *Eur. Phys. J. C.* 74 (2014) 3053, doi:10.1140/epjc/s10052-014-3053-6, arXiv:1405.0722 [hep-ex]

V. Khachatryan et al., **Search for jet extinction in the inclusive jet- p_t spectrum from proton-proton collisions at $\sqrt{s} = 8$ TeV**, *Phys. Rev. D.* 90 (2014) 032005, doi:10.1103/PhysRevD.90.032005, arXiv:1405.7653 [hep-ex]

V. Khachatryan et al., **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**, *JHEP.* 06 (2014) 090, doi:10.1007/JHEP06(2014)090, arXiv:1403.7366 [hep-ex]

S. Chatrchyan et al., **Measurement of differential cross sections for the production of a pair of isolated photons in pp collisions at $\sqrt{s} = 7TeV$**, *Eur. Phys. J. C.* 74 (2014) 3129, doi:10.1140/epjc/s10052-014-3129-3, arXiv:1405.7225 [hep-ex]

V. Khachatryan et al., **Search for massive resonances decaying into pairs of boosted bosons in semi-leptonic final states at $\sqrt{s} = 8$ TeV**, *JHEP.* 08 (2014) 174, doi:10.1007/JHEP08(2014)174, arXiv:1405.3447 [hep-ex]

V. Khachatryan et al., **Measurement of the ratio $\mathcal{B}(t \to Wb)/\mathcal{B}(t \to Wq)$ in pp collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 736 (2014) 33–57, doi:10.1016/j.physletb.2014.06.076, arXiv:1404.2292 [hep-ex]

V. Khachatryan et al., **Search for Heavy Neutrinos and W Bosons with Right-Handed Couplings in Proton-Proton Collisions at $\sqrt{s} = 8TeV$**, *Eur. Phys. J. C.* 74 (2014) 3149, doi:10.1140/epjc/s10052-014-3149-z, arXiv:1407.3683 [hep-ex]

S. Chatrchyan et al., **Measurement of the Ratio of Inclusive Jet Cross Sections using the Anti- k_T Algorithm with Radius Parameters R=0.5 and 0.7 in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 90 (2014) 072006, doi:10.1103/PhysRevD.90.072006, arXiv:1406.0324 [hep-ex]

S. Chatrchyan et al., **Description and performance of track and primary-vertex reconstruction with the CMS tracker**, *JINST.* 9 (2014) P10009, doi:10.1088/1748-0221/9/10/P10009, arXiv:1405.6569 [physics.ins-det]

S. Chatrchyan et al., **Measurement of inclusive W and Z boson production cross sections in pp collisions at $\sqrt{s}$ = 8 TeV**, *Phys. Rev. Lett.* 112 (2014) 191802, doi:10.1103/PhysRevLett.112.191802, arXiv:1402.0923 [hep-ex]

V. Khachatryan et al., **Constraints on the Higgs boson width from off-shell production and decay to Z-boson pairs**, *Phys. Lett. B.* 736 (2014) 64–85, doi:10.1016/j.physletb.2014.06.077, arXiv:1405.3455 [hep-ex]

S. Chatrchyan et al., **Studies of dijet transverse momentum balance and pseudorapidity distributions in pPb collisions at** $\sqrt{s_{NN}} = 5.02TeV$, *Eur. Phys. J. C.* 74 (2014) 2951, doi:10.1140/epjc/s10052-014-2951-y, arXiv:1401.4433 [nucl-ex]

S. Chatrchyan et al., **Search for supersymmetry with razor variables in pp collisions at $\sqrt{s}$=7 TeV**, *Phys. Rev. D.* 90 (2014) 112001, doi:10.1103/PhysRevD.90.112001, arXiv:1405.3961 [hep-ex]

S. Chatrchyan et al., **Determination of the Top-Quark Pole Mass and Strong Coupling Constant from the $t\bar{t}$ Production Cross Section in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Lett. B.* 728 (2014) 496–517, doi:10.1016/j.physletb.2013.12.009, arXiv:1307.1907 [hep-ex]

V. Khachatryan et al., **Identification techniques for highly boosted W bosons that decay into hadrons**, *JHEP.* 12 (2014) 017, doi:10.1007/JHEP12(2014)017, arXiv:1410.4227 [hep-ex]

S. Chatrchyan et al., **Evidence for the direct decay of the 125 GeV Higgs boson to fermions**, *Nature Phys.* 10 (2014) 557–560, doi:10.1038/nphys3005, arXiv:1401.6527 [hep-ex]

V. Khachatryan et al., **Study of Hadronic Event-Shape Variables in Multijet Final States in pp Collisions at $\sqrt{s}$ = 7 TeV**, *JHEP.* 10 (2014) 087, doi:10.1007/JHEP10(2014)087, arXiv:1407.2856 [hep-ex]

V. Khachatryan et al., **Search for the associated production of the Higgs boson with a top-quark pair**, *JHEP.* 09 (2014) 087, doi:10.1007/JHEP09(2014)087, arXiv:1408.1682 [hep-ex]

S. Chatrchyan et al., **Search for new physics in the multijet and missing transverse momentum final state in proton-proton collisions at $\sqrt{s}$= 8 TeV**, *JHEP.* 06 (2014) 055, doi:10.1007/JHEP06(2014)055, arXiv:1402.4770 [hep-ex]

V. Khachatryan et al., **Measurement of Prompt $\psi(2S) \to J/\psi$ Yield Ratios in Pb-Pb and $p-p$ Collisions at $\sqrt{s_{NN}}$ = 2.76 TeV**, *Phys. Rev. Lett.* 113 (2014) 262301, doi:10.1103/PhysRevLett.113.262301, arXiv:1410.1804 [nucl-ex]

S. Chatrchyan et al., **Evidence for the 125 GeV Higgs boson decaying to a pair of τ leptons**, *JHEP.* 05 (2014) 104, doi:10.1007/JHEP05(2014)104, arXiv:1401.5041 [hep-ex]

V. Khachatryan et al., **Search for top-squark pairs decaying into Higgs or Z bosons in pp collisions at $\sqrt{s}$=8 TeV**, *Phys. Lett. B.* 736 (2014) 371–397, doi:10.1016/j.physletb.2014.07.053, arXiv:1405.3886 [hep-ex]

V. Khachatryan et al., **Search for pair production of third-generation scalar leptoquarks and top squarks in protonproton collisions at $\sqrt{s}$=8 TeV**, *Phys. Lett. B.* 739 (2014) 229–249, doi:10.1016/j.physletb.2014.10.063, arXiv:1408.0806 [hep-ex]

S. Chatrchyan et al., **Search for anomalous production of events with three or more leptons in pp collisions at $\sqrt{s}$ = 8 TeV**, *Phys. Rev. D.* 90 (2014) 032006, doi:10.1103/PhysRevD.90.032006, arXiv:1404.5801 [hep-ex]

V. Khachatryan et al., **Search for Standard Model Production of Four Top Quarks in the Lepton + Jets Channel in pp Collisions at $\sqrt{s}$ = 8 TeV**, *JHEP.* 11 (2014) 154, doi:10.1007/JHEP11(2014)154, arXiv:1409.7339 [hep-ex]

S. Chatrchyan et al., **Measurement of WZ and ZZ production in pp collisions at $\sqrt{s} = 8TeV$ in final states with b-tagged jets**, *Eur. Phys. J. C.* 74 (2014) 2973, doi:10.1140/epjc/s10052-014-2973-5, arXiv:1403.3047 [hep-ex]

S. Chatrchyan et al., **Search for excited leptons in pp collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Lett. B.* 720 (2013) 309–329, doi:10.1016/j.physletb.2013.02.031, arXiv:1210.2422 [hep-ex]

S. Chatrchyan et al., **Search in Leptonic Channels for Heavy Resonances Decaying to Long-Lived Neutral Particles**, *JHEP.* 02 (2013) 085, doi:10.1007/JHEP02(2013)085, arXiv:1211.2472 [hep-ex]

S. Chatrchyan et al., **Search for Long-Lived Particles Decaying to Photons and Missing Energy in Proton-Proton Collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Lett. B.* 722 (2013) 273–294, doi:10.1016/j.physletb.2013.04.027, arXiv:1212.1838 [hep-ex]

S. Chatrchyan et al., **Search for Pair Production of Third-Generation Leptoquarks and Top Squarks in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Rev. Lett.* 110 (2013) 081801, doi:10.1103/PhysRevLett.110.081801, arXiv:1210.5629 [hep-ex]

S. Chatrchyan et al., **Measurement of the $Y(1S), Y(2S)$ and $Y(3S)$ Polarizations in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 110 (2013) 081802, doi:10.1103/PhysRevLett.110.081802, arXiv:1209.2922 [hep-ex]

S. Chatrchyan et al., **Search for Heavy Resonances in the W/Z-Tagged Dijet Mass Spectrum in pp Collisions at 7 TeV**, *Phys. Lett. B.* 723 (2013) 280–301, doi:10.1016/j.physletb.2013.05.040, arXiv:1212.1910 [hep-ex]

S. Chatrchyan et al., **Measurement of the ZZ Production Cross Section and Search for Anomalous Couplings in 2 l2l ' Final States in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 01 (2013) 063, doi:10.1007/JHEP01(2013)063, arXiv:1211.4890 [hep-ex]

S. Chatrchyan et al., **Identification of b-Quark Jets with the CMS Experiment**, *JINST.* 8 (2013) P04013, doi:10.1088/1748-0221/8/04/P04013, arXiv:1211.4462 [hep-ex]

S. Chatrchyan et al., **Measurements of Differential Jet Cross Sections in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV with the CMS Detector**, *Phys. Rev. D.* 87 (2013) 112002, doi:10.1103/PhysRevD.87.112002, arXiv:1212.6660 [hep-ex]

S. Chatrchyan et al., **Measurement of the Inelastic Proton-Proton Cross Section at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 722 (2013) 5–27, doi:10.1016/j.physletb.2013.03.024, arXiv:1210.6718 [hep-ex]

S. Chatrchyan et al., **Measurement of the $t\bar{t}$ Production Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV with Lepton + Jets Final States**, *Phys. Lett. B.* 720 (2013) 83–104, doi:10.1016/j.physletb.2013.02.021, arXiv:1212.6682 [hep-ex]

S. Chatrchyan et al., **Measurement of Differential Top-Quark Pair Production Cross Sections in pp collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 73 (2013) 2339, doi:10.1140/epjc/s10052-013-2339-4, arXiv:1211.2220 [hep-ex]

S. Chatrchyan et al., **Measurement of the Azimuthal Anisotropy of Neutral Pions in PbPb cCllisions at $\sqrt{s_{NN}} =$ 2.76 TeV**, *Phys. Rev. Lett.* 110 (2013) 042301, doi:10.1103/PhysRevLett.110.042301, arXiv:1208.2470 [nucl-ex]

S. Chatrchyan et al., **Search for Exotic Resonances Decaying into WZ/ZZ in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 02 (2013) 036, doi:10.1007/JHEP02(2013)036, arXiv:1211.5779 [hep-ex]

S. Chatrchyan et al., **Search for a narrow spin-2 resonance decaying to a pair of Z vector bosons in the semileptonic final state**, *Phys. Lett. B.* 718 (2013) 1208–1228, doi:10.1016/j.physletb.2012.11.063, arXiv:1209.3807 [hep-ex]

S. Chatrchyan et al., **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**, *JHEP.* 01 (2013) 154, doi:10.1007/JHEP01(2013)154, arXiv:1210.7471 [hep-ex]

S. Chatrchyan et al., **Search for a W ' Boson Decaying to a Bottom Quark and a Top Quark in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 718 (2013) 1229–1251, doi:10.1016/j.physletb.2012.12.008, arXiv:1208.0956 [hep-ex]

S. Chatrchyan et al., **Observation of a Diffractive Contribution to Dijet Production in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 87 (2013) 012006, doi:10.1103/PhysRevD.87.012006, arXiv:1209.1805 [hep-ex]

S. Chatrchyan et al., **Search for Contact Interactions in $\mu^+\mu^-$ Events in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 87 (2013) 032001, doi:10.1103/PhysRevD.87.032001, arXiv:1212.4563 [hep-ex]

S. Chatrchyan et al., **Evidence for Associated Production of a Single Top Quark and W Boson in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 110 (2013) 022003, doi:10.1103/PhysRevLett.110.022003, arXiv:1209.3489 [hep-ex]

S. Chatrchyan et al., **Observation of Long-Range Near-Side Angular Correlations in Proton-Lead Collisions at the LHC**, *Phys. Lett. B.* 718 (2013) 795–814, doi:10.1016/j.physletb.2012.11.025, arXiv:1210.5482 [nucl-ex]

S. Chatrchyan et al., **Search for a Non-Standard-Model Higgs Boson Decaying to a Pair of New Light Bosons in Four-Muon Final States**, *Phys. Lett. B.* 726 (2013) 564–586, doi:10.1016/j.physletb.2013.09.009, arXiv:1210.7619 [hep-ex]

S. Chatrchyan et al., **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 α_T**, *JHEP.* 01 (2013) 077, doi:10.1007/JHEP01(2013)077, arXiv:1210.8115 [hep-ex]

S. Chatrchyan et al., **Search for Anomalous Production of Highly Boosted Z Bosons Decaying to $\mu^+\mu^-$ in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 722 (2013) 28–47, doi:10.1016/j.physletb.2013.03.037, arXiv:1210.0867 [hep-ex]

S. Chatrchyan et al., **Search for Heavy Narrow Dilepton Resonances in pp Collisions at $\sqrt{s} = 7$ TeV and $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 720 (2013) 63–82, doi:10.1016/j.physletb.2013.02.003, arXiv:1212.6175 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in Events with Photons and Low Missing Transverse Energy in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 719 (2013) 42–61, doi:10.1016/j.physletb.2012.12.055, arXiv:1210.2052 [hep-ex]

S. Chatrchyan et al., **Study of the Mass and Spin-Parity of the Higgs Boson Candidate Via Its Decays to Z Boson Pairs**, *Phys. Rev. Lett.* 110 (2013) 081803, doi:10.1103/PhysRevLett.110.081803, arXiv:1212.6639 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in pp Collisions at $\sqrt{s} = 7$ TeV in Events with a Single Lepton, Jets, and Missing Transverse Momentum**, *Eur. Phys. J. C.* 73 (2013) 2404, doi:10.1140/epjc/s10052-013-2404-z, arXiv:1212.6428 [hep-ex]

S. Chatrchyan et al., **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**, *Phys. Rev. D.* 87 (2013) 052006, doi:10.1103/PhysRevD.87.052006, arXiv:1211.3143 [hep-ex]

S. Chatrchyan et al., **Search for Flavor Changing Neutral Currents in Top Quark Decays in pp Collisions at 7 TeV**, *Phys. Lett. B.* 718 (2013) 1252–1272, doi:10.1016/j.physletb.2012.12.045, arXiv:1208.0957 [hep-ex]

S. Chatrchyan et al., **Measurement of the Sum of WW and WZ Production with W+Dijet Events in pp Collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 73 (2013) 2283, doi:10.1140/epjc/s10052-013-2283-3, arXiv:1210.7544 [hep-ex]

S. Chatrchyan et al., **Search for New Physics in Events with Photons, Jets, and Missing Transverse Energy in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 03 (2013) 111, doi:10.1007/JHEP03(2013)111, arXiv:1211.4784 [hep-ex]

S. Chatrchyan et al., **Search for Fractionally Charged Particles in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 87 (2013) 092008, doi:10.1103/PhysRevD.87.092008, arXiv:1210.2311 [hep-ex]

S. Chatrchyan et al., **Search for Narrow Resonances and Quantum Black Holes in Inclusive and b-Tagged Dijet Mass Spectra from pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 01 (2013) 013, doi:10.1007/JHEP01(2013)013, arXiv:1210.2387 [hep-ex]

S. Chatrchyan et al., **Inclusive Search for Supersymmetry Using the Razor Variables in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 111 (2013) 081802, doi:10.1103/PhysRevLett.111.081802, arXiv:1212.6961 [hep-ex]

S. Chatrchyan et al., **Studies of jet quenching using isolated-photon+jet correlations in PbPb and pp collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Lett. B.* 718 (2013) 773–794, doi:10.1016/j.physletb.2012.11.003, arXiv:1205.0206 [nucl-ex]

S. Chatrchyan et al., **Measurement of the elliptic anisotropy of charged particles produced in PbPb collisions at $\sqrt{s_{NN}}$=2.76 TeV**, *Phys. Rev. C.* 87 (2013) 014902, doi:10.1103/PhysRevC.87.014902, arXiv:1204.1409 [nucl-ex]

S. Chatrchyan et al., **Forward-Backward Asymmetry of Drell-Yan Lepton Pairs in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 718 (2013) 752–772, doi:10.1016/j.physletb.2012.10.082, arXiv:1207.3973 [hep-ex]

S. Chatrchyan et al., **Search for Z ' Resonances Decaying to $t\bar{t}$ in Dilepton + Jets Final States in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 87 (2013) 072002, doi:10.1103/PhysRevD.87.072002, arXiv:1211.3338 [hep-ex]

S. Chatrchyan et al., **Search for a Higgs Boson Decaying into a b-Quark Pair and Produced in Association with b Quarks in ProtonProton Collisions at 7 TeV**, *Phys. Lett. B.* 722 (2013) 207–232, doi:10.1016/j.physletb.2013.04.017, arXiv:1302.2892 [hep-ex]

S. Chatrchyan et al., **Measurement of the Λ_b^0 Lifetime in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 07 (2013) 163, doi:10.1007/JHEP07(2013)163, arXiv:1304.7495 [hep-ex]

S. Chatrchyan et al., **Observation of a New Boson with Mass Near 125 GeV in pp Collisions at $\sqrt{s} = 7$ and 8 TeV**, *JHEP.* 06 (2013) 081, doi:10.1007/JHEP06(2013)081, arXiv:1303.4571 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in Hadronic Final States with Missing Transverse Energy Using the Variables α_T and b-Quark Multiplicity in pp collisions at $\sqrt{s} = 8$ TeV**, *Eur. Phys. J. C.* 73 (2013) 2568, doi:10.1140/epjc/s10052-013-2568-6, arXiv:1303.2985 [hep-ex]

S. Chatrchyan et al., **Searches for Long-Lived Charged Particles in pp Collisions at $\sqrt{s}$=7 and 8 TeV**, *JHEP.* 07 (2013) 122, doi:10.1007/JHEP07(2013)122, arXiv:1305.0491 [hep-ex]

S. Chatrchyan et al., **Measurement of the $B_s^0 \to \mu^+\mu^-$ Branching Fraction and Search for $B^0 \to \mu^+\mu^-$ with the CMS Experiment**, *Phys. Rev. Lett.* 111 (2013) 101804, doi:10.1103/PhysRevLett.111.101804, arXiv:1307.5025 [hep-ex]

S. Chatrchyan et al., **Search for Narrow Resonances Using the Dijet Mass Spectrum in pp Collisions at $\sqrt{s}$=8 TeV**, *Phys. Rev. D.* 87 (2013) 114015, doi:10.1103/PhysRevD.87.114015, arXiv:1302.4794 [hep-ex]

S. Chatrchyan et al., **Measurement of the X(3872) Production Cross Section Via Decays to $J/\psi\pi^+\pi^-$ in pp collisions at $\sqrt{s}$ = 7 TeV**, *JHEP*. 04 (2013) 154, doi:10.1007/JHEP04(2013)154, arXiv:1302.3968 [hep-ex]

S. Chatrchyan et al., **Measurement of the Hadronic Activity in Events with a Z and Two Jets and Extraction of the Cross Section for the Electroweak Production of a Z with Two Jets in pp Collisions at $\sqrt{s}$ = 7 TeV**, *JHEP*. 10 (2013) 062, doi:10.1007/JHEP10(2013)062, arXiv:1305.7389 [hep-ex]

S. Chatrchyan et al., **Measurement of the Prompt J/ψ and ψ(2S) Polarizations in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Lett. B*. 727 (2013) 381–402, doi:10.1016/j.physletb.2013.10.055, arXiv:1307.6070 [hep-ex]

S. Chatrchyan et al., **Study of Exclusive Two-Photon Production of W^+W^- in pp Collisions at $\sqrt{s}$ = 7 TeV and Constraints on Anomalous Quartic Gauge Couplings**, *JHEP*. 07 (2013) 116, doi:10.1007/JHEP07(2013)116, arXiv:1305.5596 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in Events with Opposite-Sign Dileptons and Missing Transverse Energy Using an Artificial Neural Network**, *Phys. Rev. D*. 87 (2013) 072001, doi:10.1103/PhysRevD.87.072001, arXiv:1301.0916 [hep-ex]

S. Chatrchyan et al., **Search for Pair-Produced Dijet Resonances in Four-Jet Final States in pp Collisions at $\sqrt{s}$=7 TeV**, *Phys. Rev. Lett.* 110 (2013) 141802, doi:10.1103/PhysRevLett.110.141802, arXiv:1302.0531 [hep-ex]

S. Chatrchyan et al., **Multiplicity and Transverse Momentum Dependence of Two- and Four-Particle Correlations in pPb and PbPb Collisions**, *Phys. Lett. B*. 724 (2013) 213–240, doi:10.1016/j.physletb.2013.06.028, arXiv:1305.0609 [nucl-ex]

S. Chatrchyan et al., **Rapidity Distributions in Exclusive Z + Jet and γ + Jet Events in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Rev. D*. 88 (2013) 112009, doi:10.1103/PhysRevD.88.112009, arXiv:1310.3082 [hep-ex]

S. Chatrchyan et al., **Studies of Jet Mass in Dijet and W/Z + Jet Events**, *JHEP*. 05 (2013) 090, doi:10.1007/JHEP05(2013)090, arXiv:1303.4811 [hep-ex]

S. Chatrchyan et al., **Search for New Physics in Final States with a Lepton and Missing Transverse Energy in pp Collisions at the LHC**, *Phys. Rev. D*. 87 (2013) 072005, doi:10.1103/PhysRevD.87.072005, arXiv:1302.2812 [hep-ex]

S. Chatrchyan et al., **Event Shapes and Azimuthal Correlations in Z + Jets Events in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Lett. B*. 722 (2013) 238–261, doi:10.1016/j.physletb.2013.04.025, arXiv:1301.1646 [hep-ex]

S. Chatrchyan et al., **Energy Calibration and Resolution of the CMS Electromagnetic Calorimeter in pp Collisions at $\sqrt{s}$ = 7 TeV**, *JINST*. 8 (2013) P09009, doi:10.1088/1748-0221/8/09/P09009, arXiv:1306.2016 [hep-ex]

S. Chatrchyan et al., **Angular Analysis and Branching Fraction Measurement of the Decay $B^0 \to K^{*0}\mu^+\mu^-$**, *Phys. Lett. B*. 727 (2013) 77–100, doi:10.1016/j.physletb.2013.10.017, arXiv:1308.3409 [hep-ex]

S. Chatrchyan et al., **Search for Microscopic Black Holes in pp Collisions at $\sqrt{s}$ = 8 TeV**, *JHEP*. 07 (2013) 178, doi:10.1007/JHEP07(2013)178, arXiv:1303.5338 [hep-ex]

S. Chatrchyan et al., **Measurement of the $t\bar{t}$ Production Cross Section in the τ +Jets Channel in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Eur. Phys. J. C*. 73 (2013) 2386, doi:10.1140/epjc/s10052-013-2386-x, arXiv:1301.5755 [hep-ex]

S. Chatrchyan et al., **Search for Gluino Mediated Bottom- and Top-Squark Production in Multijet Final States in pp Collisions at 8 TeV**, *Phys. Lett. B*. 725 (2013) 243–270, doi:10.1016/j.physletb.2013.06.058, arXiv:1305.2390 [hep-ex]

S. Chatrchyan et al., **Searches for New Physics using the $t\bar{t}$ Invariant Mass Distribution in pp Collisions at $\sqrt{s}$=8 TeV**, *Phys. Rev. Lett.* 111 (2013) 211804, doi:10.1103/PhysRevLett.111.211804, arXiv:1309.2030 [hep-ex]

S. Chatrchyan et al., **Search for Physics Beyond the Standard Model in Events with τ Leptons, Jets, and Large Transverse Momentum Imbalance in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Eur. Phys. J. C*. 73 (2013) 2493, doi:10.1140/epjc/s10052-013-2493-8, arXiv:1301.3792 [hep-ex]

S. Chatrchyan et al., **Search for Top Squarks in R-Parity-Violating Supersymmetry using Three or More Leptons and B-Tagged Jets**, *Phys. Rev. Lett.* 111 (2013) 221801, doi:10.1103/PhysRevLett.111.221801, arXiv:1306.6643 [hep-ex]

S. Chatrchyan et al., **Measurement of the $\Upsilon(1S)$, $\Upsilon(2S)$, and $\Upsilon(3S)$ Cross Sections in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Phys. Lett. B*. 727 (2013) 101–125, doi:10.1016/j.physletb.2013.10.033, arXiv:1303.5900 [hep-ex]

S. Chatrchyan et al., **Search for a Higgs Boson Decaying into a Z and a Photon in pp Collisions at $\sqrt{s}$ = 7 and 8 TeV**, *Phys. Lett. B*. 726 (2013) 587–609, doi:10.1016/j.physletb.2013.09.057, arXiv:1307.5515 [hep-ex]

S. Chatrchyan et al., **Search for Contact Interactions Using the Inclusive Jet p_T Spectrum in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 87 (2013) 052017, doi:10.1103/PhysRevD.87.052017, arXiv:1301.5023 [hep-ex]

S. Chatrchyan et al., **Search for the Standard Model Higgs Boson Produced in Association with a Top-Quark Pair in pp Collisions at the LHC**, *JHEP.* 05 (2013) 145, doi:10.1007/JHEP05(2013)145, arXiv:1303.0763 [hep-ex]

S. Chatrchyan et al., **Measurement of the Ratio of the Inclusive 3-Jet Cross Section to the Inclusive 2-Jet Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV and First Determination of the Strong Coupling Constant in the TeV Range**, *Eur. Phys. J. C.* 73 (2013) 2604, doi:10.1140/epjc/s10052-013-2604-6, arXiv:1304.7498 [hep-ex]

S. Chatrchyan et al., **Measurement of associated production of vector bosons and top quark-antiquark pairs at sqrt(s) = 7 TeV**, *Phys. Rev. Lett.* 110 (2013) 172002, doi:10.1103/PhysRevLett.110.172002, arXiv:1303.3239 [hep-ex]

S. Chatrchyan et al., **Search for a Standard-Model-Like Higgs Boson with a Mass in the Range 145 to 1000 GeV at the LHC**, *Eur. Phys. J. C.* 73 (2013) 2469, doi:10.1140/epjc/s10052-013-2469-8, arXiv:1304.0213 [hep-ex]

S. Chatrchyan et al., **The Performance of the CMS Muon Detector in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV at the LHC**, *JINST.* 8 (2013) P11002, doi:10.1088/1748-0221/8/11/P11002, arXiv:1306.6905 [physics.ins-det]

S. Chatrchyan et al., **Measurement of Masses in the $t\bar{t}$ System by Kinematic Endpoints in pp Collisions at $\sqrt{s}$ = 7 TeV**, *Eur. Phys. J. C.* 73 (2013) 2494, doi:10.1140/epjc/s10052-013-2494-7, arXiv:1304.5783 [hep-ex]

S. Chatrchyan et al., **Interpretation of Searches for Supersymmetry with Simplified Models**, *Phys. Rev. D.* 88 (2013) 052017, doi:10.1103/PhysRevD.88.052017, arXiv:1301.2175 [hep-ex]

S. Chatrchyan et al., **Measurement of the Cross Section and Angular Correlations for Associated Production of a Z Boson with b Hadrons in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 12 (2013) 039, doi:10.1007/JHEP12(2013)039, arXiv:1310.1349 [hep-ex]

S. Chatrchyan et al., **Measurement of the W-Boson Helicity in Top-Quark decays from $t\bar{t}$ Production in Lepton + Jets Events in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 10 (2013) 167, doi:10.1007/JHEP10(2013)167, arXiv:1308.3879 [hep-ex]

S. Chatrchyan et al., **Jet and Underlying Event Properties as a Function of Charged-Particle Multiplicity in ProtonProton Collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 73 (2013) 2674, doi:10.1140/epjc/s10052-013-2674-5, arXiv:1310.4554 [hep-ex]

S. Chatrchyan et al., **Search for a New Bottomonium State Decaying to $\Upsilon(1S)\pi^+\pi^-$ in pp Collisions at $\sqrt{s} = 8$ TeV**, *Phys. Lett. B.* 727 (2013) 57–76, doi:10.1016/j.physletb.2013.10.016, arXiv:1309.0250 [hep-ex]

S. Chatrchyan et al., **Measurement of the $t\bar{t}$ Production Cross Section in the All-Jet Final State in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 05 (2013) 065, doi:10.1007/JHEP05(2013)065, arXiv:1302.0508 [hep-ex]

S. Chatrchyan et al., **Study of the Underlying Event at Forward Rapidity in pp Collisions at $\sqrt{s} = 0.9$, 2.76, and 7 TeV**, *JHEP.* 04 (2013) 072, doi:10.1007/JHEP04(2013)072, arXiv:1302.2394 [hep-ex]

S. Chatrchyan et al., **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**, *JHEP.* 10 (2013) 164, doi:10.1007/JHEP10(2013)164, arXiv:1309.1117 [hep-ex]

S. Chatrchyan et al., **Measurement of the Differential and Double-Differential Drell-Yan Cross Sections in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 12 (2013) 030, doi:10.1007/JHEP12(2013)030, arXiv:1310.7291 [hep-ex]

S. Chatrchyan et al., **Measurement of Neutral Strange Particle Production in the Underlying Event in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 88 (2013) 052001, doi:10.1103/PhysRevD.88.052001, arXiv:1305.6016 [hep-ex]

S. Chatrchyan et al., **Searches for Higgs Bosons in pp Collisions at $\sqrt{s} = 7$ and 8 TeV in the Context of Four-Generation and Fermiophobic Models**, *Phys. Lett. B.* 725 (2013) 36–59, doi:10.1016/j.physletb.2013.06.043, arXiv:1302.1764 [hep-ex]

S. Chatrchyan et al., **Search for signatures of extra dimensions in the diphoton mass spectrum at the Large Hadron Collider**, *Phys. Rev. Lett.* 108 (2012) 111801, doi:10.1103/PhysRevLett.108.111801, arXiv:1112.0688 [hep-ex]

S. Chatrchyan et al., **Performance of tau-lepton reconstruction and identification in CMS**, *JINST.* 7 (2012) P01001, doi:10.1088/1748-0221/7/01/P01001, arXiv:1109.6034 [physics.ins-det]

S. Chatrchyan et al., **Jet Production Rates in Association with W and Z Bosons in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 01 (2012) 010, doi:10.1007/JHEP01(2012)010, arXiv:1110.3226 [hep-ex]

S. Chatrchyan et al., **Measurement of the charge asymmetry in top-quark pair production in proton-proton collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 709 (2012) 28–49, doi:10.1016/j.physletb.2012.01.078, arXiv:1112.5100 [hep-ex]

S. Chatrchyan et al., **J/ψ and ψ_{2S} production in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 02 (2012) 011, doi:10.1007/JHEP02(2012)011, arXiv:1111.1557 [hep-ex]

S. Chatrchyan et al., **Exclusive photon-photon production of muon pairs in proton-proton collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 01 (2012) 052, doi:10.1007/JHEP01(2012)052, arXiv:1111.5536 [hep-ex]

S. Chatrchyan et al., **Forward Energy Flow, Central Charged-Particle Multiplicities, and Pseudorapidity Gaps in W and Z Boson Events from pp Collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 72 (2012) 1839, doi:10.1140/epjc/s10052-011-1839-3, arXiv:1110.0181 [hep-ex]

S. Chatrchyan et al., **Measurement of the Rapidity and Transverse Momentum Distributions of Z Bosons in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 85 (2012) 032002, doi:10.1103/PhysRevD.85.032002, arXiv:1110.4973 [hep-ex]

S. Chatrchyan et al., **Inclusive search for squarks and gluinos in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 85 (2012) 012004, doi:10.1103/PhysRevD.85.012004, arXiv:1107.1279 [hep-ex]

S. Chatrchyan et al., **Measurement of the Production Cross Section for Pairs of Isolated Photons in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 01 (2012) 133, doi:10.1007/JHEP01(2012)133, arXiv:1110.6461 [hep-ex]

S. Chatrchyan et al., **Study of high-pT charged particle suppression in PbPb compared to pp collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Eur. Phys. J. C.* 72 (2012) 1945, doi:10.1140/epjc/s10052-012-1945-x, arXiv:1202.2554 [nucl-ex]

S. Chatrchyan et al., **Measurement of the top quark pair production cross section in pp collisions at $\sqrt{s} = 7$ TeV in dilepton final states containing a τ**, *Phys. Rev. D.* 85 (2012) 112007, doi:10.1103/PhysRevD.85.112007, arXiv:1203.6810 [hep-ex]

S. Chatrchyan et al., **Search for the Standard Model Higgs Boson Produced in Association with W and Z Bosons in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 11 (2012) 088, doi:10.1007/JHEP11(2012)088, arXiv:1209.3937 [hep-ex]

S. Chatrchyan et al., **Study of the Dijet Mass Spectrum in $pp \to W+$ Jets Events at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 109 (2012) 251801, doi:10.1103/PhysRevLett.109.251801, arXiv:1208.3477 [hep-ex]

S. Chatrchyan et al., **Search for neutral Higgs bosons decaying to tau pairs in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 713 (2012) 68–90, doi:10.1016/j.physletb.2012.05.028, arXiv:1202.4083 [hep-ex]

S. Chatrchyan et al., **Suppression of non-prompt J/ψ, prompt J/ψ, and Y(1S) in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *JHEP.* 05 (2012) 063, doi:10.1007/JHEP05(2012)063, arXiv:1201.5069 [nucl-ex]

S. Chatrchyan et al., **Search for Anomalous $t\bar{t}$ Production in the Highly-Boosted All-Hadronic Final State**, *JHEP.* 09 (2012) 029, doi:10.1007/JHEP09(2012)029, arXiv:1204.2488 [hep-ex]

S. Chatrchyan et al., **Observation of Z Decays to Four Leptons with the CMS Detector at the LHC**, *JHEP.* 12 (2012) 034, doi:10.1007/JHEP12(2012)034, arXiv:1210.3844 [hep-ex]

S. Chatrchyan et al., **Search for Narrow Resonances in Dilepton Mass Spectra in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 714 (2012) 158–179, doi:10.1016/j.physletb.2012.06.051, arXiv:1206.1849 [hep-ex]

S. Chatrchyan et al., **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**, *JHEP.* 11 (2012) 080, doi:10.1007/JHEP11(2012)080, arXiv:1209.1666 [hep-ex]

S. Chatrchyan et al., **Search for Third-Generation Leptoquarks and Scalar Bottom Quarks in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 12 (2012) 055, doi:10.1007/JHEP12(2012)055, arXiv:1210.5627 [hep-ex]

S. Chatrchyan et al., **A Search for a Doubly-Charged Higgs Boson in pp Collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 72 (2012) 2189, doi:10.1140/epjc/s10052-012-2189-5, arXiv:1207.2666 [hep-ex]

S. Chatrchyan et al., **Measurement of the Z/ γ*+b-jet cross section in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 06 (2012) 126, doi:10.1007/JHEP06(2012)126, arXiv:1204.1643 [hep-ex]

S. Chatrchyan et al., **Measurement of the $t\bar{t}$ Production Cross Section in the Dilepton Channel in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 11 (2012) 067, doi:10.1007/JHEP11(2012)067, arXiv:1208.2671 [hep-ex]

S. Chatrchyan et al., **Search for a Light Pseudoscalar Higgs Boson in the Dimuon Decay Channel in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 109 (2012) 121801, doi:10.1103/PhysRevLett.109.121801, arXiv:1206.6326 [hep-ex]

S. Chatrchyan et al., **Study of W boson production in PbPb and pp collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Lett. B.* 715 (2012) 66–87, doi:10.1016/j.physletb.2012.07.025, arXiv:1205.6334 [nucl-ex]

S. Chatrchyan et al., **Search for a light charged Higgs boson in top quark decays in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 07 (2012) 143, doi:10.1007/JHEP07(2012)143, arXiv:1205.5736 [hep-ex]

S. Chatrchyan et al., **Search for a W' or Techni- ρ Decaying into WZ in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 109 (2012) 141801, doi:10.1103/PhysRevLett.109.141801, arXiv:1206.0433 [hep-ex]

S. Chatrchyan et al., **Observation of a new Xi(b) baryon**, *Phys. Rev. Lett.* 108 (2012) 252002, doi:10.1103/PhysRevLett.108.252001 arXiv:1204.5955 [hep-ex]

S. Chatrchyan et al., **Search for $B_s^0 \to \mu^+\mu^-$ and $B^0 \to \mu^+\mu^-$ decays**, *JHEP.* 04 (2012) 033, doi:10.1007/JHEP04(2012)033, arXiv:1203.3976 [hep-ex]

S. Chatrchyan et al., **Search for Charge-Asymmetric Production of W ′ Bosons in $t\bar{t}$+ Jet Events from pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 717 (2012) 351–370, doi:10.1016/j.physletb.2012.09.048, arXiv:1206.3921 [hep-ex]

S. Chatrchyan et al., **Search for microscopic black holes in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 04 (2012) 061, doi:10.1007/JHEP04(2012)061, arXiv:1202.6396 [hep-ex]

S. Chatrchyan et al., **Observation of Sequential Upsilon Suppression in PbPb Collisions**, *Phys. Rev. Lett.* 109 (2012) 222301, doi:10.1103/PhysRevLett.109.222301, arXiv:1208.2826 [nucl-ex]

S. Chatrchyan et al., **Search for the standard model Higgs boson decaying into two photons in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 710 (2012) 403–425, doi:10.1016/j.physletb.2012.03.003, arXiv:1202.1487 [hep-ex]

S. Chatrchyan et al., **Measurement of the mass difference between top and antitop quarks**, *JHEP.* 06 (2012) 109, doi:10.1007/JHEP06(2012)109, arXiv:1204.2807 [hep-ex]

S. Chatrchyan et al., **Search for New Physics with Long-Lived Particles Decaying to Photons and Missing Energy in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 11 (2012) 172, doi:10.1007/JHEP11(2012)172, arXiv:1207.0627 [hep-ex]

S. Chatrchyan et al., **Search for Pair Production of First- and Second-Generation Scalar Leptoquarks in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 86 (2012) 052013, doi:10.1103/PhysRevD.86.052013, arXiv:1207.5406 [hep-ex]

S. Chatrchyan et al., **Measurement of the Electron Charge Asymmetry in Inclusive W Production in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 109 (2012) 111806, doi:10.1103/PhysRevLett.109.111806, arXiv:1206.2598 [hep-ex]

S. Chatrchyan et al., **Search for Resonant $t\bar{t}$ Production in Lepton+Jets Events in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 12 (2012) 015, doi:10.1007/JHEP12(2012)015, arXiv:1209.4397 [hep-ex]

S. Chatrchyan et al., **Search for heavy bottom-like quarks in 4.9 inverse femtobarns of pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 05 (2012) 123, doi:10.1007/JHEP05(2012)123, arXiv:1204.1088 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in Hadronic Final States using MT2 in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 10 (2012) 018, doi:10.1007/JHEP10(2012)018, arXiv:1207.1798 [hep-ex]

S. Chatrchyan et al., **Measurement of the pseudorapidity and centrality dependence of the transverse energy density in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Rev. Lett.* 109 (2012) 152303, doi:10.1103/PhysRevLett.109.152303, arXiv:1205.2488 [nucl-ex]

S. Chatrchyan et al., **Search for High-Mass Resonances Decaying into τ-Lepton Pairs in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 716 (2012) 82–102, doi:10.1016/j.physletb.2012.07.062, arXiv:1206.1725 [hep-ex]

S. Chatrchyan et al., **Search for Dark Matter and Large Extra Dimensions in pp Collisions Yielding a Photon and Missing Transverse Energy**, *Phys. Rev. Lett.* 108 (2012) 261803, doi:10.1103/PhysRevLett.108.261803, arXiv:1204.0821 [hep-ex]

S. Chatrchyan et al., **Search for Pair Produced Fourth-Generation Up-Type Quarks in pp Collisions at $\sqrt{s} = 7$ TeV with a Lepton in the Final State**, *Phys. Lett. B.* 718 (2012) 307–328, doi:10.1016/j.physletb.2012.10.038, arXiv:1209.0471 [hep-ex]

S. Chatrchyan et al., **Search for leptonic decays of W ' bosons in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 08 (2012) 023, doi:10.1007/JHEP08(2012)023, arXiv:1204.4764 [hep-ex]

S. Chatrchyan et al., **A New Boson with a Mass of 125 GeV Observed with the CMS Experiment at the Large Hadron Collider**, *Science.* 338 (2012) 1569–1575, doi:10.1126/science.1230816

S. Chatrchyan et al., **Measurement of jet fragmentation into charged particles in pp and PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *JHEP.* 10 (2012) 087, doi:10.1007/JHEP10(2012)087, arXiv:1205.5872 [nucl-ex]

S. Chatrchyan et al., **Performance of CMS Muon Reconstruction in pp Collision Events at $\sqrt{s} = 7$ TeV**, *JINST.* 7 (2012) P10002, doi:10.1088/1748-0221/7/10/P10002, arXiv:1206.4071 [physics.ins-det]

S. Chatrchyan et al., **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**, *JHEP.* 03 (2012) 081, doi:10.1007/JHEP03(2012)081, arXiv:1202.3617 [hep-ex]

S. Chatrchyan et al., **Inclusive and Differential Measurements of the $t\bar{t}$ Charge Asymmetry in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 717 (2012) 129–150, doi:10.1016/j.physletb.2012.09.028, arXiv:1207.0065 [hep-ex]

S. Chatrchyan et al., **Measurement of isolated photon production in pp and PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Lett. B.* 710 (2012) 256–277, doi:10.1016/j.physletb.2012.02.077, arXiv:1201.3093 [nucl-ex]

S. Chatrchyan et al., **Measurement of the underlying event in the Drell-Yan process in proton-proton collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 72 (2012) 2080, doi:10.1140/epjc/s10052-012-2080-4, arXiv:1204.1411 [hep-ex]

S. Chatrchyan et al., **Shape, Transverse Size, and Charged Hadron Multiplicity of Jets in pp Collisions at 7 TeV**, *JHEP.* 06 (2012) 160, doi:10.1007/JHEP06(2012)160, arXiv:1204.3170 [hep-ex]

S. Chatrchyan et al., **Inclusive b-jet production in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 04 (2012) 084, doi:10.1007/JHEP04(2012)084, arXiv:1202.4617 [hep-ex]

S. Chatrchyan et al., **Measurement of the Relative Prompt Production Rate of χ_{c2} and χ_{c1} in pp Collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 72 (2012) 2251, doi:10.1140/epjc/s10052-012-2251-3, arXiv:1210.0875 [hep-ex]

S. Chatrchyan et al., **Search for Heavy Lepton Partners of Neutrinos in Proton-Proton Collisions in the Context of the Type III Seesaw Mechanism**, *Phys. Lett. B.* 718 (2012) 348–368, doi:10.1016/j.physletb.2012.10.070, arXiv:1210.1797 [hep-ex]

S. Chatrchyan et al., **Search for anomalous production of multilepton events in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 06 (2012) 169, doi:10.1007/JHEP06(2012)169, arXiv:1204.5341 [hep-ex]

S. Chatrchyan et al., **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**, *JHEP.* 06 (2012) 036, doi:10.1007/JHEP06(2012)036, arXiv:1202.0704 [hep-ex]

S. Chatrchyan et al., **Measurement of the Underlying Event Activity in pp Collisions at $\sqrt{s} = 0.9$ and 7 TeV with the Novel Jet-Area/Median Approach**, *JHEP.* 08 (2012) 130, doi:10.1007/JHEP08(2012)130, arXiv:1207.2392 [hep-ex]

S. Chatrchyan et al., **Search for a Higgs boson in the decay channel H to ZZ(*) to q qbar ℓ^- l+ in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 04 (2012) 036, doi:10.1007/JHEP04(2012)036, arXiv:1202.1416 [hep-ex]

S. Chatrchyan et al., **Search for quark compositeness in dijet angular distributions from pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 05 (2012) 055, doi:10.1007/JHEP05(2012)055, arXiv:1202.5535 [hep-ex]

S. Chatrchyan et al., **Measurement of the Top-Quark Mass in $t\bar{t}$ Events with Lepton+Jets Final States in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 12 (2012) 105, doi:10.1007/JHEP12(2012)105, arXiv:1209.2319 [hep-ex]

S. Chatrchyan et al., **Search for Stopped Long-Lived Particles Produced in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 08 (2012) 026, doi:10.1007/JHEP08(2012)026, arXiv:1207.0106 [hep-ex]

S. Chatrchyan et al., **Measurement of the Top-Quark Mass in $t\bar{t}$ Events with Dilepton Final States in pp Collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 72 (2012) 2202, doi:10.1140/epjc/s10052-012-2202-z, arXiv:1209.2393 [hep-ex]

S. Chatrchyan et al., **Azimuthal anisotropy of charged particles at high transverse momenta in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Rev. Lett.* 109 (2012) 022301, doi:10.1103/PhysRevLett.109.022301, arXiv:1204.1850 [nucl-ex]

S. Chatrchyan et al., **Search for Dark Matter and Large Extra Dimensions in Monojet Events in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 09 (2012) 094, doi:10.1007/JHEP09(2012)094, arXiv:1206.5663 [hep-ex]

S. Chatrchyan et al., **Jet momentum dependence of jet quenching in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Lett. B.* 712 (2012) 176–197, doi:10.1016/j.physletb.2012.04.058, arXiv:1202.5022 [nucl-ex]

S. Chatrchyan et al., **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**, *Phys. Rev. Lett.* 108 (2012) 111804, doi:10.1103/PhysRevLett.108.111804, arXiv:1202.1997 [hep-ex]

S. Chatrchyan et al., **Search for the standard model Higgs boson decaying to bottom quarks in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 710 (2012) 284–306, doi:10.1016/j.physletb.2012.02.085, arXiv:1202.4195 [hep-ex]

S. Chatrchyan et al., **Search for large extra dimensions in dimuon and dielectron events in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 711 (2012) 15–34, doi:10.1016/j.physletb.2012.03.029, arXiv:1202.3827 [hep-ex]

S. Chatrchyan et al., **Search for heavy long-lived charged particles in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 713 (2012) 408–433, doi:10.1016/j.physletb.2012.06.023, arXiv:1205.0272 [hep-ex]

S. Chatrchyan et al., **Combined Search for the Quarks of a Sequential Fourth Generation**, *Phys. Rev. D.* 86 (2012) 112003, doi:10.1103/PhysRevD.86.112003, arXiv:1209.1062 [hep-ex]

S. Chatrchyan et al., **Measurement of the Λ_b cross section and the $\bar{\Lambda}_b$ to Λ_b ratio with $J/\Psi\Lambda$ decays in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 714 (2012) 136–157, doi:10.1016/j.physletb.2012.05.063, arXiv:1205.0594 [hep-ex]

S. Chatrchyan et al., **Search for heavy Majorana Neutrinos in $\mu^{\pm}\mu^{\pm}$+ Jets and $e^{\pm}e^{\pm}$+ Jets Events in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 717 (2012) 109–128, doi:10.1016/j.physletb.2012.09.012, arXiv:1207.6079 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in Events with b-Quark Jets and Missing Transverse Energy in pp Collisions at 7 TeV**, *Phys. Rev. D.* 86 (2012) 072010, doi:10.1103/PhysRevD.86.072010, arXiv:1208.4859 [hep-ex]

S. Chatrchyan et al., **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**, *Eur. Phys. J. C.* 72 (2012) 2216, doi:10.1140/epjc/s10052-012-2216-6, arXiv:1204.0696 [hep-ex]

S. Chatrchyan et al., **Measurement of the Single-Top-Quark t-Channel Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 12 (2012) 035, doi:10.1007/JHEP12(2012)035, arXiv:1209.4533 [hep-ex]

S. Chatrchyan et al., **Search for a Fermiophobic Higgs Boson in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 09 (2012) 111, doi:10.1007/JHEP09(2012)111, arXiv:1207.1130 [hep-ex]

S. Chatrchyan et al., **Measurement of the cross section for production of bb^{-} bar X, decaying to muons in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 06 (2012) 110, doi:10.1007/JHEP06(2012)110, arXiv:1203.3458 [hep-ex]

S. Chatrchyan et al., **Centrality dependence of dihadron correlations and azimuthal anisotropy harmonics in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Eur. Phys. J. C.* 72 (2012) 2012, doi:10.1140/epjc/s10052-012-2012-3, arXiv:1201.3158 [nucl-ex]

S. Chatrchyan et al., **Study of the Inclusive Production of Charged Pions, Kaons, and Protons in pp Collisions at $\sqrt{s} = 0.9$, 2.76, and 7 TeV**, *Eur. Phys. J. C.* 72 (2012) 2164, doi:10.1140/epjc/s10052-012-2164-1, arXiv:1207.4724 [hep-ex]

S. Chatrchyan et al., **Search for New Physics in the Multijet and Missing Transverse Momentum Final State in Proton-Proton Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 109 (2012) 171803, doi:10.1103/PhysRevLett.109.171803, arXiv:1207.1898 [hep-ex]

S. Chatrchyan et al., **Combined results of searches for the standard model Higgs boson in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 710 (2012) 26–48, doi:10.1016/j.physletb.2012.02.064, arXiv:1202.1488 [hep-ex]

S. Chatrchyan et al., **Search for Three-Jet Resonances in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 718 (2012) 329–347, doi:10.1016/j.physletb.2012.10.048, arXiv:1208.2931 [hep-ex]

S. Chatrchyan et al., **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**, *Phys. Rev. Lett.* 109 (2012) 261802, doi:10.1103/PhysRevLett.109.261802, arXiv:1210.2402 [hep-ex]

V. Khachatryan et al., **Search for Pair Production of First-Generation Scalar Leptoquarks in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 106 (2011) 201802, doi:10.1103/PhysRevLett.106.201802, arXiv:1012.4031 [hep-ex]

V. Khachatryan et al., **Search for Stopped Gluinos in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 106 (2011) 011801, doi:10.1103/PhysRevLett.106.011801, arXiv:1011.5861 [hep-ex]

V. Khachatryan et al., **Search for a Heavy Gauge Boson W ' in the Final State with an Electron and Large Missing Transverse Energy in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 698 (2011) 21–39, doi:10.1016/j.physletb.2011.02.048, arXiv:1012.5945 [hep-ex]

V. Khachatryan et al., **Prompt and Non-Prompt J/ψ Production in pp Collisions at $\sqrt{s} = 7$ TeV**, *Eur. Phys. J. C.* 71 (2011) 1575, doi:10.1140/epjc/s10052-011-1575-8, arXiv:1011.4193 [hep-ex]

V. Khachatryan et al., **Search for Microscopic Black Hole Signatures at the Large Hadron Collider**, *Phys. Lett. B.* 697 (2011) 434–453, doi:10.1016/j.physletb.2011.02.032, arXiv:1012.3375 [hep-ex]

V. Khachatryan et al., **Charged Particle Multiplicities in pp Interactions at $\sqrt{s} = 0.9$, 2.36, and 7 TeV**, *JHEP.* 01 (2011) 079, doi:10.1007/JHEP01(2011)079, arXiv:1011.5531 [hep-ex]

V. Khachatryan et al., **Search for Pair Production of Second-Generation Scalar Leptoquarks in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 106 (2011) 201803, doi:10.1103/PhysRevLett.106.201803, arXiv:1012.4033 [hep-ex]

V. Khachatryan et al., **Measurement of the Isolated Prompt Photon Production Cross Section in pp Collisions at $\sqrt{s} = 7$~TeV**, *Phys. Rev. Lett.* 106 (2011) 082001, doi:10.1103/PhysRevLett.106.082001, arXiv:1012.0799 [hep-ex]

V. Khachatryan et al., **Measurements of Inclusive W and Z Cross Sections in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 01 (2011) 080, doi:10.1007/JHEP01(2011)080, arXiv:1012.2466 [hep-ex]

V. Khachatryan et al., **Upsilon Production Cross-Section in pp Collisions at $\sqrt{s}$=7 TeV**, *Phys. Rev. D.* 83 (2011) 112004, doi:10.1103/PhysRevD.83.112004, arXiv:1012.5545 [hep-ex]

S. Chatrchyan et al., **Measurement of the Inclusive W and Z Production Cross Sections in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 10 (2011) 132, doi:10.1007/JHEP10(2011)132, arXiv:1107.4789 [hep-ex]

S. Chatrchyan et al., **Measurement of the Inclusive Jet Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 107 (2011) 132001, doi:10.1103/PhysRevLett.107.132001, arXiv:1106.0208 [hep-ex]

S. Chatrchyan et al., **Search for supersymmetry in pp collisions at $\sqrt{s} = 7$ TeV in events with a single lepton, jets, and missing transverse momentum**, *JHEP.* 08 (2011) 156, doi:10.1007/JHEP08(2011)156, arXiv:1107.1870 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in pp Collisions at $\sqrt{s} = 7$ TeV in Events with Two Photons and Missing Transverse Energy**, *Phys. Rev. Lett.* 106 (2011) 211802, doi:10.1103/PhysRevLett.106.211802, arXiv:1103.0953 [hep-ex]

S. Chatrchyan et al., **Indications of suppression of excited Υ states in PbPb collisions at $\sqrt{S_{NN}} = 2.76$ TeV**, *Phys. Rev. Lett.* 107 (2011) 052302, doi:10.1103/PhysRevLett.107.052302, arXiv:1105.4894 [nucl-ex]

S. Chatrchyan et al., **Dependence on pseudorapidity and centrality of charged hadron production in PbPb collisions at a nucleon-nucleon centre-of-mass energy of 2.76 TeV**, *JHEP.* 08 (2011) 141, doi:10.1007/JHEP08(2011)141, arXiv:1107.4800 [nucl-ex]

V. Khachatryan et al., **Search for Heavy Stable Charged Particles in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 03 (2011) 024, doi:10.1007/JHEP03(2011)024, arXiv:1101.1645 [hep-ex]

S. Chatrchyan et al., **Measurement of the lepton charge asymmetry in inclusive W production in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 04 (2011) 050, doi:10.1007/JHEP04(2011)050, arXiv:1103.3470 [hep-ex]

S. Chatrchyan et al., **Missing transverse energy performance of the CMS detector**, *JINST.* 6 (2011) P09001, doi:10.1088/1748-0221/6/09/P09001, arXiv:1106.5048 [physics.ins-det]

S. Chatrchyan et al., **Search for Supersymmetry at the LHC in Events with Jets and Missing Transverse Energy**, *Phys. Rev. Lett.* 107 (2011) 221804, doi:10.1103/PhysRevLett.107.221804, arXiv:1109.2352 [hep-ex]

S. Chatrchyan et al., **Search for Resonances in the Dijet Mass Spectrum from 7 TeV pp Collisions at CMS**, *Phys. Lett. B.* 704 (2011) 123–142, doi:10.1016/j.physletb.2011.09.015, arXiv:1107.4771 [hep-ex]

S. Chatrchyan et al., **Long-range and short-range dihadron angular correlations in central PbPb collisions at a nucleon-nucleon center of mass energy of 2.76 TeV**, *JHEP.* 07 (2011) 076, doi:10.1007/JHEP07(2011)076, arXiv:1105.2438 [nucl-ex]

S. Chatrchyan et al., **Measurement of the Top-antitop Production Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV using the Kinematic Properties of Events with Leptons and Jets**, *Eur. Phys. J. C.* 71 (2011) 1721, doi:10.1140/epjc/s10052-011-1721-3, arXiv:1106.0902 [hep-ex]

S. Chatrchyan et al., **Measurement of W^+W^- production and search for the Higgs boson in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 699 (2011) 25–47, doi:10.1016/j.physletb.2011.03.056, arXiv:1102.5429 [hep-ex]

S. Chatrchyan et al., **Search for New Physics with a Mono-Jet and Missing Transverse Energy in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 107 (2011) 201804, doi:10.1103/PhysRevLett.107.201804, arXiv:1106.4775 [hep-ex]

S. Chatrchyan et al., **A search for excited leptons in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 704 (2011) 143–162, doi:10.1016/j.physletb.2011.09.021, arXiv:1107.1773 [hep-ex]

S. Chatrchyan et al., **Search for physics beyond the standard model using multilepton signatures in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 704 (2011) 411–433, doi:10.1016/j.physletb.2011.09.047, arXiv:1106.0933 [hep-ex]

V. Khachatryan et al., **Measurement of Dijet Angular Distributions and Search for Quark Compositeness in pp Collisions at $sqrts = 7$ TeV**, *Phys. Rev. Lett.* 106 (2011) 201804, doi:10.1103/PhysRevLett.106.201804, arXiv:1102.2020 [hep-ex]

S. Chatrchyan et al., **Measurement of the Drell-Yan Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 10 (2011) 007, doi:10.1007/JHEP10(2011)007, arXiv:1108.0566 [hep-ex]

V. Khachatryan et al., **Dijet Azimuthal Decorrelations in pp Collisions at $\sqrt{s} = 7$~TeV**, *Phys. Rev. Lett.* 106 (2011) 122003, doi:10.1103/PhysRevLett.106.122003, arXiv:1101.5029 [hep-ex]

S. Chatrchyan et al., **Observation and studies of jet quenching in PbPb collisions at nucleon-nucleon center-of-mass energy = 2.76 TeV**, *Phys. Rev. C.* 84 (2011) 024906, doi:10.1103/PhysRevC.84.024906, arXiv:1102.1957 [nucl-ex]

V. Khachatryan et al., **Strange Particle Production in pp Collisions at $\sqrt{s} = 0.9$ and 7 TeV**, *JHEP.* 05 (2011) 064, doi:10.1007/JHEP05(2011)064, arXiv:1102.4282 [hep-ex]

S. Chatrchyan et al., **Measurement of the Polarization of W Bosons with Large Transverse Momenta in W+Jets Events at the LHC**, *Phys. Rev. Lett.* 107 (2011) 021802, doi:10.1103/PhysRevLett.107.021802, arXiv:1104.3829 [hep-ex]

S. Chatrchyan et al., **Measurement of the Strange B Meson Production Cross Section with J/Psi ϕ Decays in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. D.* 84 (2011) 052008, doi:10.1103/PhysRevD.84.052008, arXiv:1106.4048 [hep-ex]

S. Chatrchyan et al., **Search for a Vector-like Quark with Charge 2/3 in $t + Z$ Events from pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 107 (2011) 271802, doi:10.1103/PhysRevLett.107.271802, arXiv:1109.4985 [hep-ex]

S. Chatrchyan et al., **Search for a W' boson decaying to a muon and a neutrino in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 701 (2011) 160–179, doi:10.1016/j.physletb.2011.05.048, arXiv:1103.0030 [hep-ex]

S. Chatrchyan et al., **Measurement of the Inclusive Z Cross Section via Decays to Tau Pairs in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 08 (2011) 117, doi:10.1007/JHEP08(2011)117, arXiv:1104.1617 [hep-ex]

S. Chatrchyan et al., **Search for a Heavy Bottom-like Quark in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 701 (2011) 204–223, doi:10.1016/j.physletb.2011.05.074, arXiv:1102.4746 [hep-ex]

S. Chatrchyan et al., **Search for Neutral MSSM Higgs Bosons Decaying to Tau Pairs in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 106 (2011) 231801, doi:10.1103/PhysRevLett.106.231801, arXiv:1104.1619 [hep-ex]

S. Chatrchyan et al., **Measurement of the ratio of the 3-jet to 2-jet cross sections in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 702 (2011) 336–354, doi:10.1016/j.physletb.2011.07.067, arXiv:1106.0647 [hep-ex]

S. Chatrchyan et al., **Charged particle transverse momentum spectra in pp collisions at $\sqrt{s} = 0.9$ and 7 TeV**, *JHEP.* 08 (2011) 086, doi:10.1007/JHEP08(2011)086, arXiv:1104.3547 [hep-ex]

S. Chatrchyan et al., **Measurement of $W\gamma$ and $Z\gamma$ production in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 701 (2011) 535–555, doi:10.1016/j.physletb.2011.06.034, arXiv:1105.2758 [hep-ex]

S. Chatrchyan et al., **Measurement of the Differential Cross Section for Isolated Prompt Photon Production in pp Collisions at 7 TeV**, *Phys. Rev. D.* 84 (2011) 052011, doi:10.1103/PhysRevD.84.052011, arXiv:1108.2044 [hep-ex]

V. Khachatryan et al., **Measurement of Bose-Einstein Correlations in pp Collisions at $\sqrt{s} = 0.9$ and 7 TeV**, *JHEP.* 05 (2011) 029, doi:10.1007/JHEP05(2011)029, arXiv:1101.3518 [hep-ex]

S. Chatrchyan et al., **Measurement of the differential dijet production cross section in proton-proton collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 700 (2011) 187–206, doi:10.1016/j.physletb.2011.05.027, arXiv:1104.1693 [hep-ex]

S. Chatrchyan et al., **Measurement of the t-channel single top quark production cross section in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 107 (2011) 091802, doi:10.1103/PhysRevLett.107.091802, arXiv:1106.3052 [hep-ex]

V. Khachatryan et al., **Measurement of the B^+ Production Cross Section in pp Collisions at $\sqrt{s} = 7$~TeV**, *Phys. Rev. Lett.* 106 (2011) 112001, doi:10.1103/PhysRevLett.106.112001, arXiv:1101.0131 [hep-ex]

S. Chatrchyan et al., **Search for Three-Jet Resonances in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 107 (2011) 101801, doi:10.1103/PhysRevLett.107.101801, arXiv:1107.3084 [hep-ex]

S. Chatrchyan et al., **Measurement of the B^0 production cross section in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 106 (2011) 252001, doi:10.1103/PhysRevLett.106.252001, arXiv:1104.2892 [hep-ex]

S. Chatrchyan et al., **Measurement of the Underlying Event Activity at the LHC with $\sqrt{s} = 7$ TeV and Comparison with $\sqrt{s} = 0.9$ TeV**, *JHEP.* 09 (2011) 109, doi:10.1007/JHEP09(2011)109, arXiv:1107.0330 [hep-ex]

S. Chatrchyan et al., **Determination of Jet Energy Calibration and Transverse Momentum Resolution in CMS**, *JINST.* 6 (2011) P11002, doi:10.1088/1748-0221/6/11/P11002, arXiv:1107.4277 [physics.ins-det]

S. Chatrchyan et al., **Search for B(s) and B to dimuon decays in pp collisions at 7 TeV**, *Phys. Rev. Lett.* 107 (2011) 191802, doi:10.1103/PhysRevLett.107.191802, arXiv:1107.5834 [hep-ex]

V. Khachatryan et al., **First Measurement of Hadronic Event Shapes in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Lett. B.* 699 (2011) 48–67, doi:10.1016/j.physletb.2011.03.060, arXiv:1102.0068 [hep-ex]

S. Chatrchyan et al., **Measurement of the weak mixing angle with the Drell-Yan process in proton-proton collisions at the LHC**, *Phys. Rev. D.* 84 (2011) 112002, doi:10.1103/PhysRevD.84.112002, arXiv:1110.2682 [hep-ex]

S. Chatrchyan et al., **Search for Large Extra Dimensions in the Diphoton Final State at the Large Hadron Collider**, *JHEP.* 05 (2011) 085, doi:10.1007/JHEP05(2011)085, arXiv:1103.4279 [hep-ex]

S. Chatrchyan et al., **Measurement of the $t\bar{t}$ Production Cross Section in pp Collisions at 7 TeV in Lepton + Jets Events Using b-quark Jet Identification**, *Phys. Rev. D.* 84 (2011) 092004, doi:10.1103/PhysRevD.84.092004, arXiv:1108.3773 [hep-ex]

V. Khachatryan et al., **Search for Supersymmetry in pp Collisions at 7 TeV in Events with Jets and Missing Transverse Energy**, *Phys. Lett. B.* 698 (2011) 196–218, doi:10.1016/j.physletb.2011.03.021, arXiv:1101.1628 [hep-ex]

V. Khachatryan et al., **Inclusive b-Hadron Production Cross Section with Muons in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 03 (2011) 090, doi:10.1007/JHEP03(2011)090, arXiv:1101.3512 [hep-ex]

S. Chatrchyan et al., **Measurement of energy flow at large pseudorapidities in pp collisions at $\sqrt{s} = 0.9$ and 7 TeV**, *JHEP.* 11 (2011) 148, doi:10.1007/JHEP11(2011)148, arXiv:1110.0211 [hep-ex]

S. Chatrchyan et al., **Search for Supersymmetry in Events with b Jets and Missing Transverse Momentum at the LHC**, *JHEP.* 07 (2011) 113, doi:10.1007/JHEP07(2011)113, arXiv:1106.3272 [hep-ex]

S. Chatrchyan et al., **Search for Light Resonances Decaying into Pairs of Muons as a Signal of New Physics**, *JHEP.* 07 (2011) 098, doi:10.1007/JHEP07(2011)098, arXiv:1106.2375 [hep-ex]

S. Chatrchyan et al., **Search for Resonances in the Dilepton Mass Distribution in pp Collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 05 (2011) 093, doi:10.1007/JHEP05(2011)093, arXiv:1103.0981 [hep-ex]

S. Chatrchyan et al., **Search for New Physics with Jets and Missing Transverse Momentum in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 08 (2011) 155, doi:10.1007/JHEP08(2011)155, arXiv:1106.4503 [hep-ex]

V. Khachatryan et al., **Measurement of $B\bar{B}$ Angular Correlations based on Secondary Vertex Reconstruction at $\sqrt{s} = 7$ TeV**, *JHEP.* 03 (2011) 136, doi:10.1007/JHEP03(2011)136, arXiv:1102.3194 [hep-ex]

S. Chatrchyan et al., **Search for supersymmetry in events with a lepton, a photon, and large missing transverse energy in pp collisions at $\sqrt{s} = 7$ TeV**, *JHEP.* 06 (2011) 093, doi:10.1007/JHEP06(2011)093, arXiv:1105.3152 [hep-ex]

S. Chatrchyan et al., **Search for First Generation Scalar Leptoquarks in the e νjj channel in pp collisions at $\sqrt{s} =$ 7 TeV**, *Phys. Lett. B.* 703 (2011) 246–266, doi:10.1016/j.physletb.2011.07.089, arXiv:1105.5237 [hep-ex]

S. Chatrchyan et al., **Study of Z boson production in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV**, *Phys. Rev. Lett.* 106 (2011) 212301, doi:10.1103/PhysRevLett.106.212301, arXiv:1102.5435 [nucl-ex]

S. Chatrchyan et al., **Performance of the CMS Cathode Strip Chambers with Cosmic Rays**, *JINST.* 5 (2010) T03018, doi:10.1088/1748-0221/5/03/T03018, arXiv:0911.4992 [physics.ins-det]

S. Chatrchyan et al., **Commissioning and Performance of the CMS Pixel Tracker with Cosmic Ray Muons**, *JINST.* 5 (2010) T03007, doi:10.1088/1748-0221/5/03/T03007, arXiv:0911.5434 [physics.ins-det]

S. Chatrchyan et al., **Performance and Operation of the CMS Electromagnetic Calorimeter**, *JINST*. 5 (2010) T03010, doi:10.1088/1748-0221/5/03/T03010, arXiv:0910.3423 [physics.ins-det]

S. Chatrchyan et al., **Alignment of the CMS Silicon Tracker during Commissioning with Cosmic Rays**, *JINST*. 5 (2010) T03009, doi:10.1088/1748-0221/5/03/T03009, arXiv:0910.2505 [physics.ins-det]

S. Chatrchyan et al., **Performance of CMS Muon Reconstruction in Cosmic-Ray Events**, *JINST*. 5 (2010) T03022, doi:10.1088/1748-0221/5/03/T03022, arXiv:0911.4994 [physics.ins-det]

S. Chatrchyan et al., **Aligning the CMS Muon Chambers with the Muon Alignment System during an Extended Cosmic Ray Run**, *JINST*. 5 (2010) T03019, doi:10.1088/1748-0221/5/03/T03019, arXiv:0911.4770 [physics.ins-det]

S. Chatrchyan et al., **Performance of the CMS Hadron Calorimeter with Cosmic Ray Muons and LHC Beam Data**, *JINST*. 5 (2010) T03012, doi:10.1088/1748-0221/5/03/T03012, arXiv:0911.4991 [physics.ins-det]

S. Chatrchyan et al., **Commissioning of the CMS High-Level Trigger with Cosmic Rays**, *JINST*. 5 (2010) T03005, doi:10.1088/1748-0221/5/03/T03005, arXiv:0911.4889 [physics.ins-det]

S. Chatrchyan et al., **Performance of the CMS Drift-Tube Local Trigger with Cosmic Rays**, *JINST*. 5 (2010) T03003, doi:10.1088/1748-0221/5/03/T03003, arXiv:0911.4893 [physics.ins-det]

S. Chatrchyan et al., **Commissioning of the CMS Experiment and the Cosmic Run at Four Tesla**, *JINST*. 5 (2010) T03001, doi:10.1088/1748-0221/5/03/T03001, arXiv:0911.4845 [physics.ins-det]

S. Chatrchyan et al., **Performance of the CMS Drift Tube Chambers with Cosmic Rays**, *JINST*. 5 (2010) T03015, doi:10.1088/1748-0221/5/03/T03015, arXiv:0911.4855 [physics.ins-det]

S. Chatrchyan et al., **Alignment of the CMS Muon System with Cosmic-Ray and Beam-Halo Muons**, *JINST*. 5 (2010) T03020, doi:10.1088/1748-0221/5/03/T03020, arXiv:0911.4022 [physics.ins-det]

S. Chatrchyan et al., **Precise Mapping of the Magnetic Field in the CMS Barrel Yoke using Cosmic Rays**, *JINST*. 5 (2010) T03021, doi:10.1088/1748-0221/5/03/T03021, arXiv:0910.5530 [physics.ins-det]

S. Chatrchyan et al., **Identification and Filtering of Uncharacteristic Noise in the CMS Hadron Calorimeter**, *JINST*. 5 (2010) T03014, doi:10.1088/1748-0221/5/03/T03014, arXiv:0911.4881 [physics.ins-det]

S. Chatrchyan et al., **Commissioning and Performance of the CMS Silicon Strip Tracker with Cosmic Ray Muons**, *JINST*. 5 (2010) T03008, doi:10.1088/1748-0221/5/03/T03008, arXiv:0911.4996 [physics.ins-det]

S. Chatrchyan et al., **Performance of CMS Hadron Calorimeter Timing and Synchronization using Test Beam, Cosmic Ray, and LHC Beam Data**, *JINST*. 5 (2010) T03013, doi:10.1088/1748-0221/5/03/T03013, arXiv:0911.4877 [physics.ins-det]

S. Chatrchyan et al., **Time Reconstruction and Performance of the CMS Electromagnetic Calorimeter**, *JINST*. 5 (2010) T03011, doi:10.1088/1748-0221/5/03/T03011, arXiv:0911.4044 [physics.ins-det]

S. Chatrchyan et al., **Performance Study of the CMS Barrel Resistive Plate Chambers with Cosmic Rays**, *JINST*. 5 (2010) T03017, doi:10.1088/1748-0221/5/03/T03017, arXiv:0911.4045 [physics.ins-det]

S. Chatrchyan et al., **Fine Synchronization of the CMS Muon Drift-Tube Local Trigger using Cosmic Rays**, *JINST*. 5 (2010) T03004, doi:10.1088/1748-0221/5/03/T03004, arXiv:0911.4904 [physics.ins-det]

S. Chatrchyan et al., **Calibration of the CMS Drift Tube Chambers and Measurement of the Drift Velocity with Cosmic Rays**, *JINST*. 5 (2010) T03016, doi:10.1088/1748-0221/5/03/T03016, arXiv:0911.4895 [physics.ins-det]

S. Chatrchyan et al., **Measurement of the Muon Stopping Power in Lead Tungstate**, *JINST*. 5 (2010) P03007, doi:10.1088/1748-0221/5/03/P03007, arXiv:0911.5397 [physics.ins-det]

S. Chatrchyan et al., **Performance of the CMS Level-1 Trigger during Commissioning with Cosmic Ray Muons**, *JINST*. 5 (2010) T03002, doi:10.1088/1748-0221/5/03/T03002, arXiv:0911.5422 [physics.ins-det]

S. Chatrchyan et al., **CMS Data Processing Workflows during an Extended Cosmic Ray Run**, *JINST*. 5 (2010) T03006, doi:10.1088/1748-0221/5/03/T03006, arXiv:0911.4842 [physics.ins-det]

V. Khachatryan et al., **Search for Quark Compositeness with the Dijet Centrality Ratio in pp Collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 105 (2010) 262001, doi:10.1103/PhysRevLett.105.262001, arXiv:1010.4439 [hep-ex]

V. Khachatryan et al., **Observation of Long-Range Near-Side Angular Correlations in Proton-Proton Collisions at the LHC**, *JHEP*. 09 (2010) 091, doi:10.1007/JHEP09(2010)091, arXiv:1009.4122 [hep-ex]

V. Khachatryan et al., **First Measurement of Bose-Einstein Correlations in Proton-Proton Collisions at $\sqrt{s}$ =0.9 and 2.36 TeV at the LHC**, *Phys. Rev. Lett.* 105 (2010) 032001, doi:10.1103/PhysRevLett.105.032001, arXiv:1005.3294 [hep-ex]

V. Khachatryan et al., **Search for Dijet Resonances in 7 TeV pp Collisions at CMS**, *Phys. Rev. Lett.* 105 (2010) 211801, doi:10.1103/PhysRevLett.105.211801, arXiv:1010.0203 [hep-ex]

V. Khachatryan et al., **First Measurement of the Underlying Event Activity at the LHC with $\sqrt{s} = 0.9$ TeV**, *Eur. Phys. J. C.* 70 (2010) 555–572, doi:10.1140/epjc/s10052-010-1453-9, arXiv:1006.2083 [hep-ex]

V. Khachatryan et al., **Transverse-momentum and pseudorapidity distributions of charged hadrons in pp collisions at $\sqrt{s} = 7$ TeV**, *Phys. Rev. Lett.* 105 (2010) 022002, doi:10.1103/PhysRevLett.105.022002, arXiv:1005.3299 [hep-ex]

V. Khachatryan et al., **CMS Tracking Performance Results from Early LHC Operation**, *Eur. Phys. J. C.* 70 (2010) 1165–1192, doi:10.1140/epjc/s10052-010-1491-3, arXiv:1007.1988 [physics.ins-det]

V. Khachatryan et al., **Transverse Momentum and Pseudorapidity Distributions of Charged Hadrons in pp Collisions at $\sqrt{s} = 0.9$ and 2.36 TeV**, *JHEP.* 02 (2010) 041, doi:10.1007/JHEP02(2010)041, arXiv:1002.0621 [hep-ex]

V. Khachatryan et al., **Measurement of the Charge Ratio of Atmospheric Muons with the CMS Detector**, *Phys. Lett. B.* 692 (2010) 83–104, doi:10.1016/j.physletb.2010.07.033, arXiv:1005.5332 [hep-ex]

W. Adam et al., **Alignment of the CMS Silicon Strip Tracker during stand-alone Commissioning**, *JINST.* 4 (2009) T07001, doi:10.1088/1748-0221/4/07/T07001, arXiv:0904.1220 [physics.ins-det]

W. Adam et al., **Performance studies of the CMS Strip Tracker before installation**, *JINST.* 4 (2009) P06009, doi:10.1088/1748-0221/4/06/P06009, arXiv:0901.4316 [physics.ins-det]

W. Adam et al., **The CMS tracker operation and performance at the Magnet Test and Cosmic Challenge**, *JINST.* 3 (2008) P07006, doi:10.1088/1748-0221/3/07/P07006

S. Chatrchyan et al., **The CMS Experiment at the CERN LHC**, *JINST.* 3 (2008) S08004, doi:10.1088/1748-0221/3/08/S08004

G.L. Bayatian et al., **CMS physics technical design report: Addendum on high density QCD with heavy ions**, *J. Phys. G.* 34 (2007) 2307–2455, doi:10.1088/0954-3899/34/11/008

G.L. Bayatian et al., **CMS technical design report, volume II: Physics performance**, *J. Phys. G.* 34 (2007) 995–1579, doi:10.1088/0954-3899/34/6/S01

S. Chekanov et al., **Measurement of neutral current cross sections at high Bjorken-x with the ZEUS detector at HERA**, *Eur. Phys. J. C.* 49 (2007) 523–544, doi:10.1140/epjc/s10052-006-0164-8, arXiv:hep-ex/0608014 [hep-ex]

S. Chekanov et al., **Measurement of azimuthal asymmetries in neutral current deep inelastic scattering at HERA**, *Eur. Phys. J. C.* 51 (2007) 289–299, doi:10.1140/epjc/s10052-007-0310-y, arXiv:hep-ex/0608053 [hep-ex]

S. Chekanov et al., **Measurement of prompt photons with associated jets in photoproduction at HERA**, *Eur. Phys. J. C.* 49 (2007) 511–522, doi:10.1140/epjc/s10052-006-0134-1, arXiv:hep-ex/0608028 [hep-ex]

S. Chekanov et al., **Event shapes in deep inelastic scattering at HERA**, *Nucl. Phys. B.* 767 (2007) 1–28, doi:10.1016/j.nuclphysb.2006.05.016, arXiv:hep-ex/0604032 [hep-ex]

S. Chekanov et al., **Inclusive-jet and dijet cross-sections in deep inelastic scattering at HERA**, *Nucl. Phys. B.* 765 (2007) 1–30, doi:10.1016/j.nuclphysb.2006.09.018, arXiv:hep-ex/0608048 [hep-ex]

G.L. Bayatian et al., **CMS Physics: Technical Design Report Volume 1: Detector Performance and Software**, (2006)

S. Chekanov et al., **Forward jet production in deep inelastic ep scattering and low-x parton dynamics at HERA**, *Phys. Lett. B.* 632 (2006) 13–26, doi:10.1016/j.physletb.2005.09.066, arXiv:hep-ex/0502029 [hep-ex]

S. Chekanov et al., **Measurement of high-Q**2 deep inelastic scattering cross sections with a longitudinally polarised positron beam at HERA**, *Phys. Lett. B.* 637 (2006) 210–222, doi:10.1016/j.physletb.2006.04.047, arXiv:hep-ex/0602026 [hep-ex]

S. Chekanov et al., **Study of the pion trajectory in the photoproduction of leading neutrons at HERA**, *Phys. Lett. B.* 610 (2005) 199–211, doi:10.1016/j.physletb.2005.01.101, arXiv:hep-ex/0404002 [hep-ex]

S. Chekanov et al., **Exclusive electroproduction of phi mesons at HERA**, *Nucl. Phys. B.* 718 (2005) 3–31, doi:10.1016/j.nuclphysb.2005.04.009, arXiv:hep-ex/0504010 [hep-ex]

S. Chekanov et al., **Measurement of inelastic J/ψ production in deep inelastic scattering at HERA**, *Eur. Phys. J. C.* 44 (2005) 13–25, doi:10.1140/epjc/s2005-02346-2, arXiv:hep-ex/0505008 [hep-ex]

S. Chekanov et al., **An NLO QCD analysis of inclusive cross-section and jet-production data from the zeus experiment**, *Eur. Phys. J. C.* 42 (2005) 1–16, doi:10.1140/epjc/s2005-02293-x, arXiv:hep-ph/0503274 [hep-ex]

S. Chekanov et al., **Search for lepton-flavor violation at HERA**, *Eur. Phys. J. C.* 44 (2005) 463–479, doi:10.1140/epjc/s2005-02399-1, arXiv:hep-ex/0501070 [hep-ex]

S. Chekanov et al., **Measurement of charm fragmentation ratios and fractions in photoproduction at HERA**, *Eur. Phys. J. C.* 44 (2005) 351–366, doi:10.1140/epjc/s2005-02397-3, arXiv:hep-ex/0508019 [hep-ex]

S. Chekanov et al., **Inclusive jet cross sections and dijet correlations in D*+- photoproduction at HERA**, *Nucl. Phys. B.* 729 (2005) 492–525, doi:10.1016/j.nuclphysb.2005.09.021, arXiv:hep-ex/0507089 [hep-ex]

S. Chekanov et al., **Search for pentaquarks decaying to Xi-pi in deep inelastic scattering at HERA**, *Phys. Lett. B.* 610 (2005) 212–224, doi:10.1016/j.physletb.2005.02.016, arXiv:hep-ex/0501069 [hep-ex]

S. Chekanov et al., **Multijet production in neutral current deep inelastic scattering at HERA and determination of alpha(s)**, *Eur. Phys. J. C.* 44 (2005) 183–193, doi:10.1140/epjc/s2005-02347-1, arXiv:hep-ex/0502007 [hep-ex]

S. Chekanov et al., **Study of deep inelastic inclusive and diffractive scattering with the ZEUS forward plug calorimeter**, *Nucl. Phys. B.* 713 (2005) 3–80, doi:10.1016/j.nuclphysb.2005.02.001, arXiv:hep-ex/0501060 [hep-ex]

S. Chekanov et al., **Bose-Einstein correlations in one and two-dimensions in deep inelastic scattering**, *Phys. Lett. B.* 583 (2004) 231–246, doi:10.1016/j.physletb.2003.12.068, arXiv:hep-ex/0311030 [hep-ex]

S. Chekanov et al., **Search for contact interactions, large extra dimensions and finite quark radius in e p collisions at HERA**, *Phys. Lett. B.* 591 (2004) 23–41, doi:10.1016/j.physletb.2004.03.081, arXiv:hep-ex/0401009 [hep-ex]

S. Chekanov et al., **Isolated tau leptons in events with large missing transverse momentum at HERA**, *Phys. Lett. B.* 583 (2004) 41–58, doi:10.1016/j.physletb.2003.12.054, arXiv:hep-ex/0311028 [hep-ex]

S. Chekanov et al., **Search for QCD instanton induced events in deep inelastic ep scattering at HERA**, *Eur. Phys. J. C.* 34 (2004) 255–265, doi:10.1140/epjc/s2004-01735-3, arXiv:hep-ex/0312048 [hep-ex]

S. Chekanov et al., **High Q**2 neutral current cross-sections in e+ p deep inelastic scattering at s**(1/2) = 318-GeV**, *Phys. Rev. D.* 70 (2004) 052001, doi:10.1103/PhysRevD.70.052001, arXiv:hep-ex/0401003 [hep-ex]

S. Chekanov et al., **Beauty photoproduction measured using decays into muons in dijet events in e p collisions at s**(1/2) = 318-GeV**, *Phys. Rev. D.* 70 (2004) 012008, doi:10.1103/PhysRevD.70.012008, arXiv:hep-ex/0312057 [hep-ex]

S. Chekanov et al., **Measurement of D*+- production in deep inelastic e+- p scattering at HERA**, *Phys. Rev. D.* 69 (2004) 012004, doi:10.1103/PhysRevD.69.012004, arXiv:hep-ex/0308068 [hep-ex]

S. Chekanov et al., **Observation of K0(s) K0(s) resonances in deep inelastic scattering at HERA**, *Phys. Lett. B.* 578 (2004) 33–44, doi:10.1016/j.physletb.2003.10.049, arXiv:hep-ex/0308006 [hep-ex]

S. Chekanov et al., **Observation of isolated high E(T) photons in deep inelastic scattering**, *Phys. Lett. B.* 595 (2004) 86–100, doi:10.1016/j.physletb.2004.05.033, arXiv:hep-ex/0402019 [hep-ex]

S. Chekanov et al., **Substructure dependence of jet cross sections at HERA and determination of alpha(s)**, *Nucl. Phys. B.* 700 (2004) 3–50, doi:10.1016/j.nuclphysb.2004.08.049, arXiv:hep-ex/0405065 [hep-ex]

S. Chekanov et al., **Evidence for a narrow baryonic state decaying to K0(S) p and K0(S) anti-p in deep inelastic scattering at HERA**, *Phys. Lett. B.* 591 (2004) 7–22, doi:10.1016/j.physletb.2004.04.024, arXiv:hep-ex/0403051 [hep-ex]

S. Chekanov et al., **Search for a narrow charmed baryonic state decaying to D*+- p-+ in ep collisions at HERA**, *Eur. Phys. J. C.* 38 (2004) 29–41, doi:10.1140/epjc/s2004-02042-9, arXiv:hep-ex/0409033 [hep-ex]

S. Chekanov et al., **Dissociation of virtual photons in events with a leading proton at HERA**, *Eur. Phys. J. C.* 38 (2004) 43–67, doi:10.1140/epjc/s2004-02047-4, arXiv:hep-ex/0408009 [hep-ex]

S. Chekanov et al., **Photoproduction of D*+- mesons associated with a leading neutron**, *Phys. Lett. B.* 590 (2004) 143–160, doi:10.1016/j.physletb.2004.03.076, arXiv:hep-ex/0401017 [hep-ex]

S. Chekanov et al., **The Dependence of dijet production on photon virtuality in ep collisions at HERA**, *Eur. Phys. J. C.* 35 (2004) 487–500, doi:10.1140/epjc/s2004-01885-2, arXiv:hep-ex/0404033 [hep-ex]

S. Chekanov et al., **Measurement of beauty production in deep inelastic scattering at HERA**, *Phys. Lett. B.* 599 (2004) 173–189, doi:10.1016/j.physletb.2004.08.048, arXiv:hep-ex/0405069 [hep-ex]

S. Chekanov et al., **Exclusive electroproduction of J/psi mesons at HERA**, *Nucl. Phys. B.* 695 (2004) 3–37, doi:10.1016/j.nuclphysb.2004.06.034, arXiv:hep-ex/0404008 [hep-ex]

S. Chekanov et al., **Study of the azimuthal asymmetry of jets in neutral current deep inelastic scattering at HERA**, *Phys. Lett. B.* 551 (2003) 226–240, doi:10.1016/S0370-2693(02)03072-1, arXiv:hep-ex/0210064 [hep-ex]

S. Chekanov et al., **Measurement of high Q**2 e- p neutral current cross-sections at HERA and the extraction of xF(3)**, *Eur. Phys. J. C.* 28 (2003) 175–201, doi:10.1140/epjc/s2003-01163-y, arXiv:hep-ex/0208040 [hep-ex]

S. Chekanov et al., **Observation of the strange sea in the proton via inclusive phi meson production in neutral current deep inelastic scattering at HERA**, *Phys. Lett. B.* 553 (2003) 141–158, doi:10.1016/S0370-2693(02)03206-9, arXiv:hep-ex/0211025 [hep-ex]

S. Chekanov et al., **Measurements of inelastic J / psi and psi-prime photoproduction at HERA**, *Eur. Phys. J. C.* 27 (2003) 173–188, doi:10.1140/epjc/s2002-01130-2, arXiv:hep-ex/0211011 [hep-ex]

S. Chekanov et al., **Measurement of subjet multiplicities in neutral current deep inelastic scattering at HERA and determination of alpha(s)**, *Phys. Lett. B.* 558 (2003) 41–58, doi:10.1016/S0370-2693(03)00216-8, arXiv:hep-ex/0212030 [hep-ex]

S. Chekanov et al., **Measurement of event shapes in deep inelastic scattering at HERA**, *Eur. Phys. J. C.* 27 (2003) 531–545, doi:10.1140/epjc/s2003-01148-x, arXiv:hep-ex/0211040 [hep-ex]

S. Chekanov et al., **Measurement of proton dissociative diffractive photoproduction of vector mesons at large momentum transfer at HERA**, *Eur. Phys. J. C.* 26 (2003) 389–409, doi:10.1140/epjc/s2002-01079-0, arXiv:hep-ex/0205081 [hep-ex]

S. Chekanov et al., **A ZEUS next-to-leading-order QCD analysis of data on deep inelastic scattering**, *Phys. Rev. D.* 67 (2003) 012007, doi:10.1103/PhysRevD.67.012007, arXiv:hep-ex/0208023 [hep-ex]

S. Chekanov et al., **Scaling violations and determination of alpha(s) from jet production in gamma p interactions at HERA**, *Phys. Lett. B.* 560 (2003) 7–23, doi:10.1016/S0370-2693(03)00380-0, arXiv:hep-ex/0212064 [hep-ex]

S. Chekanov et al., **Leading proton production in e+ p collisions at HERA**, *Nucl. Phys. B.* 658 (2003) 3–46, doi:10.1016/S0550-3213(03)00152-4, arXiv:hep-ex/0210029 [hep-ex]

S. Chekanov et al., **Dijet angular distributions in photoproduction of charm at HERA**, *Phys. Lett. B.* 565 (2003) 87–101, doi:10.1016/S0370-2693(03)00752-4, arXiv:hep-ex/0302025 [hep-ex]

S. Chekanov et al., **Measurement of high Q**2 charged current cross-sections in e+ p deep inelastic scattering at HERA**, *Eur. Phys. J. C.* 32 (2003) 1–16, doi:10.1140/epjc/s2003-01363-5, arXiv:hep-ex/0307043 [hep-ex]

S. Chekanov et al., **Jet production in charged current deep inelastic e+ p scattering at HERA**, *Eur. Phys. J. C.* 31 (2003) 149–164, doi:10.1140/epjc/s2003-01358-2, arXiv:hep-ex/0306018 [hep-ex]

S. Chekanov et al., **Measurement of deeply virtual Compton scattering at HERA**, *Phys. Lett. B.* 573 (2003) 46–62, doi:10.1016/j.physletb.2003.08.048, arXiv:hep-ex/0305028 [hep-ex]

S. Chekanov et al., **A Search for resonance decays to lepton + jet at HERA and limits on leptoquarks**, *Phys. Rev. D.* 68 (2003) 052004, doi:10.1103/PhysRevD.68.052004, arXiv:hep-ex/0304008 [hep-ex]

S. Chekanov et al., **Search for single top production in ep collisions at HERA**, *Phys. Lett. B.* 559 (2003) 153–170, doi:10.1016/S0370-2693(03)00333-2, arXiv:hep-ex/0302010 [hep-ex]

S. Chekanov et al., **Measurement of the open charm contribution to the diffractive proton structure function**, *Nucl. Phys. B.* 672 (2003) 3–35, doi:10.1016/j.nuclphysb.2003.09.001, arXiv:hep-ex/0307068 [hep-ex]

S. Chekanov et al., **Measurement of the Q**2 and energy dependence of diffractive interactions at HERA**, *Eur. Phys. J. C.* 25 (2002) 169–187, doi:10.1007/s10052-002-1003-1, arXiv:hep-ex/0203039 [hep-ex]

S. Chekanov et al., **Leading neutron production in e+ p collisions at HERA**, *Nucl. Phys. B.* 637 (2002) 3–56, doi:10.1016/S0550-3213(02)00439-X, arXiv:hep-ex/0205076 [hep-ex]

S. Chekanov et al., **Measurement of high Q ^{2} charged current cross-sections in e $^-$p deep inelastic scattering at HERA**, *Phys. Lett. B.* 539 (2002) 197–217, doi:10.1016/S0370-2693(02)02093-2, arXiv:hep-ex/0205091 [hep-ex]

S. Chekanov et al., **Inclusive jet cross-sections in the Breit frame in neutral current deep inelastic scattering at HERA and determination of alpha(s)**, *Phys. Lett. B.* 547 (2002) 164–180, doi:10.1016/S0370-2693(02)02763-6, arXiv:hep-ex/0208037 [hep-ex]

S. Chekanov et al., **Measurement of diffractive production of D*+-(2010) mesons in deep inelastic scattering at HERA**, *Phys. Lett. B.* 545 (2002) 244–260, doi:10.1016/S0370-2693(02)02595-9, arXiv:hep-ex/0206020 [hep-ex]

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