

# Publication List from all Collaborations and Experiments

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April 24, 2022

- A. Tumasyan et al., **Search for new particles in an extended Higgs sector with four b quarks in the final state at  $\sqrt{s} = 13$  TeV**, (2022). <http://arxiv.org/abs/2203.00480>, arXiv:2203.00480 [hep-ex]
- A. Tumasyan et al., **Search for Higgs boson pair production in the four b quark final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2022). <http://arxiv.org/abs/2202.09617>, arXiv:2202.09617 [hep-ex]
- A. Tumasyan et al., **First evidence for off-shell production of the Higgs boson and measurement of its width**, (2022). <http://arxiv.org/abs/2202.06923>, arXiv:2202.06923 [hep-ex]
- A. Tumasyan et al., **Inclusive nonresonant multilepton probes of new phenomena at  $\sqrt{s} = 13$  TeV**, (2022). <http://arxiv.org/abs/2202.08676>, arXiv:2202.08676 [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**, (2022). <http://arxiv.org/abs/2202.12988>, arXiv:2202.12988 [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**, (2022). <http://arxiv.org/abs/2202.12327>, arXiv:2202.12327 [hep-ex]
- A. Tumasyan et al., **Nuclear modification of  $\Upsilon$  states in pPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**, (2022). <http://arxiv.org/abs/2202.11807>, arXiv:2202.11807 [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**, (2022). <http://arxiv.org/abs/2202.06075>, arXiv:2202.06075 [hep-ex]
- A. Tumasyan et al., **Observation of  $B^0 \rightarrow \psi(2S) K_S^0 \pi^+ \pi^-$  and  $B_S^0 \rightarrow \psi(2S) K_S^0$  decays**, (2022). <http://arxiv.org/abs/2201.09131>, arXiv:2201.09131 [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**, (2022). <http://arxiv.org/abs/2201.05578>, arXiv:2201.05578 [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**, (2022). <http://arxiv.org/abs/2201.07301>, 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**, (2022). <http://arxiv.org/abs/2201.08476>, 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**, (2022). <http://arxiv.org/abs/2201.07861>, arXiv:2201.07861 [hep-ex]
- A. Tumasyan et al., **Identification of hadronic tau lepton decays using a deep neural network**, (2022). <http://arxiv.org/abs/2201.08458>, 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  $\sqrt{s} = 13$  TeV**, (2022). <http://arxiv.org/abs/2201.11585>, arXiv:2201.11585 [hep-ex]
- A. Tumasyan et al., **Observation of the  $B_c^+$  meson in PbPb and pp collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**, (2022). <http://arxiv.org/abs/2201.02659>, arXiv:2201.02659 [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  $\sqrt{s} = 13$  TeV**, (2022). <http://arxiv.org/abs/2201.02140>, arXiv:2201.02140 [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**, (2022). <http://arxiv.org/abs/2201.04206>, arXiv:2201.04206 [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**, (2022). <http://arxiv.org/abs/2201.02227>, 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**, (2022). <http://arxiv.org/abs/2201.07859>, arXiv:2201.07859 [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 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 and differential Higgs boson production cross sections in the decay mode to a pair of  $\tau$  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., **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  $\sqrt{s} = 13$  TeV**, *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.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]
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- 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., **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 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  $W\gamma$  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., **Search for a right-handed W boson and a heavy neutrino in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2021). <http://arxiv.org/abs/2112.03949>, 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**, (2021). <http://arxiv.org/abs/2112.11125>, arXiv:2112.11125 [hep-ex]

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- A. Tumasyan et al., **Measurements of the associated production of a W boson and a charm quark in proton-proton collisions at  $\sqrt{s} = 8$  TeV**, (2021). <http://arxiv.org/abs/2112.00895>, arXiv:2112.00895 [hep-ex]
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- 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**, (2021). <http://arxiv.org/abs/2112.03161>, arXiv:2112.03161 [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**, (2021). <http://arxiv.org/abs/2112.13769>, arXiv:2112.13769 [hep-ex]
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- 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**, (2021). <http://arxiv.org/abs/2111.13669>, arXiv:2111.13669 [hep-ex]
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