

# Publication List from all Collaborations and Experiments

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January 1, 2022

- 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]
- A. Tumasyan et al., **Measurement of the inclusive  $t\bar{t}$  production cross section in proton-proton collisions at  $\sqrt{s} = 5.02$  TeV**, (2021). <http://arxiv.org/abs/2112.09114>, arXiv:2112.09114 [hep-ex]
- 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]
- A. Tumasyan et al., **Measurement of the production cross section for  $Z + b$  jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2021). <http://arxiv.org/abs/2112.09659>, arXiv:2112.09659 [hep-ex]
- A. Tumasyan et al., **Probing charm quark dynamics via multiparticle correlations in PbPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**, (2021). <http://arxiv.org/abs/2112.12236>, arXiv:2112.12236 [hep-ex]
- A. Tumasyan et al., **Evidence for WW/WZ vector boson scattering in the decay channel  $\ell\nu q\bar{q}$  produced in association with two jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2021). <http://arxiv.org/abs/2112.05259>, 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**, (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**, (2021). <http://arxiv.org/abs/2112.13769>, arXiv:2112.13769 [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**, (2021). <http://arxiv.org/abs/2111.13948>, arXiv:2111.13948 [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**, (2021). <http://arxiv.org/abs/2111.06296>, arXiv:2111.06296 [hep-ex]
- A. Tumasyan et al., **Study of dijet events with large rapidity separation in proton-proton collisions at  $\sqrt{s} = 2.76$  TeV**, (2021). <http://arxiv.org/abs/2111.04605>, arXiv:2111.04605 [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**, (2021). <http://arxiv.org/abs/2111.10216>, arXiv:2111.10216 [hep-ex]
- A. Tumasyan et al., **Observation of triple  $J/\psi$  meson production in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2021). <http://arxiv.org/abs/2111.05370>, arXiv:2111.05370 [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**, (2021). <http://arxiv.org/abs/2111.13669>, arXiv:2111.13669 [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**, (2021). <http://arxiv.org/abs/2111.10431>, arXiv:2111.10431 [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**, (2021). <http://arxiv.org/abs/2110.11231>,

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A. Tumasyan et al., **Analysis of the CP structure of the Yukawa coupling between the Higgs boson and  $\tau$  leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2021). <http://arxiv.org/abs/2110.04836>, arXiv:2110.04836 [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**, (2021). <http://arxiv.org/abs/2110.13218>, arXiv:2110.13218 [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**, (2021). <http://arxiv.org/abs/2110.05916>, arXiv:2110.05916 [hep-ex]

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A. Tumasyan et al., **Study of quark and gluon jet substructure in Z+jet and dijet events from pp collisions**, (2021). <http://arxiv.org/abs/2109.03340>, arXiv:2109.03340 [hep-ex]

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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**, (2021). <http://arxiv.org/abs/2109.13822>, arXiv:2109.13822 [hep-ex]

A. Tumasyan et al., **Observation of  $B_s^0$  mesons and measurement of the  $B_s^0/B^+$  yield ratio in PbPb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**, (2021). <http://arxiv.org/abs/2109.01908>, arXiv:2109.01908 [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**, (2021). <http://arxiv.org/abs/2107.11486>, arXiv:2107.11486 [hep-ex]

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A. Tumasyan et al., **Search for electroweak production of charginos and neutralinos in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2021). <http://arxiv.org/abs/2106.14246>, arXiv:2106.14246 [hep-ex]

A. Tumasyan et al., **Fragmentation of jets containing a prompt  $J/\psi$  meson in PbPb and pp collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**, (2021), doi:10.1016/j.physletb.2021.136842, arXiv:2106.13235 [hep-ex]

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A. Tumasyan et al., **Search for strongly interacting massive particles generating trackless jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2021). <http://arxiv.org/abs/2105.09178>, arXiv:2105.09178 [hep-ex]

A.M. Sirunyan et al., **Using Z boson events to study parton-medium interactions in PbPb collisions**, (2021). <http://arxiv.org/abs/2103.04377>, arXiv:2103.04377 [hep-ex]

A.M. Sirunyan et al., **Evidence for X(3872) in PbPb collisions and studies of its prompt production at  $\sqrt{s_{NN}} = 5.02$  TeV**, (2021). <http://arxiv.org/abs/2102.13048>, arXiv:2102.13048 [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]

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A.M. Sirunyan et al., **Measurement of prompt  $D^0$  and  $\bar{D}^0$  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](https://doi.org/10.1007/JHEP04(2021)109), arXiv:[2012.04119](https://arxiv.org/abs/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](https://doi.org/10.1140/epjc/s10052-021-08949-5), arXiv:[2011.03422](https://arxiv.org/abs/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](https://doi.org/10.1007/JHEP03(2021)003), arXiv:[2007.01984](https://arxiv.org/abs/2007.01984) [hep-ex]
- A.M. Sirunyan et al., **Measurement of the CP-violating phase  $\phi_s$  in the  $B_s^0 \rightarrow J/\psi \phi(1020) \rightarrow \mu^+ \mu^- K^+ K^-$  channel in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, *Phys. Lett. B*. 816 (2021) 136188, doi:[10.1016/j.physletb.2021.136188](https://doi.org/10.1016/j.physletb.2021.136188), arXiv:[2007.02434](https://arxiv.org/abs/2007.02434) [hep-ex]
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- 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](https://doi.org/10.1016/j.physletb.2020.136018), arXiv:[2009.09429](https://arxiv.org/abs/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](https://doi.org/10.1016/j.physletb.2020.135992), arXiv:[2008.07013](https://arxiv.org/abs/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](https://doi.org/10.1007/JHEP05(2021)054), arXiv:[2005.14219](https://arxiv.org/abs/2005.14219) [hep-ex]
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- 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](https://doi.org/10.1007/JHEP05(2021)205), arXiv:[2012.09254](https://arxiv.org/abs/2012.09254) [hep-ex]
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- A.M. Sirunyan 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](https://doi.org/10.1007/JHEP03(2021)011), arXiv:[2009.14009](https://arxiv.org/abs/2009.14009) [hep-ex]
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