

# Publication List from all Collaborations and Experiments

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April 1, 2024

- A. Hayrapetyan et al., **Constraints on anomalous Higgs boson couplings from its production and decay using the WW channel in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.00657>, arXiv:2403.00657 [hep-ex]
- A. Hayrapetyan et al., **Search for new physics with emerging jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.01556>, arXiv:2403.01556 [hep-ex]
- A. Hayrapetyan et al., **Review of top quark mass measurements in CMS**, (2024). <http://arxiv.org/abs/2403.01313>, arXiv:2403.01313 [hep-ex]
- A. Hayrapetyan et al., **Search for long-lived heavy neutrinos in the decays of B mesons produced in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.04584>, arXiv:2403.04584 [hep-ex]
- A. Hayrapetyan et al., **Measurement of the production cross section of a Higgs boson with large transverse momentum in its decays to a pair of  $\tau$  leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.20201>, arXiv:2403.20201 [hep-ex]
- A. Hayrapetyan et al., **Search for soft unclustered energy patterns in proton-proton collisions at 13 TeV**, (2024). <http://arxiv.org/abs/2403.05311>, arXiv:2403.05311 [hep-ex]
- A. Hayrapetyan et al., **Searches for Higgs boson production through decays of heavy resonances**, (2024). <http://arxiv.org/abs/2403.16926>, arXiv:2403.16926 [hep-ex]
- A. Hayrapetyan et al., **Performance of the CMS electromagnetic calorimeter in pp collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.15518>, arXiv:2403.15518 [physics.ins-det]
- A. Hayrapetyan et al., **Search for Higgs boson pair production in the  $b\bar{b}WW$  decay mode in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.09430>, arXiv:2403.09430 [hep-ex]
- A. Hayrapetyan et al., **Search for ZZ and ZH production in the  $b\bar{b}b\bar{b}$  final state using proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.20241>, arXiv:2403.20241 [hep-ex]
- A. Hayrapetyan et al., **Observation of the  $J/\psi \rightarrow \mu^+\mu^-\mu^+\mu^-$  decay in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.11352>, arXiv:2403.11352 [hep-ex]
- A. Hayrapetyan et al., **Search for the decay of the Higgs boson to a pair of light pseudoscalar bosons in the final state with four bottom quarks in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.10341>, arXiv:2403.10341 [hep-ex]
- A. Hayrapetyan et al., **Enriching the physics program of the CMS experiment via data scouting and data parking**, (2024). <http://arxiv.org/abs/2403.16134>, arXiv:2403.16134 [hep-ex]
- A. Hayrapetyan et al., **Search for long-lived heavy neutral leptons decaying in the CMS muon detectors in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.18658>, arXiv:2402.18658 [hep-ex]
- A. Hayrapetyan et al., **Search for pair production of scalar and vector leptoquarks decaying to muons and bottom quarks in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.08668>, arXiv:2402.08668 [hep-ex]
- A. Hayrapetyan et al., **Search for long-lived particles decaying in the CMS muon detectors in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.01898>, arXiv:2402.01898 [hep-ex]
- A. Hayrapetyan et al., **Search for baryon number violation in top quark production and decay using proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.18461>, arXiv:2402.18461 [hep-ex]

- A. Hayrapetyan et al., **Search for fractionally charged particles in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.09932>, arXiv:2402.09932 [hep-ex]
- A. Hayrapetyan et al., **Combined search for electroweak production of winos, binos, higgsinos, and sleptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.01888>, arXiv:2402.01888 [hep-ex]
- A. Hayrapetyan et al., **Measurement of energy correlators inside jets and determination of the strong coupling  $\alpha_S(m_Z)$** , (2024). <http://arxiv.org/abs/2402.13864>, arXiv:2402.13864 [hep-ex]
- A. Hayrapetyan et al., **Search for long-lived particles decaying to final states with a pair of muons in proton-proton collisions at  $\sqrt{s} = 13.6$  TeV**, (2024). <http://arxiv.org/abs/2402.14491>, arXiv:2402.14491 [hep-ex]
- A. Hayrapetyan et al., **Observation of the  $\Xi_b^- \rightarrow \psi(2S) \Xi^-$  decay and studies of the  $\Xi_b^{*0}$  baryon in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.17738>, arXiv:2402.17738 [hep-ex]
- A. Hayrapetyan et al., **Search for long-lived particles using displaced vertices and missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.15804>, arXiv:2402.15804 [hep-ex]
- A. Hayrapetyan et al., **Portable acceleration of CMS computing workflows with coprocessors as a service**, (2024). <http://arxiv.org/abs/2402.15366>, arXiv:2402.15366 [physics.ins-det]
- A. Tumasyan et al., **Search for a scalar or pseudoscalar dilepton resonance produced in association with a massive vector boson or top quark-antiquark pair in multilepton events at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.11098>, arXiv:2402.11098 [hep-ex]
- A. Hayrapetyan et al., **Search for exotic decays of the Higgs boson to a pair of pseudoscalars in the  $\mu\mu b\bar{b}$  and  $\tau\tau b\bar{b}$  final states**, (2024). <http://arxiv.org/abs/2402.13358>, arXiv:2402.13358 [hep-ex]
- A. Hayrapetyan et al., **A search for bottom-type vector-like quark pair production in dileptonic and fully hadronic final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2402.13808>, arXiv:2402.13808 [hep-ex]
- A. Hayrapetyan et al., **Search for heavy neutral leptons in final states with electrons, muons, and hadronically decaying tau leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2403.00100>, arXiv:2403.00100 [hep-ex]
- A. Hayrapetyan et al., **Measurement of the double-differential inclusive jet cross section in proton-proton collisions at  $\sqrt{s} = 5.02$  TeV**, (2024). <http://arxiv.org/abs/2401.11355>, arXiv:2401.11355 [hep-ex]
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- A. Hayrapetyan et al., **Test of lepton flavor universality in  $B^{\pm} \rightarrow K^{\pm} \mu^+ \mu^-$  and  $B^{\pm} \rightarrow K^{\pm} e^+ e^-$  decays in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2401.07090>, arXiv:2401.07090 [hep-ex]
- A. Hayrapetyan et al., **Observation of the  $\Lambda_b^0 \rightarrow J/\psi \Xi^- K^+$  decay**, (2024). <http://arxiv.org/abs/2401.16303>, arXiv:2401.16303 [hep-ex]
- A. Hayrapetyan et al., **Nonresonant central exclusive production of charged-hadron pairs in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2401.14494>, arXiv:2401.14494 [hep-ex]
- A. Hayrapetyan et al., **Search for flavor changing neutral current interactions of the top quark in final states with a photon and additional jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2023). <http://arxiv.org/abs/2312.08229>, arXiv:2312.08229 [hep-ex]
- A. Hayrapetyan et al., **Measurement of multidifferential cross sections for dijet production in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2023). <http://arxiv.org/abs/2312.16669>, arXiv:2312.16669 [hep-ex]
- A. Hayrapetyan et al., **Observation of enhanced long-range elliptic anisotropies inside high-multiplicity jets in pp collisions at  $\sqrt{s} = 13$  TeV**, (2023). <http://arxiv.org/abs/2312.17103>, arXiv:2312.17103 [hep-ex]
- A. Hayrapetyan et al., **Search for the lepton flavor violating  $\tau \rightarrow 3 \mu$  decay in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2023). <http://arxiv.org/abs/2312.02371>, arXiv:2312.02371 [hep-ex]
- A. Hayrapetyan et al., **Search for charged-lepton flavor violation in the production and decay of top quarks using trilepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2023). <http://arxiv.org/abs/2312.03199>, arXiv:2312.03199 [hep-ex]

- A. Hayrapetyan et al., **Evidence for tWZ production in proton-proton collisions at  $\sqrt{s} = 13$  TeV in multilepton final states**, (2023). <http://arxiv.org/abs/2312.11668>, arXiv:2312.11668 [hep-ex]
- A. Hayrapetyan et al., **Measurement of the primary Lund jet plane density in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2023). <http://arxiv.org/abs/2312.16343>, arXiv:2312.16343 [hep-ex]
- A. Hayrapetyan et al., **Elliptic anisotropy measurement of the  $f_0(980)$  hadron in proton-lead collisions and evidence for its quark-antiquark composition**, (2023). <http://arxiv.org/abs/2312.17092>, arXiv:2312.17092 [nucl-ex]
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- A. Tumasyan et al., **Search for high-mass exclusive diphoton production with tagged protons in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2023). <http://arxiv.org/abs/2311.02725>, arXiv:2311.02725 [hep-ex]
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- A. Hayrapetyan et al., **Search for W' bosons decaying to a top and a bottom quark in leptonic final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2023). <http://arxiv.org/abs/2310.19893>, arXiv:2310.19893 [hep-ex]
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