

# Publication List

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- A. Hayrapetyan et al., **Review of searches for vector-like quarks, vector-like leptons, and heavy neutral leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV at the CMS experiment**, (2024). <http://arxiv.org/abs/2405.17605>, arXiv:2405.17605 [hep-ex]
- A. Hayrapetyan et al., **Stairway to discovery: a report on the CMS programme of cross section measurements from millibarns to femtobarns**, (2024). <http://arxiv.org/abs/2405.18661>, arXiv:2405.18661 [hep-ex]
- A. Hayrapetyan et al., **Search for  $CP$  violation in  $D^0 \rightarrow K_S^0 K_S^0$  decays in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2405.11606>, arXiv:2405.11606 [hep-ex]
- A. Hayrapetyan et al., **Overview of high-density QCD studies with the CMS experiment at the LHC**, (2024). <http://arxiv.org/abs/2405.10785>, arXiv:2405.10785 [nucl-ex]
- A. Hayrapetyan et al., **Search for new physics in high-mass diphoton events from proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2405.09320>, arXiv:2405.09320 [hep-ex]
- A. Hayrapetyan et al., **Search for production of a single vector-like quark decaying to  $tH$  or  $tZ$  in the all-hadronic final state in  $pp$  collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2405.05071>, arXiv:2405.05071 [hep-ex]
- A. Hayrapetyan et al., **Searches for violation of Lorentz invariance in  $t\bar{t}$  production using dilepton events in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2405.14757>, arXiv:2405.14757 [hep-ex]
- A. Hayrapetyan et al., **Study of  $WH$  production through vector boson scattering and extraction of the relative sign of the  $W$  and  $Z$  couplings to the Higgs boson in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2405.16566>, arXiv:2405.16566 [hep-ex]
- A. Hayrapetyan et al., **Search for new resonances decaying to pairs of merged diphotons in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2405.00834>, arXiv:2405.00834 [hep-ex]
- A. Hayrapetyan 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  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2405.18149>, arXiv:2405.18149 [hep-ex]
- A. Hayrapetyan et al., **Girth and groomed radius of jets recoiling against isolated photons in lead-lead and proton-proton collisions at  $\sqrt{s_{NN}} = 5.02$  TeV**, (2024). <http://arxiv.org/abs/2405.02737>, arXiv:2405.02737 [nucl-ex]
- A. Hayrapetyan et al., **Dark sector searches with the CMS experiment**, (2024). <http://arxiv.org/abs/2405.13778>, arXiv:2405.13778 [hep-ex]
- A. Hayrapetyan et al., **Search for Higgs Boson Pair Production with One Associated Vector Boson in Proton-Proton Collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2404.08462>, arXiv:2404.08462 [hep-ex]
- A. Hayrapetyan et al., **Measurement of multijet azimuthal correlations and determination of the strong coupling in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2404.16082>, arXiv:2404.16082 [hep-ex]
- A. Hayrapetyan et al., **Measurement of Differential  $ZZ$ +Jets Production Cross Sections in  $pp$  Collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2404.02711>, arXiv:2404.02711 [hep-ex]
- A. Hayrapetyan et al., **Searches for Pair-Produced Multijet Resonances using Data Scouting in Proton-Proton Collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2404.02992>, arXiv:2404.02992 [hep-ex]
- A. Hayrapetyan et al., **The CMS Statistical Analysis and Combination Tool: COMBINE**, (2024). <http://arxiv.org/abs/2404.06614>, arXiv:2404.06614 [physics.data-an]

- A. Hayrapetyan et al., **Performance of CMS muon reconstruction from proton-proton to heavy ion collisions**, (2024). <http://arxiv.org/abs/2404.17377>, arXiv:2404.17377 [hep-ex]
- A. Hayrapetyan et al., **Search for the Z boson decay to  $\tau\tau\mu\mu$  in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2404.18298>, arXiv:2404.18298 [hep-ex]
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- 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]
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- 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]
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- 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]
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- 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]
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