

Publication List from all Collaborations and Experiments

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June 1, 2024

- 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]
- 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]
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- A. Hayrapetyan et al., **Review of top quark mass measurements in CMS**, (2024). <http://arxiv.org/abs/2403.01313>, arXiv:2403.01313 [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 τ 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., **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 bbWW 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]
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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]
- 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]
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- 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]

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- 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]
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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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