

Publication List from all Collaborations and Experiments

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- A. Hayrapetyan et al., **Strategy and performance of the CMS long-lived particle trigger program in proton-proton collisions at $\sqrt{s} = 13.6$ TeV**, (2026). <http://arxiv.org/abs/2601.17544>, arXiv:2601.17544 [hep-ex]
- A. Hayrapetyan et al., **Measurement of the $\Upsilon(1S)$, $\Upsilon(2S)$, and $\Upsilon(3S)$ differential cross sections in pp collisions at $\sqrt{s} = 13.6$ TeV**, (2026). <http://arxiv.org/abs/2601.20023>, arXiv:2601.20023 [hep-ex]
- A. Hayrapetyan et al., **Combination of searches for heavy vector boson resonances in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.12583>, arXiv:2601.12583 [hep-ex]
- A. Hayrapetyan et al., **Search for a boosted Higgs boson decaying to bottom quark pairs in association with a W or Z boson in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.05362>, arXiv:2601.05362 [hep-ex]
- A. Hayrapetyan et al., **Search for dark matter produced in association with a Higgs boson decaying to bottom quarks in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.11330>, arXiv:2601.11330 [hep-ex]
- A. Hayrapetyan et al., **Measurement of the Higgs boson total decay width using the $H \rightarrow WW \rightarrow e \nu \mu \nu$ decay channel in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.05168>, arXiv:2601.05168 [hep-ex]
- A. Hayrapetyan et al., **Measurement and effective field theory interpretation of the photon-fusion production cross section of a pair of W bosons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.21574>, arXiv:2601.21574 [hep-ex]
- A. Hayrapetyan et al., **Search for exotic Higgs boson decays $H \rightarrow \mathcal{A}\mathcal{A}$ with $\mathcal{A}\mathcal{A} \rightarrow \gamma\gamma$ in events with a semi-merged topology in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.00183>, arXiv:2601.00183 [hep-ex]
- A. Hayrapetyan et al., **Search for heavy resonances decaying into two Higgs bosons in the $b\bar{b}\tau^+\tau^-$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.20011>, arXiv:2601.20011 [hep-ex]
- A. Hayrapetyan et al., **Search for heavy long-lived charged particles with level-1 trigger scouting data from proton-proton collisions at $\sqrt{s} = 13.6$ TeV**, (2026). <http://arxiv.org/abs/2601.20063>, arXiv:2601.20063 [hep-ex]
- A. Hayrapetyan et al., **Search for the pair production of long-lived supersymmetric partners of the tau lepton in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.17576>, arXiv:2601.17576 [hep-ex]
- A. Hayrapetyan et al., **Measurement of the Z γ production cross section and search for anomalous neutral triple gauge couplings in pp collisions at $\sqrt{s} = 13$ TeV**, (2026). <http://arxiv.org/abs/2601.14102>, arXiv:2601.14102 [hep-ex]
- A. Hayrapetyan et al., **Full event interpretation with machine-learning-based particle-flow reconstruction in the CMS detector**, (2026). <http://arxiv.org/abs/2601.17554>, arXiv:2601.17554 [physics.ins-det]
- A. Hayrapetyan et al., **Characterization of the quantum state of top quark pairs produced in proton-proton collisions at $\sqrt{s} = 13$ TeV using the beam and helicity bases**, (2025). <http://arxiv.org/abs/2512.17557>, arXiv:2512.17557 [hep-ex]
- A. Hayrapetyan et al., **Measurement of Z γ production in proton-proton collisions at $\sqrt{s} = 13.6$ TeV and constraints on neutral triple gauge couplings**, (2025). <http://arxiv.org/abs/2512.08582>, arXiv:2512.08582 [hep-ex]
- A. Hayrapetyan et al., **Search for charged Higgs bosons decaying into top and bottom quarks in lepton+jets final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2512.24471>, arXiv:2512.24471 [hep-ex]

- A. Hayrapetyan et al., **Machine-learning techniques for model-independent searches in dijet final states**, (2025), doi:[10.5281/zenodo.16656501](https://doi.org/10.5281/zenodo.16656501), arXiv:[2512.20395](https://arxiv.org/abs/2512.20395) [hep-ex]
- A. Hayrapetyan et al., **Search for new physics in the final state with a single photon and large missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2511.17310>, arXiv:[2511.17310](https://arxiv.org/abs/2511.17310) [hep-ex]
- V. Chekhovsky et al., **Jet fragmentation function and groomed substructure of bottom quark jets in proton-proton collisions at 5.02 TeV**, (2025). <http://arxiv.org/abs/2511.10666>, arXiv:[2511.10666](https://arxiv.org/abs/2511.10666) [hep-ex]
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- A. Hayrapetyan et al., **Search for long-lived particles using displaced vertices with low-momentum tracks in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2511.08212>, arXiv:[2511.08212](https://arxiv.org/abs/2511.08212) [hep-ex]
- A. Hayrapetyan et al., **Search for heavy $H \gamma$ and $Z \gamma$ resonances with a bottom quark-antiquark pair in the final state in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2511.14583>, arXiv:[2511.14583](https://arxiv.org/abs/2511.14583) [hep-ex]
- V. Chekhovsky et al., **Search for a new neutral gauge boson produced in association with one or two b jets and decaying into a pair of muons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2511.11853>, arXiv:[2511.11853](https://arxiv.org/abs/2511.11853) [hep-ex]
- A. Hayrapetyan et al., **Inclusive and differential measurements of the $t\bar{t}\gamma$ cross section and the $t\bar{t}\gamma/t\bar{t}$ cross section ratio in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2511.01995>, arXiv:[2511.01995](https://arxiv.org/abs/2511.01995) [hep-ex]
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- V. Chekhovsky et al., **Measurement of the ratio of the $B_c^+ \rightarrow J/\psi \tau^+ \nu_\tau$ and $B_c^+ \rightarrow J/\psi \mu^+ \nu_\mu$ branching fractions using three-prong τ lepton decays**, (2025). <http://arxiv.org/abs/2510.21559>, arXiv:[2510.21559](https://arxiv.org/abs/2510.21559) [hep-ex]
- A. Hayrapetyan et al., **Combination of searches for nonresonant Higgs boson pair production in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2510.07527>, arXiv:[2510.07527](https://arxiv.org/abs/2510.07527) [hep-ex]
- A. Hayrapetyan et al., **Characterizing the initial state and dynamical evolution in XeXe and PbPb collisions using multiparticle cumulants**, (2025). <http://arxiv.org/abs/2510.26766>, arXiv:[2510.26766](https://arxiv.org/abs/2510.26766) [nucl-ex]
- A. Hayrapetyan et al., **Observation of long-range collective flow in OO and NeNe collisions and implications for nuclear structure studies**, (2025). <http://arxiv.org/abs/2510.02580>, arXiv:[2510.02580](https://arxiv.org/abs/2510.02580) [nucl-ex]
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- A. Hayrapetyan et al., **Vector boson scattering and anomalous quartic couplings in final states with $\ell\nu q\bar{q}$ or $\ell\ell q\bar{q}$ plus jets using proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2510.00118>, arXiv:[2510.00118](https://arxiv.org/abs/2510.00118) [hep-ex]

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- V. Chekhovsky et al., **Search for nonresonant new physics signals in high-mass dilepton events produced in association with b-tagged jets in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2506.13565>, arXiv:2506.13565 [hep-ex]
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