

Publication List

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M. Atif et al., **Evaluating Application Characteristics for GPU Portability Layer Selection**, (2026). <http://arxiv.org/abs/2601.17526>, arXiv:2601.17526 [hep-ex]

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 $Z\gamma$ 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]

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- A. Hayrapetyan et al., **Machine-learning techniques for model-independent searches in dijet final states**, (2025), doi:10.5281/zenodo.16656501, arXiv: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 [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 [hep-ex]
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- A. Hayrapetyan et al., **Search for heavy H γ and Z γ 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 [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 [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 [hep-ex]
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