

Publication List from all Collaborations and Experiments

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- A. Hayrapetyan et al., **First exclusive reconstruction of the B^{*+} , B^{*0} , and B_s^{*0} mesons and precise measurement of their masses**, (2025). <http://arxiv.org/abs/2508.05820>, arXiv:2508.05820 [hep-ex]
- V. Chekhovsky et al., **Search for light pseudoscalar boson pairs produced from Higgs boson decays using the 4 τ and 2 τ final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2508.06947>, arXiv:2508.06947 [hep-ex]
- A. Hayrapetyan et al., **Search for a new scalar resonance decaying to a Higgs boson and another new scalar particle in the final state with two bottom quarks and two photons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2508.11494>, arXiv:2508.11494 [hep-ex]
- A. Hayrapetyan et al., **Search for b hadron decays to long-lived particles in the CMS endcap muon detectors**, (2025). <http://arxiv.org/abs/2508.06363>, arXiv:2508.06363 [hep-ex]
- A. Hayrapetyan et al., **Search for a Higgs boson produced in association with a charm quark and decaying to a W boson pair in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2508.14988>, arXiv:2508.14988 [hep-ex]
- V. Chekhovsky et al., **A general search for supersymmetric particles in scenarios with compressed mass spectra using proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2508.13900>, arXiv:2508.13900 [hep-ex]
- A. Hayrapetyan et al., **Search for charged lepton flavor violating Z and Z' boson decays in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2508.07512>, arXiv:2508.07512 [hep-ex]
- V. Chekhovsky et al., **Exploring small-angle emissions in charm quark jets in proton-proton collisions at $\sqrt{s} = 5.02$ TeV**, (2025). <http://arxiv.org/abs/2507.13469>, arXiv:2507.13469 [nucl-ex]
- V. Chekhovsky et al., **Evidence of medium response to hard probes using correlations of Z bosons with hadrons in heavy ion collisions**, (2025). <http://arxiv.org/abs/2507.09307>, arXiv:2507.09307 [nucl-ex]
- A. Hayrapetyan et al., **Search for heavy pseudoscalar and scalar bosons decaying to a top quark pair in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2507.05119>, arXiv:2507.05119 [hep-ex]
- A. Hayrapetyan et al., **A method for correcting the substructure of multiprong jets using the Lund jet plane**, (2025). <http://arxiv.org/abs/2507.07775>, arXiv:2507.07775 [hep-ex]
- A. Hayrapetyan et al., **Search for resonant production of pairs of dijet resonances through broad mediators in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2507.17884>, arXiv:2507.17884 [hep-ex]
- A. Hayrapetyan et al., **Probing the flavour structure of dimension-6 EFT operators in multilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2507.17498>, arXiv:2507.17498 [hep-ex]
- V. Chekhovsky et al., **Search for top squarks in final states with many light-flavor jets and 0, 1, or 2 charged leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2506.08825>, arXiv:2506.08825 [hep-ex]
- A. Hayrapetyan et al., **Machine learning method for enforcing variable independence in background estimation with LHC data: ABCDisCoTEC**, (2025). <http://arxiv.org/abs/2506.08826>, arXiv:2506.08826 [hep-ex]
- V. Chekhovsky et al., **Search for the rare decay $D^0 \rightarrow \mu^+ \mu^-$ in proton-proton collisions at $\sqrt{s} = 13.6$ TeV**, (2025). <http://arxiv.org/abs/2506.06152>, arXiv:2506.06152 [hep-ex]
- A. Hayrapetyan et al., **Determination of the spin and parity of all-charm tetraquarks**, (2025). <http://arxiv.org/abs/2506.07944>, arXiv:2506.07944 [hep-ex]

- V. Chekhovsky et al., **Search for dark matter produced in association with a Higgs boson decaying to a τ lepton pair in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2506.04431>, arXiv:2506.04431 [hep-ex]
- 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]
- A. Hayrapetyan et al., **Search for the nonresonant and resonant production of a Higgs boson in association with an additional scalar boson in the $\gamma\gamma\tau\tau$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2506.23012>, arXiv:2506.23012 [hep-ex]
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- V. Chekhovsky et al., **Observation of coherent $\phi(1020)$ meson photoproduction in ultraperipheral PbPb collisions at $\sqrt{s_{NN}} = 5.36$ TeV**, (2025). <http://arxiv.org/abs/2504.05193>, arXiv:2504.05193 [nucl-ex]
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- A. Hayrapetyan et al., **Search for charged-lepton flavour violation in top quark interactions with an up-type quark, a muon, and a τ lepton in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2504.08532>, arXiv:2504.08532 [hep-ex]
- A. Hayrapetyan et al., **Search for t -channel scalar and vector leptoquark exchange in the high-mass dimuon and dielectron spectra in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2503.20023>, arXiv:2503.20023 [hep-ex]
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- V. Chekhovsky et al., **Search for vector-like leptons with long-lived particle decays in the CMS muon system in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2503.16699>, arXiv:2503.16699 [hep-ex]
- A. Hayrapetyan et al., **Search for new physics in jet scaling patterns of multilepton events at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2503.06726>, arXiv:2503.06726 [hep-ex]
- V. Chekhovsky et al., **Development of systematic uncertainty-aware neural network trainings for binned-likelihood analyses at the LHC**, (2025). <http://arxiv.org/abs/2502.13047>, arXiv:2502.13047 [hep-ex]
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- A. Hayrapetyan et al., **Evidence for CP violation and measurement of CP-violating parameters in $B_s^0 \rightarrow J/\psi \phi(1020)$ decays in pp collisions at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2412.19952>, arXiv:2412.19952 [hep-ex]
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