

# Publication List from all Collaborations and Experiments

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July 1, 2025

- 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  $\tau$  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  $\gamma\gamma\pi$  final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2506.23012>, arXiv:2506.23012 [hep-ex]
- A. Hayrapetyan et al., **Measurement of WWZ and ZH production cross sections at  $\sqrt{s} = 13$  and 13.6 TeV**, (2025). <http://arxiv.org/abs/2505.20483>, arXiv:2505.20483 [hep-ex]
- V. Chekhovsky et al., **Search for dark matter produced in association with one or two top quarks in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2505.05300>, arXiv:2505.05300 [hep-ex]
- V. Chekhovsky et al., **Measurement of event shapes in minimum-bias events from proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2505.17850>, arXiv:2505.17850 [hep-ex]
- A. Hayrapetyan et al., **Measurements of inclusive and differential Higgs boson production cross sections at  $\sqrt{s} = 13.6$  TeV in the  $H \rightarrow \gamma\gamma$  decay channel**, (2025). <http://arxiv.org/abs/2504.17755>, arXiv:2504.17755 [hep-ex]
- V. Chekhovsky et al., **Combination and interpretation of differential Higgs boson production cross sections in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2504.13081>, arXiv:2504.13081 [hep-ex]
- V. Chekhovsky et al., **Search for jet quenching with dijets from high-multiplicity pPb collisions at  $\sqrt{s_{NN}} = 8.16$  TeV**, (2025). <http://arxiv.org/abs/2504.08507>, arXiv:2504.08507 [nucl-ex]
- 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]
- V. Chekhovsky et al., **Combined effective field theory interpretation of Higgs boson, electroweak vector boson, top quark, and multi-jet measurements**, (2025). <http://arxiv.org/abs/2504.02958>, arXiv:2504.02958 [hep-ex]
- A. Hayrapetyan et al., **Search for charged-lepton flavour violation in top quark interactions with an up-type quark, a muon, and a  $\tau$  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>,

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A. Hayrapetyan et al., **Observation of a pseudoscalar excess at the top quark pair production threshold**, (2025). <http://arxiv.org/abs/2503.22382>, arXiv:2503.22382 [hep-ex]

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V. Chekhovsky et al., **Luminosity measurement for lead-lead collisions at  $\sqrt{s_{NN}} = 5.02$  TeV in 2015 and 2018 at CMS**, (2025). <http://arxiv.org/abs/2503.03946>, arXiv:2503.03946 [hep-ex]

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- A. Hayrapetyan et al., **Study of same-sign W boson scattering and anomalous couplings in events with one tau lepton from pp collisions at  $\sqrt{s} = 13$  TeV**, (2024). <http://arxiv.org/abs/2410.04210>, arXiv:2410.04210 [hep-ex]
- A. Tumasyan et al., **Correlations between azimuthal anisotropy and mean transverse momentum in pp, pPb, and peripheral PbPb collisions**, (2024). <http://arxiv.org/abs/2410.04578>, arXiv:2410.04578 [nucl-ex]
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- A. Hayrapetyan et al., **Measurement of the  $t\bar{t}H$  and  $tH$  production rates in the  $H b\bar{b}$  decay channel using proton-proton collision data at  $\sqrt{s} = 13$  TeV**, *JHEP.* 02 (2025) 097, doi:10.1007/JHEP02(2025)097, arXiv:2407.10896 [hep-ex]
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