

# Publication List from all Collaborations and Experiments

Oliver Gutsche

November 1, 2025

- A. Hayrapetyan et al., **Discovery of suppressed charged-particle production in ultrarelativistic oxygen-oxygen collisions**, (2025). <http://arxiv.org/abs/2510.09864>, arXiv:2510.09864 [nucl-ex]
- 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  $\tau$  lepton decays**, (2025). <http://arxiv.org/abs/2510.21559>, arXiv:2510.21559 [hep-ex]
- A. Hayrapetyan et al., **Performance of heavy-flavour jet identification in Lorentz-boosted topologies in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2510.10228>, arXiv:2510.10228 [physics.ins-det]
- 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 [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 [nucl-ex]
- A. Hayrapetyan et al., **Observation of tWZ production at the CMS experiment**, (2025). <http://arxiv.org/abs/2510.19080>, arXiv:2510.19080 [hep-ex]
- V. Chekhovsky et al., **Search for dark matter production in association with bottom quarks and a lepton pair in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2510.12396>, arXiv:2510.12396 [hep-ex]
- A. Hayrapetyan et al., **Search for dijet resonances with data scouting in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2510.21641>, arXiv:2510.21641 [hep-ex]
- A. Hayrapetyan et al., **Search for single production of a vector-like T quark decaying to a top quark and a neutral scalar boson in the lepton+jets final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2510.25874>, arXiv:2510.25874 [hep-ex]
- A. Hayrapetyan et al., **Vector boson scattering and anomalous quartic couplings in final states with  $\ell\nu qq$  or  $\ell\ell qq$  plus jets using proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2510.00118>, arXiv:2510.00118 [hep-ex]
- A. Hayrapetyan et al., **Search for resonances decaying to an anomalous jet and a Higgs boson in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2509.13635>, arXiv:2509.13635 [hep-ex]
- A. Hayrapetyan et al., **Model-independent measurement of the Higgs boson associated production with two jets and decaying to a pair of W bosons in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2509.07958>, arXiv:2509.07958 [hep-ex]
- A. Hayrapetyan et al., **Measurements of ttW differential cross sections and the leptonic charge asymmetry at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2509.13512>, arXiv:2509.13512 [hep-ex]
- V. Chekhovsky et al., **Measurement of  $D^0$  meson photoproduction in ultraperipheral heavy ion collisions**, (2025). <http://arxiv.org/abs/2509.08626>, arXiv:2509.08626 [nucl-ex]
- V. Chekhovsky et al., **Measurement of the dineutrino system kinematic variables in dileptonic top quark pair production in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2510.00160>, arXiv:2510.00160 [hep-ex]
- 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  $\tau$  and 2  $\tau$  final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2508.06947>,

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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]

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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]

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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]

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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]

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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- 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>, arXiv:2503.20023 [hep-ex]
- V. Chekhovsky et al., **Search for the associated production of a Higgs boson with a charm quark in the diphoton decay channel in pp collisions at  $\sqrt{s} = 13$  TeV**, (2025). <http://arxiv.org/abs/2503.08797>, arXiv:2503.08797 [hep-ex]
- 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., **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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- A. Hayrapetyan et al., **Elliptic anisotropy measurement of the  $\phi(980)$  hadron in proton-lead collisions and evidence for its quark-antiquark composition**, *Nature Commun.* 16 (2025) 7990, doi:10.1038/s41467-025-56200-6, arXiv:2312.17092 [nucl-ex]
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