

Publication List from all Collaborations and Experiments

Oliver Gutsche

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- 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]
- 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]
- 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]
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- 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 τ lepton in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2504.08532>, arXiv:2504.08532 [hep-ex]
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- V. Chekhovsky et al., **Observation of the charged-particle multiplicity dependence of $\sigma_{\psi(2S)}/\sigma_{J/\psi}$ in pPb collisions at 8.16 TeV**, (2025). <http://arxiv.org/abs/2503.02139>, arXiv:2503.02139 [nucl-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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- 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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- V. Chekhovsky et al., **High-precision measurement of the W boson mass with the CMS experiment at the LHC**, (2024). <http://arxiv.org/abs/2412.13872>, arXiv:2412.13872 [hep-ex]
- A. Hayrapetyan et al., **Search for heavy neutral resonances decaying to tau lepton pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2412.04357>, arXiv:2412.04357 [hep-ex]
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