

Publication List

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- V. Chekhovsky et al., **Search for a heavy pseudoscalar Higgs boson decaying to a 125 GeV Higgs boson and a Z boson in final states with two tau and two light leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2025). <http://arxiv.org/abs/2501.14825>, arXiv:2501.14825 [hep-ex]
- V. Chekhovsky et al., **Measurements of Higgs boson production cross section in the four-lepton final state in proton-proton collisions at $\sqrt{s} = 13.6$ TeV**, (2025). <http://arxiv.org/abs/2501.14849>, arXiv:2501.14849 [hep-ex]
- A. Hayrapetyan et al., **Measurement of light-by-light scattering and the Breit-Wheeler process, and search for axion-like particles in ultraperipheral PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV**, (2024). <http://arxiv.org/abs/2412.15413>, arXiv:2412.15413 [nucl-ex]
- A. Hayrapetyan et al., **Measurement of the inclusive WZ production cross section in pp collisions at $\sqrt{s} = 13.6$ TeV**, (2024). <http://arxiv.org/abs/2412.02477>, arXiv:2412.02477 [hep-ex]
- 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]
- V. Chekhovsky et al., **Identification of low-momentum muons in the CMS detector using multivariate techniques in proton-proton collisions at $\sqrt{s} = 13.6$ TeV**, (2024). <http://arxiv.org/abs/2412.17590>, arXiv:2412.17590 [hep-ex]
- V. Chekhovsky et al., **Determination of the strong coupling and its running from measurements of inclusive jet production**, (2024). <http://arxiv.org/abs/2412.16665>, arXiv:2412.16665 [hep-ex]
- A. Hayrapetyan et al., **Measurement of the W boson decay branching fraction ratio $\mathcal{B}(W \rightarrow cq)/\mathcal{B}(W \rightarrow q\bar{q}')$ in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2412.16296>, arXiv:2412.16296 [hep-ex]
- A. Hayrapetyan et al., **Search for a neutral gauge boson with nonuniversal fermion couplings in vector boson fusion processes in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2412.19261>, arXiv:2412.19261 [hep-ex]
- 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]
- A. Hayrapetyan et al., **Angular analysis of the $B^0 \rightarrow K^*(892)^0 \mu^+ \mu^-$ decay in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2411.11820>, arXiv:2411.11820 [hep-ex]
- A. Hayrapetyan et al., **Search for rare decays of the Z and Higgs bosons to a J/ψ or $\psi(2S)$ meson and a photon in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2411.15000>, arXiv:2411.15000 [hep-ex]
- A. Hayrapetyan et al., **Reweighting simulated events using machine-learning techniques in the CMS experiment**, (2024). <http://arxiv.org/abs/2411.03023>, arXiv:2411.03023 [hep-ex]
- V. Chekhovsky et al., **Constraints on standard model effective field theory for a Higgs boson produced in association with W or Z bosons in the $H \rightarrow b\bar{b}$ decay channel in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2411.16907>, arXiv:2411.16907 [hep-ex]
- A. Hayrapetyan et al., **Proton reconstruction with the TOTEM Roman pot detectors for high- β^* LHC data**, (2024). <http://arxiv.org/abs/2411.19749>, arXiv:2411.19749 [hep-ex]
- A. Hayrapetyan et al., **Search for heavy neutral Higgs bosons A and H in the $t\bar{t}Z$ channel in proton-proton collisions at 13 TeV**, (2024). <http://arxiv.org/abs/2412.00570>, arXiv:2412.00570 [hep-ex]

- A. Hayrapetyan et al., **Search for a heavy resonance decaying into a Z and a Higgs boson in events with an energetic jet and two electrons, two muons, or missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2411.00202>, arXiv:2411.00202 [hep-ex]
- 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]
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- A. Hayrapetyan et al., **Measurement of the $t\bar{t}H$ and tH production rates in the $H \rightarrow b\bar{b}$ decay channel using proton-proton collision data at $\sqrt{s} = 13$ TeV**, (2024). <http://arxiv.org/abs/2407.10896>, arXiv:2407.10896 [hep-ex]
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