

# Rapport d'activité LPNHE 2022–2023

## Liste de publications du groupe CTA

- [1] F. Acero, A. Acharyya, R. Adam et al. « Sensitivity of the Cherenkov Telescope Array to spectral signatures of hadronic PeVatrons with application to Galactic Supernova Remnants ». *Astroparticle Physics* 150, 102850 (août 2023), p. 102850. DOI : [10.1016/j.astropartphys.2023.102850](https://doi.org/10.1016/j.astropartphys.2023.102850). arXiv : [2303.15007](https://arxiv.org/abs/2303.15007) [astro-ph.HE].
- [2] Fabio Acero, Arnau Aguasca-Cabot, Johannes Buchner et al. *Gammapy : Python toolbox for gamma-ray astronomy*. Version v1.0.1. Mars 2023. DOI : [10.5281/zenodo.7734804](https://doi.org/10.5281/zenodo.7734804).
- [3] A. Acharyya, R. Adam, A. Aguasca-Cabot et al. « Sensitivity of the Cherenkov Telescope Array to TeV photon emission from the Large Magellanic Cloud ». *MNRAS* 523.4 (août 2023), p. 5353-5387. DOI : [10.1093/mnras/stad1576](https://doi.org/10.1093/mnras/stad1576). arXiv : [2305.16707](https://arxiv.org/abs/2305.16707) [astro-ph.HE].
- [4] A. Addazi, J. Alvarez-Muniz, R. Alves Batista et al. « Quantum gravity phenomenology at the dawn of the multi-messenger era-A review ». *Progress in Particle and Nuclear Physics* 125, 103948 (juill. 2022), p. 103948. DOI : [10.1016/j.pnpnp.2022.103948](https://doi.org/10.1016/j.pnpnp.2022.103948). arXiv : [2111.05659](https://arxiv.org/abs/2111.05659) [hep-ph].
- [5] T. Armstrong, H. Costantini, J. F. Glicenstein et al. « Monte Carlo Simulations and Validation of NectarCAM, a Medium Sized Telescope Camera for CTA ». *37th International Cosmic Ray Conference*. Mars 2022, 747, p. 747. DOI : [10.22323/1.395.0747](https://doi.org/10.22323/1.395.0747). arXiv : [2108.00426](https://arxiv.org/abs/2108.00426) [astro-ph.IM].
- [6] F. Bradascio, H. Rueda, J. A. Barrio et al. « The NectarCAM timing system ». *Nuclear Instruments and Methods in Physics Research A* 1054, 168398 (sept. 2023), p. 168398. DOI : [10.1016/j.nima.2023.168398](https://doi.org/10.1016/j.nima.2023.168398). arXiv : [2301.13828](https://arxiv.org/abs/2301.13828) [astro-ph.IM].
- [7] Federica Bradascio, F. Brun, F. Cangemi et al. « Performances of an upgraded front-end-board for the NectarCAM camera ». *arXiv e-prints* (oct. 2023). arXiv : [2310.02155](https://arxiv.org/abs/2310.02155) [astro-ph.IM].
- [8] A. Brown et CTA Consortium. « Active Galactic Nuclei population studies with the Cherenkov Telescope Array ». *37th International Cosmic Ray Conference*. Mars 2022, 887, p. 887. DOI : [10.22323/1.395.0887](https://doi.org/10.22323/1.395.0887).
- [9] Anthony M. Brown et al. « Sensitivity of the Cherenkov Telescope Array to the gamma-ray emission from neutrino sources detected by IceCube ». *PoS ICRC2023* (2023), p. 1531. DOI : [10.22323/1.444.1531](https://doi.org/10.22323/1.444.1531).
- [10] F. Cangemi, T. Hovatta, E. Lindfors et al. « Probing AGN variability with the Cherenkov Telescope Array ». *arXiv e-prints* (avr. 2023). arXiv : [2304.14208](https://arxiv.org/abs/2304.14208) [astro-ph.HE].

- [11] M. Cerruti, J. Finke, G. Grolleron et al. « Bright blazar flares with CTA ». *arXiv e-prints* (sept. 2023). arXiv : [2309.09615](https://arxiv.org/abs/2309.09615) [[astro-ph.HE](#)].
- [12] The Cherenkov Telescope Array Consortium, : K. Abe et al. « Prospects for  $\gamma$ -ray observations of the Perseus galaxy cluster with the Cherenkov Telescope Array ». *arXiv e-prints* (sept. 2023). arXiv : [2309.03712](https://arxiv.org/abs/2309.03712) [[astro-ph.HE](#)].
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- [14] The CTA consortium. « CTA contributions to the 38th International Cosmic Ray Conference (ICRC 2023) ». *arXiv e-prints* (sept. 2023). arXiv : [2309.08219](https://arxiv.org/abs/2309.08219) [[astro-ph.HE](#)].
- [15] Axel Donath, Régis Terrier, Quentin Remy et al. « Gammapy : A Python package for gamma-ray astronomy ». *A&A* 678, A157 (oct. 2023), A157. DOI : [10.1051/0004-6361/202346488](https://doi.org/10.1051/0004-6361/202346488). arXiv : [2308.13584](https://arxiv.org/abs/2308.13584) [[astro-ph.IM](#)].
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- [18] Guillaume Grolleron, Josefa Becerra González, Jonathan Biteau et al. « Variability studies of active galactic nuclei from the long-term monitoring program with the Cherenkov Telescope Array ». *arXiv e-prints* (sept. 2023). arXiv : [2309.12157](https://arxiv.org/abs/2309.12157) [[astro-ph.HE](#)].
- [19] E. K. Kasai, P. Goldoni, M. Backes et al. « Southern African Large Telescope Spectroscopy of BL Lacs for the CTA project ». *37th International Cosmic Ray Conference*. Mars 2022, 881, p. 881. DOI : [10.22323/1.395.0881](https://doi.org/10.22323/1.395.0881). arXiv : [2108.04917](https://arxiv.org/abs/2108.04917) [[astro-ph.HE](#)].
- [20] Maximilian Linhoff, Lukas Beiske, Noah Biederbeck et al. « ctapipe - Prototype Open Event Reconstruction Pipeline for the Cherenkov Telescope Array ». *PoS ICRC2023* (2023), p. 703. DOI : [10.22323/1.444.0703](https://doi.org/10.22323/1.444.0703).
- [21] H. Rueda, F. Bradascio, J. A. Barrio et al. « Timing performances of NectarCAM, a Medium Sized Telescope Camera for the Cherenkov Telescope Array ». *arXiv e-prints* (oct. 2023). arXiv : [2310.06910](https://arxiv.org/abs/2310.06910) [[astro-ph.IM](#)].
- [22] O. Sergijenko, A. Brown, D. Fiorillo et al. « Sensitivity of the Cherenkov Telescope Array to emission from the gamma-ray counterparts of neutrino events ». *37th International Cosmic Ray Conference*. Mars 2022, 975, p. 975. DOI : [10.22323/1.395.0975](https://doi.org/10.22323/1.395.0975). arXiv : [2108.05217](https://arxiv.org/abs/2108.05217) [[astro-ph.HE](#)].
- [23] R. Zanin, H. Abdalla, H. Abe et al. « CTA – the World’s largest ground-based gamma-ray observatory ». *37th International Cosmic Ray Conference*. Mars 2022, 5, p. 5. DOI : [10.22323/1.395.0005](https://doi.org/10.22323/1.395.0005).