Rapport d'activité LPNHE 2024–2025
Liste de publications du groupe H.E.S.S.

1 Articles référés

1. *Fermi*-LAT Collaboration, S. Abdollahi, L. Baldini et al. « Combined dark matter search towards dwarf spheroidal galaxies with Fermi-LAT, HAWC, H.E.S.S., MAGIC, and VERITAS ». *arXiv e-prints* (août 2025). arXiv : 2508.20229 [astro-ph.HE]
2. F. Aharonian, A. Archaryya, J. Aschersleben et al. « H.E.S.S. programme searching for VHE gamma rays associated with FRBs ». J. Cosmology Astropart. Phys. 2025.7, 086 (juill. 2025), p. 086. DOI : 10.1088/1475-7516/2025/07/086. arXiv : 2507.02143 [astro-ph.HE]
3. H. Abe, S. Abe, V. A. Acciari et al. « Multiwavelength study of OT 081 : broadband modelling of a transitional blazar ». MNRAS 540.1 (juin 2025), p. 364-384. DOI : 10.1093/mnras/stae2469. arXiv : 2410.22557 [astro-ph.HE]
4. S. Caroff, C. Pfeifer, J. Bolmont et al. « Discriminating between different modified dispersion relations from gamma-ray observations ». Phys. Rev. D 111.8, 083021 (avr. 2025), p. 083021. DOI : 10.1103/PhysRevD.111.083021. arXiv : 2412.16048 [astro-ph.HE]
5. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « The H.E.S.S. extragalactic sky survey with the first decade of observations ». A&A 695, A261 (mars 2025), A261. DOI : 10.1051/0004-6361/202452723. arXiv : 2504.21221 [astro-ph.HE]
6. R. Alves Batista, G. Amelino-Camelia, D. Boncioli et al. « White paper and roadmap for quantum gravity phenomenology in the multi-messenger era ». *Classical and Quantum Gravity* 42.3, 032001 (fév. 2025), p. 032001. DOI : 10.1088/1361-6382/ad605a
7. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « Detection of very high-energy gamma-ray emission from Eta Carinae during its 2020 periastron passage ». A&A 694, A328 (fév. 2025), A328. DOI : 10.1051/0004-6361/202453052. arXiv : 2501.12238 [astro-ph.HE]
8. J. C. Algaba, M. Baloković, S. Chandra et al. « Broadband multi-wavelength properties of M87 during the 2018 EHT campaign including a very high energy flaring episode ». A&A 692, A140 (déc. 2024), A140. DOI : 10.1051/0004-6361/202450497. arXiv : 2404.17623 [astro-ph.HE]
9. F. Aharonian, F. Ait Benkhali, J. Aschersleben et al. « High-Statistics Measurement of the Cosmic-Ray Electron Spectrum with H.E.S.S. » Phys. Rev. Lett. 133.22, 221001 (nov.

2024), p. 221001. DOI : 10.1103/PhysRevLett.133.221001. arXiv : 2411.08189 [astro-ph.HE]

10. C. Levy, H. Sol et J. Bolmont. « Separating source-intrinsic and Lorentz invariance violation induced delays in the very high-energy emission of blazar flares ». A&A 689, A136 (sept. 2024), A136. DOI : 10.1051/0004-6361/202450140. arXiv : 2406.01182 [astro-ph.HE]

11. F. Aharonian, F. Ait Benkhali, J. Aschersleben et al. « Very-high-energy γ-Ray Emission from Young Massive Star Clusters in the Large Magellanic Cloud ». ApJ 970.1, L21 (juill. 2024), p. L21. DOI : 10.3847/2041-8213/ad5e67. arXiv : 2407.16219 [astro-ph.HE]

12. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « H.E.S.S. observations of the 2021 periastron passage of PSR B1259-63/LS 2883 ». A&A 687, A219 (juill. 2024), A219. DOI : 10.1051/0004-6361/202449612. arXiv : 2406.18167 [astro-ph.HE]

13. F. Aharonian, F. Ait Benkhali, J. Aschersleben et al. « Spectrum and extension of the inverse-Compton emission of the Crab Nebula from a combined Fermi-LAT and H.E.S.S. analysis ». A&A 686, A308 (juin 2024), A308. DOI : 10.1051/0004-6361/202348651. arXiv : 2403.12608 [astro-ph.HE]

14. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « Unveiling extended gamma-ray emission around HESS J1813-178 ». A&A 686, A149 (juin 2024), A149. DOI : 10.1051/0004-6361/202348374. arXiv : 2403.16802 [astro-ph.HE]

15. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « Curvature in the very-high energy gamma-ray spectrum of M 87 ». A&A 685, A96 (mai 2024), A96. DOI : 10.1051/0004-6361/202348913. arXiv : 2402.13330 [astro-ph.HE]

16. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « Evidence for γ-ray emission from the remnant of Kepler's supernova based on deep H.E.S.S. observations (Corrigendum) ». A&A 683, C1 (mars 2024), p. C1. DOI : 10.1051/0004-6361/202348902e

17. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « TeV flaring activity of the AGN PKS 0625-354 in November 2018 ». A&A 683, A70 (mars 2024), A70. DOI : 10.1051/0004-6361/202348063. arXiv : 2401.07071 [astro-ph.HE]

18. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « Acceleration and transport of relativistic electrons in the jets of the microquasar SS 433 ». *Science* 383.6681 (jan. 2024), p. 402-406. DOI : 10.1126/science.adi2048. arXiv : 2401.16019 [astro-ph.HE]

19. H.E.S.S. Collaboration, F. Aharonian, F. Ait Benkhali et al. « Author Correction : Discovery of a radiation component from the Vela pulsar reaching 20 teraelectronvolts ». *Nature Astronomy* 8.1 (jan. 2024), p. 145-145. DOI : 10.1038/s41550-023-02151-1

2 Comptes rendus de conférences

1. J. Bolmont, A. Campoy-Ordaz et J. Strišković. « Gamma-ray data collection, calibration and analysis for Lorentz invariance violation studies ». *Quantum gravity phenomenology in the multi-messenger approach*. Jan. 2025, 3, p. 3

2. H.E.S.S. Collaboration, F. Aharonian, F. Ait-Benkhali et al. « H.E.S.S. realtime follow-ups of IceCube high-energy neutrino alerts ». *38th International Cosmic Ray Conference*. Sept. 2024, 1546, p. 1546. DOI : 10.22323/1.444.1546

3. F. Schüssler, H. Ashkar, E. Bernardini et al. « Joint searches by FACT, H.E.S.S., MAGIC and VERITAS for VHE gamma-ray emission associated with neutrinos detected by IceCube ». *38th International Cosmic Ray Conference*. Sept. 2024, 1501, p. 1501. DOI : 10.22323/1.444.1501. arXiv : 2309.15469 [astro-ph.HE]

4. D. Kerszberg, C. Armand, E. Charles et al. « Search for dark matter annihilation with a combined analysis of dwarf spheroidal galaxies from Fermi-LAT, HAWC, H.E.S.S., MAGIC and VERITAS ». *38th International Cosmic Ray Conference*. Sept. 2024, 1426, p. 1426. DOI : 10.22323/1.444.1426

5. M. Cerruti, C. Boisson, M. Böttcher et al. « Target of Opportunity Observations of Flaring Blazars with H.E.S.S. » *38th International Cosmic Ray Conference*. Sept. 2024, 924, p. 924. DOI : 10.22323/1.444.0924. arXiv : 2308.07872 [astro-ph.HE]

6. L. T. Fisher, H.E.S.S. Collaboration, F. Aharonian et al. « H.E.S.S. Observations of the Gamma-ray Binary LMC P3 ». *38th International Cosmic Ray Conference*. Sept. 2024, 906, p. 906. DOI : 10.22323/1.444.0906

7. J. A. Hinton, A. Albert, H.E.S.S. Collaboration et al. « Galactic Centre with a Southern Wide Field-of-view Gamma-ray Observatory ». *38th International Cosmic Ray Conference*. Sept. 2024, 893, p. 893. DOI : 10.22323/1.444.0893

8. T. L. Holch, H.E.S.S. Collaboration, F. Aharonian et al. « An updated view of the VHE gamma-ray sky around the stellar cluster Westerlund 2 with the H.E.S.S. experiment ». *38th International Cosmic Ray Conference*. Sept. 2024, 778, p. 778. DOI : 10.22323/1.444.0778

9. H.E.S.S. Collaboration, F. Aharonian, F. Ait-Benkhali et al. « Searching for gamma-ray counterparts of FRBs with H.E.S.S. » *38th International Cosmic Ray Conference*. Sept. 2024, 776, p. 776. DOI : 10.22323/1.444.0776

10. Q. Remy, H.E.S.S. Collaboration, F. Aharonian et al. « Towards the second H.E.S.S. galactic plane catalogue ». *38th International Cosmic Ray Conference*. Sept. 2024, 744, p. 744. DOI : 10.22323/1.444.0744

11. J. D. Mbarubucyeye, H.E.S.S. Collaboration, F. Aharonian et al. « H.E.S.S. follow-up observations of GRB 221009A ». *38th International Cosmic Ray Conference*. Sept. 2024, 705, p. 705. DOI : 10.22323/1.444.0705

12. C. Arcaro, d. N. Mathieu, H.E.S.S. Collaboration et al. « Probing the morphology of the low state gamma-ray emission of M87 with H.E.S.S. » *38th International Cosmic Ray Conference*. Sept. 2024, 696, p. 696. DOI : 10.22323/1.444.0696

13. H.E.S.S. Collaboration, F. Aharonian, F. Ait-Benkhali et al. « Monitoring the first candidate host for the merger of a Supermassive Black Hole Binary with H.E.S.S. » *38th International Cosmic Ray Conference*. Sept. 2024, 688, p. 688. DOI : 10.22323/1.444.0688

14. S. Steinmassl, V. Marandon, Q. Remy et al. « The Eta Carinae 2020 periastron passage as seen by H.E.S.S. » *38th International Cosmic Ray Conference*. Sept. 2024, 640, p. 640. DOI : 10.22323/1.444.0640

15. A. Mitchell, S. Caroff, H.E.S.S. Collaboration et al. « Modelling of highly extended Gamma-ray emission around the Geminga Pulsar as detected with H.E.S.S. » *38th International Cosmic Ray Conference*. Sept. 2024, 590, p. 590. DOI : 10.22323/1.444.0590

16. T. Wach, A. Mitchell, V. Joshi et al. « Joint H.E.S.S. and Fermi-LAT analysis of the region around PSR J1813-1749 ». *38th International Cosmic Ray Conference*. Sept. 2024, 589, p. 589. DOI : 10.22323/1.444.0589