

Publications

[Note that author names are always listed in alphabetic order]

Preprint Articles

- [1] J. Alexandre, **L. Heurtier**, and Silvia Pla, *Exact Renormalisation Group Evolution of the Inflation Dynamics: Reconciling α -Attractors with ACT*, Nov 2025 [ArXiv:2511.05296] **Submitted to PRL**
- [2] M. Fairbairn, **L. Heurtier**, and Maria-Olalla Olea Romacho, *Is Λ CDM on the run? Reconciling the CMB with the Lyman- α Forest*, Nov 2025 [ArXiv:2511.01612] **Submitted to PRD**
- [3] C. Cheng, P. Giannidakis, **L. Heurtier**, and E. Lim, *Non-linear Dynamics and Primordial Black Hole Formation During Kination*, Jul 2025 [ArXiv:2507.19166]
- [4] C. Altomonte, M. Fairbairn, and **L. Heurtier**, *Primordial Black Holes and Nucleosynthesis*, Jan 2025 [ArXiv:2501.05531] **Submitted to PRD**
- [5] W.-Y. Ai, **L. Heurtier**, and T.-H. Jung, *Primordial Black Holes from an Aborted Phase Transition*, Sep 2024 [ArXiv:2409.02175] **Submitted to PRL**

Peer-Reviewed Journal Articles

- [6] K. R. Dienes, **L. Heurtier**, F. Huang, T. M. P. Tait, and B. Thomas, *Cosmological Stasis from Dynamical Scalars: Tracking Solutions and the Possibility of a Stasis-Induced Inflation*, Jun 2024 [ArXiv: 2406.06830] **Phys.Rev.D** 110 (2024) 12, 123514
- [7] S. Abel, **L. Heurtier**, *Exact Schwinger Proper Time Renormalisation*, Nov 2023 [ArXiv:2311.12102] **J. High Energ. Phys.** 08 (2025) 198
- [8] L. Hamaide, **L. Heurtier**, S.-Q. Hu, and A. Cheek, *Primordial Black Holes Are True Vacuum Nurseries*, Nov 2023 [ArXiv: 2311.01869] **Phys. Lett. B** 138895(2024)
- [9] K. R. Dienes, **L. Heurtier**, F. Huang, T. M. P. Tait, and B. Thomas, *Stasis, Stasis, Triple Stasis*, Sep 2023. **Phys.Rev.D** 109 (2024) 8, 083508 [ArXiv: 2309.10345]
- [10] A. Ghoshal, Y. Gouttenoire, **L. Heurtier**, P. Simakachorn, *Primordial Black Hole Archaeology with Gravitational Waves from Cosmic Strings*, Apr 2023, **J. High Energ. Phys.** 08 (2023) 196 [ArXiv:2304.04793]
- [11] R. Heighton, **L. Heurtier**, M. Spannowsky, *Hunting for Neutral Leptons with Ultra-High-Energy Cosmic Rays*, Mar 2023 **Phys.Rev.D** 108 (2023) 5, 055009 [ArXiv:2303.11352]
- [12] A. Cheeck, **L. Heurtier**, Y. F. Perez-Gonzalez, and J. Turner, *Evaporation of Primordial Black Holes in the Early Universe: Mass and Spin Distributions*, Dec 2022. **Phys.Rev.D** 108 (2023) 1, 015005 [ArXiv:2212.03878]
- [13] K. R. Dienes, **L. Heurtier**, F. Huang, D. Kim, T. M. P. Tait, and B. Thomas, *Primordial Black Holes Place the Universe in Stasis*, Dec 2022 [ArXiv:2212.01369] **Accepted for publication in PRD**
- [14] **L. Heurtier**, A. Moursy, L. Wacquez, *Cosmological Imprints of SUSY Breaking in Models of Sgoldstinoless Non-Oscillatory Inflation*, Jul 2022, **JCAP** 03 (2023) 020 [ArXiv:2207.11502]
- [15] A. Ghoshal, **L. Heurtier**, A. Paul, *Signatures of Non-thermal Dark Matter with Kination and Early Matter Domination: Gravitational Waves versus Laboratory Searches*, Aug 2022, **J. High Energ. Phys.** 2022, 105 (2022) [ArXiv:2208.01670]
- [16] A. Cheek, **L. Heurtier**, Y. F. Perez-Gonzalez, J. Turner, *Redshift Effects in Particle Production from Kerr Primordial Black Holes*, Jul 2022, **Phys. Rev. D** 106 (2022) 10, 103012 [ArXiv:2207.09462]
- [17] K. R. Dienes, **L. Heurtier**, F. Huang, D. Kim, T.M.P. Tait, B. Thomas, *Stasis in an Expanding Universe: A Recipe for Stable Mixed-Component Cosmological Eras*, Nov 2021, **Phys. Rev. D** 105 (2022) 2, 023530, [arXiv:2111.04753].
- [18] A. Cheek, **L. Heurtier**, Y. F. Perez-Gonzalez, and J. Turner, *Primordial Black Hole Evaporation and Dark Matter Production: I. Solely Hawking radiation*, Jul 2021., **Phys. Rev. D** 105 (2022) 1, 015022, Jan. 2022 **PRD Editors' Suggestion** [arXiv:2107.00013].
- [19] A. Cheek, **L. Heurtier**, Y. F. Perez-Gonzalez, and J. Turner, *Primordial Black Hole Evaporation and Dark Matter Production: II. Interplay with the Freeze-In/Out Mechanism*, Jul 2021, **Phys. Rev. D** 105 (2022) 1, 015023 Jan. 2022 **PRD Editors' Suggestion**, [arXiv:2107.00016].

- [20] L. Heurtier, F. Huang, and T.M.P. Tait, *Resurrecting Low-Mass Axion Dark Matter Via a Dynamical QCD Scale*, Apr. 2021. *J. High Energ. Phys.* 12 (2021) 216, [arXiv:2104.13390].
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- [23] L. Heurtier and H. Partouche, *Spontaneous Freeze Out of Dark Matter From an Early Thermal Phase Transition*, Dec 2019. *Phys. Rev. D* 101 (2020) 4, 043527, DOI:10.1103/PhysRevD.101.043527 [arXiv:1912.02828].
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- [45] **L. Heurtier**, *Extra U(1), effective operators, anomalies and dark matter*, Journées de Rencontre des Jeunes Chercheurs 2013: Proceedings.