

KEVIN THIEME'S PUBLICATIONS

CORRESPONDING OR LEAD AUTHOR

1. DarkSide-20k Collaboration, F. Acerbi et al., *Flow and thermal modelling of the argon volume in the DarkSide-20k TPC*, *JINST* **20** P06046 (2025) [arXiv:2503.08468].
2. DarkSide-20k Collaboration, F. Acerbi et al., *Benchmarking the design of the cryogenics system for the underground argon in DarkSide-20k*, *JINST* **20** P02016 (2025) [arXiv:2408.14071].
3. Laura Baudis, Patricia Sanchez-Lucas and Kevin Thieme, *A measurement of the mean electronic excitation energy of liquid xenon*, *Eur. Phys. J. C* **81** 1060 (2021) [arXiv:2109.07151].
4. Kevin Thieme, *DARWIN – a next-generation liquid xenon observatory for dark matter and neutrino physics*, in Proceedings of 37th International Cosmic Ray Conference PoS(ICRC2021), vol. 395, p. 548, 2021.
5. L. Baudis, Y. Biondi, M. Galloway, F. Girard, A. Manfredini, N. McFadden, R. Peres, P. Sanchez-Lucas and K. Thieme, *Design and construction of Xenoscope – a full-scale vertical demonstrator for the DARWIN observatory*, *JINST* **16** P08052 (2021) [arXiv:2105.13829].
6. Kevin Thieme, *Null Lagrangians of non-local field theories*, no journal submission, arXiv:2009.13499 (2020).
7. L. Baudis, Y. Biondi, M. Galloway, F. Girard, S. Hochrein, S. Reichard, P. Sanchez-Lucas, K. Thieme and J. Wulf, *The first dual-phase xenon TPC equipped with silicon photomultipliers and characterisation with ^{37}Ar* , *Eur. Phys. J. C* **80** 477 (2020) [arXiv:2003.01731].

CO-AUTHOR

8. V. Gupta, G. R. Araujo, M. Babicz, L. Baudis, P.-J. Chiu, S. Choudhary, M. Goldbrunner, A. Hamer, M. Kuźniak, M. Kuzwa, A. Leonhardt, E. Montagna, G. Nieradka, H. B. Parkinson, F. Pietropaolo, T. Pollmann, F. Resnati, S. Schönert, A. Szalc, K. Thieme and M. Walczak, *Demonstration of the light collection stability of a PEN-based wavelength shifting reflector in a tonne scale liquid argon detector*, *JINST* **20** C05033 (2025) [arXiv:2411.17934].
9. L. Baudis, Y. Biondi, A. Bismark, A. P. Cimental Chavez, J. J. Cuenca-Garcia, J. Franchi, M. Galloway, F. Girard, R. Peres, D. Ramirez Garcia, P. Sanchez-Lucas, K. Thieme and C. Wittweg, *Electron transport measurements in liquid xenon with Xenoscope, a large-scale DARWIN demonstrator*, *Eur. Phys. J. C* **83** 717 (2023) [arXiv:2303.13963].

COLLABORATION AUTHOR

10. DarkSide-50 and DarkSide-20k Collaboration, F. Acerbi et al., *Sensitivity to low-mass WIMPs with an improved liquid argon ionization response model within the DarkSide programme*, submitted to PRL (2025) [arXiv:2511.13629].
11. DarkSide-20k Collaboration, F. Acerbi et al., *Production, quality assurance and quality control of the SiPM Tiles for the DarkSide-20k Time Projection Chamber*, *Eur. Phys. J. C* **85** 1334 (2025) [arXiv:2507.07226].
12. DarkSide-20k Collaboration, F. Acerbi et al., *Quality assurance and quality control of the 26 m² SiPM production for the DarkSide-20k dark matter experiment*, *Eur. Phys. J. C* **85** 534 (2025) [arXiv:2412.18867].
13. DarkSide-20k Collaboration, F. Acerbi et al., *DarkSide-20k sensitivity to light dark matter particles*, *Commun. Phys.* **7** 422 (2024) [arXiv:2407.05813].
14. DarkSide-20k Collaboration, F. Acerbi et al., *A new hybrid gadolinium nanoparticles-loaded polymeric material for neutron detection in rare event searches*, *JINST* **19** P09021 (2024) [arXiv:2404.18492].
15. DarkSide-20k Collaboration, P. Agnes et al., *Constraints on directionality effect of nuclear recoils in a liquid argon time projection chamber*, *Eur. Phys. J. C* **84** 24 (2024) [arXiv:2307.15454].
16. DarkSide-20k Collaboration, E. Aaron et al., *Study of cosmogenic activation above ground for the DarkSide-20k experiment*, *Astropart. Phys.* **152** 102878 (2023) [arXiv:2301.12970].
17. DarkSide-20k Collaboration, E. Aaron et al., *Measurement of isotopic separation of argon with the prototype of the cryogenic distillation plant Aria for dark matter searches*, *Eur. Phys. J. C* **83** 453 (2023) [arXiv:2301.09639].

18. Global Argon Dark Matter Collaboration, P. Agnes et al., *Sensitivity projections for a dual-phase argon TPC optimized for light dark matter searches through the ionization channel*, [Phys. Rev. D **107** 112006 \[arXiv:2209.01177\]](#).
19. DARWIN Collaboration, L. Althueser et al., *GPU-based optical simulation of the DARWIN detector*, [JINST **17** P07018 \(2022\) \[arXiv:2203.14354\]](#).
20. J. Aalbers et al., *A Next-Generation Liquid Xenon Observatory for Dark Matter and Neutrino Physics*, [J. Phys. G: Nucl. Part. Phys. **50** 013001 \(2022\) \[arXiv:2203.02309\]](#).
21. DARWIN Collaboration, J. Aalbers et al., *Solar neutrino detection sensitivity in DARWIN via electron scattering*, [Eur. Phys. J. C **80** 1133 \(2020\) \[arXiv:2006.03114\]](#).
22. DARWIN Collaboration, F. Agostini et al., *Sensitivity of the DARWIN observatory to the neutrinoless double beta decay of ^{136}Xe* , [Eur. Phys. J. C **80** 808 \(2020\) \[arXiv:2003.13407\]](#).

PHD THESIS

23. Kevin Thieme, *The Low-Energy and Large-Scale Frontier of Dual-Phase Xenon Time Projection Chambers for Dark Matter Search*, [PhD Thesis](#), University of Zurich (2022).

INVENTION

24. Kevin Thieme, Frédéric Girard (University of Zurich), *Mehrteilige Lagervorrichtung und Stützsegment*, German utility model ([DE 20 2021 101 412 U1](#)) (2022).