

## PUBLICATION LIST

My full listing on INSPIRE-HEP is available [here](#).

1. *Statistical challenges in the search for dark matter*  
S. Algeri et al. (Editors: T. D. P. Edwards, **B. J. Kavanagh**, P. Scott, A. Vincent)  
[arXiv:1807.09273](#)
2. *Bracketing the impact of astrophysical uncertainties on local dark matter searches*  
A. Ibarra, **B. J. Kavanagh**, A. Rappelt  
Submitted to JCAP, [arXiv:1806.08714](#)
3. *Black holes, gravitational waves and fundamental physics: a roadmap*  
L. Barack et al. (**B. J. Kavanagh**, Section coordinator: “Primordial Black Holes and Dark Matter”)  
Submitted to Physics Reports, [arXiv:1806.05195](#)  
White Paper for the COST action ”Gravitational Waves, Black Holes, and Fundamental Physics”.
4. *Black Holes’ Dark Dress: On the merger rate of a subdominant population of primordial black holes*  
**B. J. Kavanagh**, D. Gaggero, G. Bertone  
[Phys. Rev. D 98, 023536 \(2018\)](#), [arXiv:1805.09034](#)  
Code available [here](#) (archived on [Zenodo](#)), movies available [here](#)
5. *Dark Matter Model or Mass, but Not Both: Assessing Near-Future Direct Searches with Benchmark-free Forecasting*  
T. D. P. Edwards, **B. J. Kavanagh**, C. Weniger  
Submitted to Phys. Rev. Lett., [arXiv:1805.04117](#)  
Code available [here](#) and [here](#)
6. *Prospects for exploring New Physics in Coherent Elastic Neutrino-Nucleus Scattering*  
J. Billard, J. Johnston, **B. J. Kavanagh**  
Submitted to JHEP, [arXiv:1805.01798](#)  
Illustrative code available [here](#) (archived on [Zenodo](#))
7. *Precision constraints on radiative neutrino decay with CMB spectral distortion*  
J. L. Aalberts, S. Ando, W. M. Borg, E. Broeils, J. Broeils, S. Broeils, **B. J. Kavanagh**, G. Leguijt, M. Reemst, D. R. van Arneeman, H. Vu  
[Phys. Rev. D 98, 023001 \(2018\)](#), [arXiv:1803.00588](#)  
Completed as part of the Institute for Theoretical Physics Amsterdam bachelors’ workshop.
8. *Earth-Scattering of super-heavy Dark Matter: updated constraints from detectors old and new*  
**B. J. Kavanagh**  
[Phys. Rev. D 97, 123013 \(2018\)](#), [arXiv:1712.04901](#)  
Code available [here](#)
9. *Time-integrated directional detection of dark matter*  
C. A. J. O’Hare, **B. J. Kavanagh**, A. M. Green  
[Phys. Rev. D 96, 083011 \(2017\)](#), [arXiv:1708.02959](#)
10. *Prospects for determining the particle/antiparticle nature of WIMP dark matter with direct detection experiments*  
**B. J. Kavanagh**, F. S. Queiroz, W. Rodejohann, C. E. Yaguna  
[J. High Energ. Phys. \(2017\) 2017: 59](#), [arXiv:1706.07819](#)  
Code available [here](#)
11. *Probing Leptophilic Dark Sectors with Hadronic Processes*  
F. D’Eramo, **B. J. Kavanagh**, P. Panci  
[Phys. Lett. B 771 \(2017\) 339-348](#), [arXiv:1702.00016](#)

12. *Signatures of Earth-scattering in the direct detection of Dark Matter*  
**B. J. Kavanagh**, R. Catena, C. Kouvaris  
[JCAP 01 \(2017\) 012](#), [arXiv:1611.05453](#)  
 Code available [here](#)
13. *Reconstructing the three-dimensional local dark matter velocity distribution*  
**B. J. Kavanagh**, C. A. J. O'Hare  
[Phys. Rev. D 94, 123009 \(2016\)](#), [arXiv:1609.08630](#)
14. *You can hide but you have to run: direct detection with vector mediators*  
 F. D'Eramo, **B. J. Kavanagh**, P. Panci  
[JHEP 08 \(2016\) 111](#), [arXiv:1605.04917](#)  
 Code available [here](#)
15. *A review of the discovery reach of directional Dark Matter detection*  
 F. Mayet, A. M. Green, J. B. R. Battat, J. Billard, N. Bozorgnia, G. B. Gelmini, P. Gondolo,  
**B. J. Kavanagh**, S. K. Lee, D. Loomba J. Monroe, B. Morgan, C. A. J. O'Hare, A. H. G. Peter,  
 N. S. Phan, S. E. Vahsen  
[Physics Reports 627 \(2016\) 1](#), [arXiv:1602.03781](#)  
 Highlighted in [Physics Reports](#)
16. *Re-examining the significance of the 750 GeV diphoton excess at ATLAS*  
**B. J. Kavanagh**  
 arXiv pre-print (2016), [arXiv:1601.07330](#)  
 Featured on [Symmetries](#) and [Résonances](#)
17. *New directional signatures from the non-relativistic effective field theory of dark matter*  
**B. J. Kavanagh**  
[Phys. Rev. D 92, 023513 \(2015\)](#), [arXiv:1505.07406](#)
18. *Discretising the velocity distribution for directional dark matter experiments*  
**B. J. Kavanagh**  
[JCAP 07 \(2015\) 019](#), [arXiv:1502.04224](#)
19. *Probing WIMP particle physics and astrophysics with direct detection and neutrino telescope data*  
**B. J. Kavanagh**, M. Fornasa, A. M. Green  
[Phys. Rev. D. 91, 103533 \(2015\)](#), [arXiv:1410.8051](#)
20. *Parametrizing the local dark matter speed distribution: a detailed analysis*  
**B. J. Kavanagh**  
[Phys. Rev. D 89, 085026 \(2014\)](#), [arXiv:1312.1852](#)
21. *WIMP physics with ensembles of direct-detection experiments*  
 A. H. G. Peter, V. Gluscevic, A. M. Green, **B. J. Kavanagh**, S. K. Lee  
[Phys. Dark Universe 5-6 \(2014\) 45-74](#), [arXiv:1310.7039](#)
22. *Model independent determination of the dark matter mass from direct detection experiments*  
**B. J. Kavanagh** and A. M. Green  
[Phys. Rev. Lett. 111, 031302 \(2013\)](#), [arXiv:1303.6868](#)  
 Featured in [Phys.org](#)
23. *Improved determination of the WIMP mass from direct detection data*  
**B. J. Kavanagh** and A. M. Green  
[Phys. Rev. D 86, 065027 \(2012\)](#), [arXiv:1207.2039](#)