Matthew R. **Walker**

PHYSICIST
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Research interests: Condensed Matter Theory, Non-equilibrium Dynamics, Statistical Physics, and Probability Theory

Education

University of Virginia — *Charlottesville, Virginia*
PHD IN PHYSICS — *Aug. 2019 –May 2024*
- Statistical Physics and Probability Theory

University of Virginia — *Charlottesville, Virginia*
B.S. IN PHYSICS — *Aug. 2016 - May. 2018*

Thomas Nelson Community College — *Hampton, Virginia*
A.S. IN SCIENCE — *Aug. 2014 - May. 2016*

Experience

Undergraduate and Graduate Researcher — *Charlottesville, Virginia*
UNIVERSITY OF VIRGINIA — *Aug. 2016 –*
- Condensed Matter Theory and Statistical Physics with prof. Marija Vucelja

Publications

PUBLISHED

[1] **M. R. Walker** and M. Vucelja. Anomalous Thermal Relaxation of Langevin Particles in a Piecewise Constant Potential. *J. Stat. Mech. 2021 (11), 113105* arXiv:2105.10656.

[2] **M. R. Walker**, and M. Vucelja. Mpemba effect in terms of mean first passage times of overdamped Langevin dynamics on a double-well potential. *arXiv preprint arXiv:2212.07496, 2022* arXiv:2212.07496

Honors & Awards

2017 **Outstanding Undergraduate Research project** — *Charlottesville, VA*
Sigma Pi Sigma research symposium

Skills

Programming Python, C++, Matlab, Mathematica
Selected Classes Two semesters of graduate Probability Theory, two semesters of Computational Physics, and one semester of graduate Machine Learning