Peyton D. Murray

+1 408 761 9078
peynmurray@gmail.com
peytondmurray.github.io

Education

University of California, Davis — 2012 – 2018
Ph. D. Physics: Dec 2018
M. S. Physics: Dec 2013

Saint Mary's College of California, Moraga — 2007 – 2011
B. S. Physics, *summa cum laude*

Research & Experience

Computational Physics Laboratory — Jan 2019 – Aug 2019
Tampere University
Postdoctoral Researcher
Advisor: Lasse Laurson

- Carried out simulations of nanoscale magnetic materials using a combination of open source software and custom-built code, developed in-house, based on Go, CUDA, and Python.
- Leveraged GPUs deployed as part of the CSC's Taito-GPU supercluster.

Department of Physics — 2012 – 2018
University of California, Davis
Graduate Student Researcher
Advisor: Kai Liu

- Developed computational tools for analyzing magnetic behavior

Publications

1. Murray, P. D. *et al.* Interfacial-Redox-Induced Tuning of Superconductivity in $YBa_2Cu_3O_{7-\delta}$. *In review.*
2. Murray, P. D., Zhang, J., Zhang, X. & Liu, K. Electrically Tunable Exchange Bias. *In preparation.*
3. Gilbert, D. A. *et al.* Building Bridges from FORC to Phase-Resolved Major Loops. *In preparation.*
4. Skaugen, A., Murray, P. D. & Laurson, L. Analytical computation of the demagnetizing energy of thin film domain walls. **2,** 1–11. arXiv: 1906.07475 (2019).
5. Karayev, S. *et al.* Interlayer exchange coupling in Pt/Co/Ru and Pt/Co/Ir superlattices. *Physical Review Materials* **3,** 041401. ISSN: 2475-9953 (2019).
6. Quintana, A. *et al.* Voltage-Controlled ON–OFF Ferromagnetism at Room Temperature in a Single Metal Oxide Film. *ACS Nano* **12,** 10291–10300. ISSN: 1936-0851 (2018).
7. Gilbert, D. A. *et al.* Ionic tuning of cobaltites at the nanoscale. *Physical Review Materials* **2,** 104402. ISSN: 2475-9953 (2018).
8. De Toro, J. A. *et al.* Remanence plots as a probe of spin disorder in magnetic nanoparticles. *Chemistry of Materials* **29,** 8258–8268. ISSN: 15205002 (2017).
9. Sun, L. *et al.* Magnetization reversal in kagome artificial spin ice studied by first-order reversal curves. *Physical Review B* **96,** 144409. ISSN: 24699969. arXiv: 1709.05656 (2017).
10. Zhang, Q. *et al.* Magnetic fingerprint of interfacial coupling between CoFe and nanoscale ferroelectric domain walls. *Applied Physics Letters* **109,** 082906. ISSN: 00036951 (2016).