Zoey Tumbleson, PhD

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WORK EXPERIENCE

Lawrence Berkeley National Laboratory **September 2021 – Present**
Graduate Student Researcher **Berkeley, CA**

- Acquired and analyzed spatio-temporal x-ray scattering data to find previously unknown magnetic spin texture phases (see Tumbleson *et al.*, Sci. Adv. **11**, eadt5680 (2025))
- Conducted independent research and worked in experimental research teams both as a lead and a supporting member
- Commissioned equipment for both personal experiments and user research
- Wrote GPU-accelerated micromagnetic simulations to understand experimental observations
- Wrote and implemented Python code to find correlations and enhanced fluctuations on timescales of between hundreds of picoseconds and minutes and communicated results to research groups and funding agencies
- Generated ~3PB of data and wrote high throughput pipelines in Python to process data
- Authored and Co-authored several peer-reviewed scientific journal articles (see LinkedIn for list) and presented findings at meetings and conferences

EDUCATION

University of California, Santa Cruz
Ph.D. Physics, Thesis Advisor: Dr. Sujoy Roy **August 2025**
M.Sc. Physics, **June 2021**
Santa Cruz, CA

Ohio University **May 2019**
Honors Tutorial College, Thesis Advisor: Dr. Saw-Wai Hla
B.S. Engineering Physics, GPA 3.93/4.0 (Honors Tutorial College),
Athens, OH

SKILLS

Materials science and characterization: Soft X-ray Synchrotron Coherence Techniques, X-ray Scattering, X-ray photon correlation spectroscopy (XPCS), X-ray Free electron Lasers (XFEL), Scanning Tunneling Microscopy (STM), Magnetic Force Microscopy (MFM), Atomic Force Microscopy (AFM), Laue X-ray Diffraction, X-ray magnetic Circular Dichroism (XMCD)
Data analysis and software: Python, MATLAB, C++, GoLang, SLURM high performance computing (HPC), Numpy, Scipy, Numba, Matplotlib Dask, Pytorch, xarray, Bokeh, Multiprocessing, Microsoft Office, Google Suite, Mumax3, Monte-Carlo, pymc
Soft skills: Scientific writing, Public speaking, Communication, Teamwork, Leadership, Teaching, Mentorship