Damien M. E. Koon

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 acroscopic
in damienkoon

Research Interests: Theoretical physics; quantum gravity; holography (AdS/CFT); conformal field theory; quantum information in QFT

Education

May 2027	**B.S. in Physics**, *Florida Institute of Technology*, Melbourne, FL, **GPA: 4.00/4.00**
May 2024	**A.S. in Physics**, *Mississippi Gulf Coast Community College*, Gulfport, MS
May 2022	**A.A.S. in Cyber Security**, *Mississippi Gulf Coast Community College*, Gulfport, MS

Research

Sep 2024–Present — **Gamma-Ray Burst Afterglows**, *Florida Tech*, Supervisor: D. Warren
- Built simulations across a 15-D parameter space; curated training data and QA tools.
- Improved group HPC workflows; compressed datasets by ∼85% and sped up I/O.
- Manuscript in preparation.

Jan 2025–Present — **Quantum Information: CHSH Experiment**, *Florida Tech*, Supervisor: S. Das
- Implemented three quantum computing experiments (two simulators, one IBM Quantum run).
- Built teaching demos for qubits (Hadamard-gate axis and spinor models).
- Delivered internal talks; write-up and code: https://github.com/acroscopic/CHSH.

Selected Presentations

May 2025	"Neural Networks for Parameter Estimation of Orphan Afterglows," ASROC Annual Meeting, Taiwan. Slides.
Apr 2025	Lecture series: CHSH inequality (3 hrs total), Florida Tech. Poster at SPSCon 2025. Abstract Book.

Relevant Coursework

Physics: Classical Mechanics; Electricity and Magnetism; Quantum Mechanics; Statistical Mech; Quantum Computing.

Mathematics: Manifolds; Real Analysis; Abstract Algebra; ODE/PDE; Linear Algebra

Awards & Honors

2025	Sigma Pi Sigma, Physics student honor society
2025	Outstanding Student of the Year; Florida Tech Honors College
2023	Phi Theta Kappa honor society and MGCCC Honors College; Leadership and Citizenship awards

Skills

Python, Bash, Git; Linux/Slurm/HDF5; NumPy/SciPy/Pandas/Matplotlib; Qiskit/IBM Quantum; LaTeX

Service & Outreach

Aug 2024–Present — **Ortega Observatory Assistant**; Led observatory events and STEM demos; Project leader of the Space Art Conservation Program; Project leader of 3D printing space accessibility program

Aug 2024–Present — **SPS President/Treasurer**; organized ∼$10k funding for conference travel; Organized Sigma Pi Sigma Induction ceremony; ran an introductory LaTeX workshop.

Phi Theta Kappa Honors in Action Project Head; led research on the Mississippi Gulf Coast seawall and authored a children's book distributed to county libraries and elementary schools.

Preprints & Repositories

2025	CHSH exposition and code: https://github.com/acroscopic/CHSH
in prep.	GRB afterglows manuscript (to be posted)