

Angelina Sherman

University of Wisconsin-Madison

apartenheime@wisc.edu

<https://github.com/angelinapartenheimer>

EDUCATION

University of Wisconsin-Madison

Ph.D. in Physics

expected graduation August 2027

Advisor: Ke Fang

Truman State University

B.S. in Physics. *Summa cum laude.*

2021

RESEARCH EXPERIENCE

Research Assistant - Wisconsin IceCube Particle Astrophysics Center

January 2022 –

- Constructed numerical simulations of ultrahigh energy cosmic ray and neutrino propagation.
- Developed computational models of particle acceleration/interaction in astrophysical shocks.
- Analyzed gamma-ray data to search for transient and sub-threshold sources.

Summer Research Scholar – CERN & Duke University

June 2020 – August 2020

- Used machine learning to improve sensitivity in top-antitop resonance searches with ATLAS

PUBLICATIONS

1. **Angelina Sherman**, Nestor Mirabal, David Guevel, Ke Fang, Kohta Murase, Elizabeth Hays. “Search for synchrotron pair echo emission following KM3-230213A.” 2026 *ApJ* 1005 194
2. **Angelina Sherman**, Ke Fang, Dan Hooper. “The Sensitivity of PUEO to Cosmogenic Neutrinos and Exotic Physics Scenarios.” *Phys.Rev.D* 113 (2026) 8, 083033.
3. **Angelina Sherman**, Jessie Thwaites, K. Fang, Justin Vandenbroucke, and Brian D. Metzger. “Prospects for Observing Astrophysical Transients with Gigaelectronvolt Neutrinos.” 2025 *ApJ* 982 94.
4. **Angelina Sherman**, Ke Fang, Rafael Alves Batista, and Rogerio Menezes de Almeida. “Ultrahigh Energy Cosmic Ray Sources Can Be Gamma-Ray Dim.” 2024 *ApJL* 967 L15.
5. Noah Anderson, **Angelina Sherman**, Timothy D. Wiser. “Direct Detection Signatures of a Primordial Solar Dark Matter Halo.” arxiv:2007.11016

TALKS

1. **CIERA lunch seminar.** “*Multimessenger Astronomy at the Highest Energies.*” Invited talk. Evanston, IL. (May 2026)
2. **International Cosmic Ray Conference.** “*Prospects for Observing GeV Neutrino Transients with IceCube DeepCore and Upgrade.*” Geneva, Switzerland. (August 2025)
3. **IceCube Summer School.** “*Multimessenger Astrophysics.*” Seminar for incoming graduate students working in IceCube. Madison, WI. (June 2025)

4. **SCEECs Collaboration Meeting.** “*Ultrahigh Energy Cosmic Ray Sources can be Gamma-Ray Dim.*” Lightning talk. Madison, WI. (November 2024)
5. **International Cosmic Ray Conference.** “*Ultrahigh Energy Cosmic Rays from Extragalactic Gamma-Ray Sources.*” Oral presentation. Nagoya, Japan. (August 2023)
6. **International Cosmic Ray Conference.** “*Direct Detection Signatures of a Primordial Solar Dark Matter Halo.*” Poster presentation. Madison, WI. (August 2019)

AWARDS

AAS Nova Research Highlight 2024

[*Seeking the Sources of Ultrahigh Energy Cosmic Rays.*](#)

Phi Beta Kappa 2019

Academic honor society for excellence in liberal arts.

Sigma Pi Sigma 2019

Honor society for outstanding scholarship in physics and astronomy

MEMBERSHIP & SERVICE

Peer reviewer - the Astrophysical Journal 2025-

Member - Simons Collaboration on Extreme Electrodynamics of Compact Sources 2024-

Organizer - IceCube Summer school. 2025

Coordinated a week long summer school for ~45 new graduate students from various universities who were beginning research with the IceCube Collaboration

Organizer - Wisconsin IceCube Particle Astrophysics Center weekly Journal Club 2025-2026

Student Peer Mentor - UW-Madison Department of Physics 2022

TEACHING EXPERIENCE

Teaching Assistant - Physics 104. UW-Madison Physics Department. Summer 2026

- Eight-week online electricity and magnetism course for undergraduates in medical-related majors
- Oversaw a section of ~30 students
- Led daily discussion sessions, ran and graded weekly labs, and held office hours

Teaching Assistant - Physics 104. UW-Madison Physics Department. Fall 2021

- Taught introductory electricity and magnetism for undergraduates in medical-related majors
- Responsible for 3 sections of ~30 students each
- Led biweekly discussion sessions, weekly labs, office hours, and proctored exams

SCHOOLS

N3AS Summer School July 2026

Summer school on multimessenger astrophysics theory, observation, and experiment intended for beginning postdocs and advanced graduate students

Morgridge Entrepreneurial Bootcamp June 2025

Intensive one-week training on technological entrepreneurship for PhD students in STEM fields

ISCRA summer school

August 2024

Biennial summer school for graduate students with a focus on the intersection of particle physics, cosmology, and astrophysics

INDUSTRY EXPERIENCE

Delve - Embedded Systems Intern

June 2024 - August 2024

- Built a remote sensing network to monitor leaky roofs using an IR camera and weather station
- Assisted with a formative study for developing a medical device in a client-facing setting