

Connor O’Ryan Sweeney

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Coming soon :)

RESEARCH INTERESTS

Broad interests in investigating models of theoretical astrophysics and cosmology related to the nature of dark matter/energy through simulations.

RESEARCH EXPERIENCE AND TEACHING

JAN 2023 – CURRENT (PT)

University of Arizona Physics Department
Graduate Research Assistant

Graduate research under Eduardo Rozo, studying the viability of a method for measuring the Hubble parameter using galactic cluster radii. MHD/DM simulation of observables in python; currently underway.

JULY 2022 – AUG 2022 (FT)

University of Arizona Physics Department
Graduate Instructor

Summer course instructor for PHYS103 Introductory Physics II for non-physics majors. Responsible for lecturing, writing and assigning homework and exams, coordinating grading of assignments, showing a variety of physics demonstrations, and running additional discussion sections for a class of about 25 students

AUG 2021 – DEC 2022 (PT)

University of Arizona Physics Department
Graduate Teaching Assistant

Graduate T.A. role teaching introductory Electricity & Magnetism to a mix of engineering and physics undergraduates. Responsible for leading/advising lab sections, grading lab reports, and grading exams and classwork.

OCT 2019 – AUG 2021

UC Santa Cruz Physics Department, SCIPP
Undergraduate Research Assistant

Undergraduate research advised by Professor Stefano Profumo on gamma-ray emission in the Andromeda Galaxy (M31) resulting in a publication and senior thesis. Primarily responsible for image processing of Spitzer and Fermi LAT data, data presentation, and contribution to particle simulation algorithm testing. Similar roles for a follow-up project focused on the Milky Way, as well as a poster presentation.

REFERENCES

Stefano Profumo

POSITION Professor of Physics
EMPLOYER Department of Physics
University of California, Santa Cruz
Santa Cruz Institute for Particle Physics
EMAIL profumo@ucsc.edu
PHONE +1 (831) 459-3039

EDUCATION

IN-PROGRESS **Doctor of Philosophy**
PHYSICS
University of Arizona
2017 – 2021 **Bachelor of (Astro)Physics**
DEPARTMENT OF PHYSICS
The University of California, Santa Cruz

AWARDS

2021 **Koret Scholarship**
University of California, Santa Cruz

COMPUTER SKILLS

BEGINNER Java, C
PROFICIENT python, L^AT_EX, Linux,
MacOS, Bash, Windows
Computer Hardware & Support

COMMUNICATION

POSTERS Poster at the 2021 Koret Slam on
Cosmic-ray transport in the
Milky Way - UCSC

TEACHING Introductory Physics II - Summer '22

PUBLICATIONS

Do, A., Duong, M., McDaniel, A., O'Connor, C., Profumo, S., Rafael, J., **Sweeney, C.**, Vera III, W. (2021). Cosmic-ray transport and gamma-ray emission in M31. *Physical Review D*, 104(12). <https://doi.org/10.1103/physrevd.104.123016> 4338.

Publications by DOI

2021 doi: 10.1103/PhysRevD.104.123016

