JUSTIN BOPP

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EDUCATION

Astrophysics - Master of Science   August 2023 - Present
City University of New York, Graduate Center   *New York, NY*

· Thesis: "Fast Transients from Magnetic Disks Around Non-Spinning Collapsar Black Holes"

Physics - Bachelor of Science   May 2023
California State University, Stanislaus   *Turlock, CA*

· Dean's List: Fall 2021, Spring 2022, Fall 2022

RESEARCH EXPERIENCE

Graduate Researcher - Center for Computational Astrophysics   September 2023 - Present
Advisor: Dr. Ore Gottlieb   *New York, NY*

· Conducting theoretical black hole research using HAMR GRMHD simulation code (python, C++), simulating the Blanford-Payne mechanism to power collapsar jets in the accretion disc of a non-rotating black hole

Undergraduate Research Intern - California State University, Stanislaus   May 2022 - August 2023
Advisor: Dr. Brian Morsony   *Turlock, CA*

· Rubin Observatory Data Preview Delegate : used a CMNN algorithm in python as a photometric redshift estimator and made python script to match host galaxies to detected transients
· Fitting Observed Abundances to Metals from Supernovas (FOAMS): obtained metallicity data from APOGEE survey of 100,000 Milky Way stars, converted the abundances from normalized number abundances to the mass abundances needed to run through the FOAMS program, and determined Core-Collapse to Type-Ia supernova ratio of progenitors of Milky Way stars

PUBLICATIONS

J. Bopp & O. Gottlieb   2024
Fast Transients from Magnetic Disks Around Non-Spinning Collapsar Black Hole   *arXiv*

PRESENTATIONS

<u>**Talks:**</u>
Charting the CCSN-GRB Spectrum: Non-Spinning Black Hole-Driven Jets in the LSST Epoch   July 2024
Seventeenth Marcel Grossman Meeting   *Pescara, Italy*

Determining PhotoZ in Rubin Science Platform dp0.2   July 2022
CSU/Rubin Data Summit 2022   *San Luis Obispo, CA*

<u>**Posters:**</u>
Using Photometric Redshifts to Identify Host Galaxies in the Rubin Data Preview   April 2023
APS April Meeting 2023   *Minneapolis, MN*

Using Photometric Redshifts to Identify Host Galaxies in the Rubin Data Preview   January 2023
241st AAS Meeting   *Seattle, WA*

TECHNICAL SKILLS

Computer Languages	Python, C++, Javascript, Matlab
Tools	Github, Parallel Processing, ADQL, Machine Learning, Rubin Data Platform

MEMBERSHIP AND OUTREACH

American Astronomical Society June 2022 - Present
Graduate Student Member

American Physical Society June 2022 - Present
Graduate Student Member

American Museum of Natural History August 2023 - Present
Guest Researcher *New York, NY*

Center for Computational Astrophysics August 2023 - Present
Guest Researcher *New York, NY*

Society of Physics Students: CSU Stanislaus 2021 - 2023
Chapter President *Turlock, CA*

· Astronomy night 2022 Chair: Led telescope observing session with 150+ community participants

· Science Day 2023 Co-chair: Physics demonstration to 500+ elementary and middle school age participants