Jack Dinsmore

Physics Graduate Student

jtd@stanford.edu
(413) 687 – 1352
Stanford, CA, USA

Links

ORCID: 0000-0002-6401-778X
Github: jack-dinsmore
Website: jack-dinsmore.github.io
LinkedIn: Jack Dinsmore

Education

STANFORD UNIVERSITY

2022 – present
Ph.D. in Physics (in progress)

MIT

2018 – 2022
B.S. in Physics
Minors: Astronomy, Math
GPA: 5.0/5.0

36 undergraduate courses
4 graduate courses
1 senior thesis

Awards & Honors

Barrett Prize (MIT)
Phi Beta Kappa member
Sigma Pi Sigma member
REU at Lehigh University

Presentations

Apophis T–7 Years (200 attending)
MIT PRISM 2021 (30 attending)
Lehigh REU 2020 (20 attending)

Additional Interests

Open-source programming, game programming, orchestral and solo cello, writing, woodworking, calligraphy, bookbinding, language invention

Research Experience

2021–22 **Asteroid Density Extraction from Encounters** *MNRAS*
Designing, implementing, and analyzing a fast simulation of asteroid flybys and an algorithm to fit a density distribution. Github — *Only student, first author, press release on MIT front page Oct 19, 2022*

2020–22 **Modeling the Galactic Center Excess** *JCAP*
Analyzing a millisecond pulsar explanation for the Galactic Center Excess and contrasting studies found in the literature. Github — *Only student, first author*

2020–present **Ensemble Photometry on Open Clusters**
Extracted error-corrected luminosity fluctuations from large images of unresolved open clusters drawn from astrophysics databases. Github — *One of two undergraduates*

2019–20 **Improving Analysis Speed at LHC** *ML: Sci. Tech.*
Built a dense Neural Network on GPUs and TPUs to reconstruct events in the Large Hadron Collider faster than the nominal method. Github — *Only undergraduate, fourth author*

2017–18 **Black Hole Thermodynamics** *CQG*
Performed numerical and analytical calculations to demonstrate the existence of a Schottky anomaly analog in Schwarzschild-de Sitter black holes. — *Only high schooler, first author*

Leadership

2022 **Next House Wing Representative (Elected)**
Liaison between college dormitory wing (about 30 people) and Next House government; responsible for community activities, ceremonies, wing upkeep, and expenses. Also led and assisted dorm community building projects, such as a haunted house, a small medieval castle, and a pergola.

2022 **Teaching Assistent for New Course**
Designed and taught three recitations for a new, experimental MIT course on statistics for graduates and undergrads. Also led office hours.

2020 **Chief Copy Editor for *The Tech* (Elected)**
Led copy editing department for MIT's student newspaper through COVID, nearly doubling department size. Retained old staff members and trained new leadership.

2018–19 **Teacher & Grader**
Graded for introductory MIT physics course. Also taught self-designed SAT preparatory classes to local high school students through MIT ATI program; received student ratings of 4.5 / 5.0.

Updated October 19, 2022