Isaac G. Smith

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EDUCATION

2024 - present	**Weizmann Institute of Science (WIS)**	
2020 - 2024	**Michigan State University (MSU)**	(GPA: 4.0/4.0)
	B.S. in Physics, College of Natural Science, Honors College	
	B.S. in Mathematics, Advanced, College of Natural Science, Honors College	
	Minor in Music (vocalist), College of Music	

RESEARCH EXPERIENCE

Research Assistant, Facility for Rare Isotope Beams, MSU   Nov 2022 - Jul 2024

- Developed and implemented a finite-temperature formalism for the IMSRG many-body solver.
- Analyzed data from the finite-temperature IMSRG using an exactly-solvable schematic model.
- Studied the effect of temperature on the stability of calcium isotopes.

Research Assistant, TARDIS Collaboration, MSU   Sep 2020 - Aug 2023

- Wrote an extensive physics walkthrough for the TARDIS radiative transfer code.
- Participated in MSU's Engineering Summer Undergraduate Research Experience program.
- Developed the STARDIS stellar radiative transfer code, a companion code to TARDIS.

TEACHING AND MENTORING

Learning Assistant for Calculus II, MSU   Jan 2024 - Apr 2024

- Description

Mentor, TARDIS Collaboration, MSU   May 2021 - Aug 2023

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Tutor   Sep 2018 - May 2022

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PUBLICATIONS

Blondin, Stéphane et al. (Dec. 2022). "StaNdaRT: a repository of standardised test models and outputs for supernova radiative transfer". In: *Astronomy amp; Astrophysics* 668, A163. ISSN: 1432-0746. DOI: 10.1051/0004-6361/202244134. URL: http://dx.doi.org/10.1051/0004-6361/202244134.

Presentations

Blondin, Stéphane et al. (Dec. 2022). "StaNdaRT: a repository of standardised test models and outputs for supernova radiative transfer". In: *Astronomy amp; Astrophysics* 668, A163. ISSN: 1432-0746. DOI: [10.1051/0004-6361/202244134](10.1051/0004-6361/202244134). URL: http://dx.doi.org/10.1051/0004-6361/202244134.

Major Projects and Unpublished Work

Mathematics Honors Thesis   [Link to Demo]

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STARDIS Radiative Transfer Code   [Link to Demo]

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TARDIS Documentation   [Link to Demo]

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Honors and Awards

2024	Carl L. Foiles Award, MSU (top graduating physics student)
2024	Board of Trustees Award, MSU (4.0 GPA)
2024	MSU Integration Bee Third Place
2023	Jeffrey R. Cole Honors College Research Fund Recipient, MSU
2021, 2023	Lawrence W. Hantel Fellowship, MSU (physics research award)
2023	Nominee, Rhodes Scholarship, MSU
2023	Nominee, Marshall Scholarship, MSU
2022	L.C. Plant Mathematics Award, MSU
2021, 2022	NumFOCUS Small Development Grant Recipient
2020	Alumni Distinguished Scholar, MSU (MSU's top merit scholarship)
2020	National Merit Scholar
2020-2024	Dean's List, MSU (all semesters)

Skills

Proficient in Python, C, C++, Git, and Linux
Intermediate level in Hebrew