Matson Garza

Massachusetts Institute of Technology
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Education

Massachusetts Institute of Technology — **Cambridge, MA**
B.S. in Physics, GPA: 4.9/5.0 — exp. 2026
Minor in Earth, Atmospheric, & Planetary Sciences — exp. 2026

Madison High School — **Adrian, MI**
High School Diploma, GPA: 4.4/4.0, SAT: 1580/1600 — 2022

Honors and Awards

2nd Place, Momentum Attitude Control Challenge, *MIT* — 2023
U.S. Presidential Scholars Program Semifinalist, *U.S. Department of Education* — 2022
National Merit Scholarship Finalist, *National Merit Scholarship Corporation* — 2022
Top 10 Medical Reading Competitor, *HOSA International Leadership Conference* — 2020

Research Experience and Projects

Undergraduate Research - Sub-Diffraction Limit Resolution of Exomoons — 2025
Put the tightest constraints on companions of Eps Ind A b to date; created the first code able to apply double-PSF fitting to JWST/MIRI coronagraphy data. Limbach group, UMich.

Undergraduate Research - Modeling Lava World Atmospheres & Spectra — 2024–2025
Wrote 2000+ lines of Python; designed and implemented a custom radiative transfer code; developed a cutting-edge 1D hydrodynamic atmospheric model. Kang group, MIT.

National Laboratory Internship - Lightning Climatology — 2024
Wrote an internal Python package to process lightning climatology data; invented new metrics for characterizing the distribution of lightning across space and time. Sandia National Labs.

Presentations

1. **Matson Garza**, Wanying Kang, and Anjali A.A. Piette (2025), "Observability of Spectral Features of SiO Lava World Atmospheres: Distribution of Outgoing Radiative Flux and Phase Curves." EPSC-DPS Joint Meeting 2025, Helsinki, Finland (attended remotely).

Leadership Experience

Academic Chair, *MIT Society of Physics Students* — 2025
Member, *MIT/Harvard Society of Physics Students Chilloquium Organizing Committee* — 2025
Founding Member, *Adrian Community for the Repeal of the Point Of Sale Ordinance* — 2024–2025
Social Chair, *MIT Society of Physics Students* — 2024
Staffer, *MIT Society of Physics Students* — 2023

Publications

3. **Matson Garza**, Wanying Kang, and Anjali A.A. Piette (2026), *in prep.*; **Modeling the Impacts of Radiative Flux on the Vertical Atmospheric Structure and Emission Spectra of Lava Worlds.**

2. **Matson Garza**, Mary Anne Limbach, Rachel Bowens-Rubin, Matthew De Furio, Elisabeth C. Matthews, Kyle Franson, Sarah C. Millholland, Logan A. Pearce, and Andrew Vanderburg (2025), *submitted to AJ*; **Direct Imaging Constraints on Binary Planets and Exomoons around Epsilon Indi A b.**

1. Rachel Bowens-Rubin, Mary Anne Limbach, Sam Hopper, Klaus Subbotina Stephenson, **Matson Garza**, Leigh N. Fletcher, and Matthew Hedman (2025), *AJ, 170, 284*; **On the Detection of Exorings in Reflected Light with JWST NIRCam.**

Teaching and Mentoring

Undergraduate Teaching Assistant (Electricity & Magnetism), *MIT Physics* 2023, 2024
Oversaw 1–2 tables; led students through in-class exercises and experiments; held weekly office hours.

Physics IPx Facilitator (Classical Mechanics), *MIT OACES* 2023
Led recitations for virtual participants in the Interphase summer bridge program; graded problem sets and provided personalized feedback; held weekly office hours.

Workshops Attended

2025 Sagan Summer Workshop (remote), *NASA Exoplanet Science Institute* 2025

Computing Skills

Python (very proficient), MATLAB (proficient), Linux (proficient), Java (familiar), Fortran (some knowledge)