

Xilong Tie

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Education

Haverford College

Bachelor of Science in Astrophysics
Honors/Awards: 2025 Kovaric Fellow

Haverford, PA
Expected May 2028

Beijing No.4 High School

High School Diploma
Honors/Awards: "Three Good" Student

Beijing, China
May 2024

Research Experience

Galaxy Research Group, Haverford College

Summer Student Researcher

Haverford, PA
Summer 2025

- Modeled the observed HI global profile of galaxies from the HI-MaNGA survey catalog by combining the galaxy rotation curve and radial profile.
- Examined the effects of varying central HI distributions of galaxies on the resulting HI global profile.
- Presented research at KNAC 2025, AstroPhilly 2025, and Haverford's 2025 KINSC Undergraduate Science Research Symposium.

Haverford SRT project, Haverford College

Student Worker

Haverford, PA
May 2025 - present

- Renovate Haverford College's Small Radio Telescope.
- Improved schematic design and upgraded components.

BHXB Research Project, Beijing No.4 High School

Beijing, China
Summer 2023

- Conducted Monte Carlo simulation to model the inverse Compton scattering process of photons emitted from the outer accretion disk as they propagate through the black hole corona.
- incorporated the thickness of the cold gas into simulation, investigated how such factor affects the accretion flow of BHXBs during the intermediate state.

Exoplanet Research Project, Beijing No.4 High School

Beijing, China
Summer 2022

- Discussed the possibility of the imaginary planet "Pandora" in the film "AVATAR" to exist to be habitable.
- Conducted long-term orbital revolution simulation to explore the stability of the dynamic system, compared the results to the Milankovitch cycles observed in paleo-climate.

Activities

Public Observing Group, Haverford College

Lead

Haverford, PA
Sep 2024 - present

- Planned and hosted public observing events.
- Led interactive activities; gave dome and planetarium tours.

Engineering Club, Beijing No.4 High School

Vice President

Beijing, China
Apr. 2021 - Apr. 2022

- Taught basics of 3D modeling via SolidWorks, 3D printing.
- Led projects: Properties of Yagi Antenna, star-tracing device, water rocket competition.

Skills

Technical: Python, Mathematica, Solidworks, Latex

language: Chinese (Native), English (Fluent)