

XINYU DU

<https://starfie1d.top> · 231830104@smail.nju.edu.cn · Nanjing University · Planetary Science

🎓 EDUCATION

Nanjing University (NJU) Sep. 2023 - Jun. 2027 (Expected)

B.S. in Geochemistry (Planetary Science direction), School of Earth Sciences & Engineering

- **Core Coursework:** Quantum Chemistry, Statistical Physics, Geochemical Analytical Techniques, Isotope Geochemistry, Principles of Solid Earth Sciences, General Astronomy, Seismology, Experimental Chemistry.

🔬 RESEARCH EXPERIENCE

Univ. of Science and Technology of China (USTC) | Astrobiology Lab Nov. 2025 - Mar. 2026

Oxidation & Extraction of PAHs in Simulated Extraterrestrial Environments

Visiting Student

Advisor: Prof. Jihua Hao

- **Kinetic Experiment Design:** Developed a liquid-phase reaction system with reflux and CNC thermostatic control; implemented high-precision time-gradient sampling and standardized reaction quenching protocols.
- **Trace Organic Pre-treatment:** Skilled in extraction techniques for trace organics in complex saline solutions, including Liquid-Liquid Extraction (LLE), vortex separation, and nitrogen blow-down. Proficient in glovebox operations for anhydrous/anaerobic environments.
- **Instrumentation & Analysis:** Operated Gas Chromatography-Mass Spectrometry (GC-MS) and analyzed mass spectra. Delivered experimental datasets that contributed to upcoming research publications.

Nanjing University | School of Earth Sciences & Engineering Sep. 2024 - Dec. 2025

Eocene Lacustrine Carbonate Geochronology & Paleoclimate Records

Research Assistant

Advisor: Prof. Tianyu Chen, Assoc. Prof. Xia Zhang

- **Fieldwork & Sample Preparation:** Conducted geological surveys and limestone sampling in the Jianchuan Basin, Yunnan. Executed the full geochemical preparation workflow, including crushing, epoxy resin embedding, and high-precision polishing for target samples.
- **Micro-area Analysis:** Performed element mapping and spot analysis using LA-ICP-MS, guided by the physical chemistry principles of Carbonate U-Pb dating and Clumped Isotope (Δ_{47}) thermometry.
- **Data Quality Control:** Identified and traced anomalies in test data, specifically addressing dating errors caused by high common lead and evaluating diagenetic alterations to paleotemperature signals.

Nanjing University | School of Astronomy & Space Science Oct. 2024 - Nov. 2025

Evolution of Early Terrestrial Planets & Testing of Novel Astronomical Instruments

Rotational Trainee

Advisor: Assoc. Prof. Huigen Liu

- **Theoretical Research:** Investigated the "Formation of Terrestrial Planets" through comprehensive literature reviews, presenting on accretion mechanisms in protoplanetary disks during group meetings.
- **Instrument Testing:** Contributed to the field validation of a novel daytime star sensor based on Vertically-charge-transferring Pixel Sensor (VPS) technology, leveraging extensive experience in astrophotography for optical performance testing.

⚙️ SKILLS AND LEADERSHIP

- **Programming & Computation:** Proficient in **Python** and **C/C++** for scientific computing. Experienced in local deployment of Large Language Models (LLMs) for literature mining and data processing.
- **Fieldwork & Hardware:** Experienced in geological surveying and UAV (drone) operation (former Vice President of the University UAV Association). Skilled in computer hardware/software troubleshooting (Member of "IT Geek" Volunteer Team).
- **Visualization & Typesetting:** Proficient in **LaTeX** and Markdown. Specialist in scientific data visualization; award-winning photographer with works featured on the Nanjing University official homepage.
- **Leadership & Teamwork:** Strong project coordination and execution skills under pressure; led and organized large-scale events for over 200 participants; excellent cross-disciplinary communication skills.