

# XIHE LIU

+86 15330630302 • foisliu054@gmail.com • github.com/foisliu • foisliu.github.io/resume/ • Santiago, 8320000, Chile

## EDUCATION

**SHANDONG UNIVERSITY** | *Undergrad in Department of Physics, Class of 2025 (GPA : Top 35%)*

09/2021 - Present

- Coursework – **Math** (Advanced Mathematics, Methods of Mathematical Physics, Probability and Mathematical Statistics, Linear Algebra, etc.), **Physics** (Thermal Physics, Optics, Theoretical Mechanics, Electrodynamics, Quantum mechanics, Computational Physics, etc.), **Chemistry** (College Chemistry)

## RESEARCH INTEREST

**Observation** (Sub) Millimeter Radio Astronomy - ISM & Star Formation Using Continuum and Molecular Lines (ALMA, SMA, etc.)

**Simulation** The Magnetic Field of Star Formation Region

## RESEARCH EXPERIENCE

**DEPARTMENT OF ASTRONOMY, UNIVERSIDAD DE CHILE** | *Advisor: Prof. Guido Garay*

03/2024 - Present

- **Research Assistant**, ALMA Three-millimeter Observations of Massive Star-forming Regions (ATOMS) - Hub-Filament Systems of ATOMS Sources IRAS 13484, IRAS 16272, IRAS 18182 and IRAS 18264

**SHANGHAI ASTRONOMICAL OBSERVATORY, CHINESE ACADEMY OF SCIENCES** | *Advisor: Prof. Pakshing Li*

11/2023 - 01/2024

- **Research Assistant**, A New Calibration Using Data from a Large-scale, High-resolution Simulation Using ORION2 on the Formation of Filamentary Dark Clouds

**SHANGHAI ASTRONOMICAL OBSERVATORY, CHINESE ACADEMY OF SCIENCES** | *Advisor: Dr. Xing Lu*

09/2022 - 09/2024

- **Research Assistant**, Analysis of Dense Cores and Filamentary Structures within the CMZ Cloud e Using ALMA Band 3 & 6

## PUBLICATION

Liu, X.-H., Lu, X., Xu, F.-W., et al., "Dual-band Unified Exploration of Three CMZ clouds (DUET) – the 3 mm and 1.3 mm Continuum Emission and Dense Cores in the Dust Ridge cloud e" in prep., 2024,

## SKILLS

**Language** Python (Astropy, APLpy, Matplotlib, Pandas, Spectral Cube), C, MATLAB

**Software & Programming** CASA, CARTA, DS9, VisIt, VS Code, Mathematica, ORION2, CASSIS

**English** CET4, CET6, ITLS

## CONFERENCES AND PRESENTATIONS

**ALMA-ATOMS/QUARKS WORKSHOP**

08/2024

Oral Presentation (ALMA-ATOMS IRAS13484 source: Gas Inflow along HFSs and Outflows in Hub-Filament Systems)

Shanghai, China

**244TH MEETING OF THE AMERICAN ASTRONOMICAL SOCIETY**

06/2024

Poster (ALMA-ATOMS IRAS13484 source: Gas Inflow along HFSs and Outflows)

Madsion, WI, USA

**SOKENDAI/NAOJ ASIAN WINTER SCHOOL 2024**

02/2024

**2023 ANNUAL SYMPOSIUM ON MOLECULAR CLOUDS AND STAR FORMATION**

10/2023

Poster (DUET: The Band3 and Band6 Continuum Emission and Dense Cores in the Dust Ridge Cloud 'e')

Chongqing, China

**2023 PEKING UNIVERSITY UNDERGRADUATE ASTRONOMY SYMPOSIUM**

09/2023

Oral Presentation (Analysis of Dense Cores and Filamentary Structures within CMZ cloud 'e' using ALMA Band 3 & 6)

Beijing, China

**2023 ANNUAL MEETING OF THE CHINESE ASTRONOMICAL SOCIETY**

09/2023

Participate without Report

Weihai, China

**2023 SUBMILLIMETER ARRAY INTERFEROMETRY SCHOOL**

05/2023

**SOFIA SCHOOL 2023**

04/2023

**THE 7TH CHINA SKA SUMMER SCHOOL**

09/2022

## HONORS AND AWARDS

**Linbridge Scholarship** 2023 Peking University Undergraduate Astronomy Symposium

**First Prize** Contemporary Undergraduate Mathematical Contest in Modeling

**Third Prize** Chinese undergraduate Astronomical Innovation Contest

## COMMUNITY INVOLVEMENT

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- 1 | *Lead of Chinese Undergrad Astrophysics Community* 2022 - Present
- Establish the First Chinese National Astronomical Academic Community (similar to Astrobites) Specifically Designed for Undergraduate Students
- 2 | *Astronomy Science Popularization Volunteer, Shandong University* 2021-2022
- Lead of Teaching Astronomy Popular Science Lesson to the Students of Primary School