

Junhao Liu

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Birth Year: 1993

Research Interests

- Star formation, molecular clouds, magnetic fields, turbulence, filaments, jets and outflows

Employment

- 2026/1- **Nanjing University**, Nanjing, Jiangsu, China
Assistant Professor (tenure-track)
- 2023/9-2026/1 **National Astronomical Observatory of Japan (NAOJ)**, Mitaka, Japan
Project Researcher (postdoc), Host: Prof. Patricio Sanhueza and Prof. Fumitaka Nakamura
- 2021/6-2023/9 **East Asian Observatory (EAO)**, Hilo, USA
EAO Fellow (postdoc)

Research Experience

- 2018/8-2021/5 **Center for Astrophysics (CfA) | Harvard & Smithsonian**, Cambridge, USA
SAO pre-doctoral Fellow, Supervisor: Dr. Qizhou Zhang

Education

- 2015/9-2021/3 **Nanjing University**, Nanjing, China
Ph.D. in Astronomy. Supervisor: Prof. Keping Qiu
- 2011/9-2015/6 **Nanjing University**, Nanjing, China
B.S. in Astronomy.

Mentoring Experience

- 2025- Xing Wu, PhD student at Xinjiang Astronomical Observatory, co-advised.
- 2024-2025 Yangjun Pu, undergraduate student at Nanjing University, co-advised.
- 2024-2025 Junjie Huang, undergraduate student at Nanjing University, co-advised.
- 2023-2025 Qiuyi Luo, PhD student at Shanghai Astronomical Observatory, co-advised.
- 2019-2020 Shixian Mo, undergraduate student at Nanjing University, co-advised.
- 2019-2020 Li Sun, PhD student at Purple Mountain Observatory, co-advised.

Approved PI Proposals (selected)

- * **JCMT**
- 2023 "Magnetic Fields in Massive Star-Forming Regions". M24BP019.
- 2022 "Dust polarization survey of IRDCs". M22AD003.
- 2022 "Deviation from turbulence cascade in NGC 6334". M23AD001.
- 2021 "Are sub-virial clumps in IRDC G28.34 supported by magnetic fields?". M22AP018.
- 2018-2022 "Dust polarization survey of massive dense cores in Cygnus-X". M18BP047, M19BP037, M20AP048, M22AP019, and M22BP047.

* **SMA**

2019-2023 “Dust polarization survey of massive dense cores in Cygnus-X”. 2019B-S028, 2021A-S008, 2022A-S040, and 2023A-S011.

* **ALMA**

2025 “Early fragmentation of massive protoclusters regulated by magnetic fields or turbulence? ”. Cycle 12: 2025.1.00549.S.

2021 “Dust polarization survey of massive dense clumps in IRDCs”. Cycle 8: 2021.1.01083.

Honors and Grants

2025 KAKENHI No.25K17445. 2,200,000 JPY. Grant-in-Aid for Scientific Research of JSPS

2022 Outstanding Young Scholar for the Molecular Clouds and Star Formation Colloquium

Academic Activities

- 2025/10 Conference Talk. International Symposium on Cosmic Magnetic Fields in Beijing, China
- 2025/08 Conference Talk. SFDE Conference in Quy Nhon, Vietnam
- 2025/08 Conference Talk. Molecular Clouds and Star Formation Colloquium in Emeishan, China
- 2025/04 Seminar Talk. NAOJ Science Seminar in Mitaka, Japan
- 2024/11 Invited Talk. Molecular Clouds and Star Formation Colloquium in Nanning, China.
- 2024/07 Conference Talk. East Asian ALMA Workshop in Seoul, Korea.
- 2024/03 Conference Talk. Bfields-2024 in Mitaka, Japan.
- 2023/08 Seminar Talk. NJU-SASS Science Seminar in Nanjing, China
- 2023/07 Seminar Talk. SHAO Science Seminar in Shanghai, China
- 2023/07 Seminar Talk. EAO Science Seminar in Hilo, USA
- 2023/02 Seminar Talk. Young Scholars Forum at Nanjing University (remote), Nanjing, China
- 2022/11 Seminar Talk. SWIFAR Seminar at Yunnan University (remote), Kunming, China
- 2022/09 Seminar Talk. KIAA-DoA Seminar at Peking University (remote), Beijing, China
- 2022/08 Conference Talk. Molecular Clouds and Star Formation Colloquium of China (remote).
- 2022/02 Seminar Talk. Shanghai Astronomical Observatory in Shanghai (remote), China
- 2021/07 Seminar Talk. EAO Science Seminar in Hilo (remote), USA
- 2021/06 Conference Talk. SOFIA/JCMT Magnetic Fields and the Structure of the Filamentary Interstellar Medium Online Workshop (remote)
- 2021/03 Flash Talk. IAU Symposium 360 ASTROPOL2020 in Hiroshima (remote), Japan
- 2019/11 Flash Talk. Harvard-Heidelberg Workshop on Star Formation in Cambridge, USA
- 2019/05 Poster Talk. Workshop on Polarization in Protoplanetary Disks and Jets in San Cugat, Spain
- 2018/08 Conference Talk. Molecular Clouds and Star Formation Colloquium in Lhasa, China
- 2017/11 Conference Talk. Molecular Clouds and Star Formation Colloquium in Yichang, China
- 2017/08 Conference Talk. Chinese Astronomical Society Meeting in Urumqi, China

Services

- Referee for ApJ, A&A, and PASJ.
- Reviewer of JCMT and ALMA proposals.
- 2024 LOC for Bfields-2024 conference in Mitaka, Japan.
- 2021-2023 EAO fellow's JCMT-related operation duties (50% of time)

2021-2023 Organizer of EAO science seminars.

2022 Co-organizer of the JCMT 2022 Users Meeting (remote). Chair for one session.

Observation Experience

2021/12 IRAM-30m remote observation. 1 night.

2018/02 Tianma-65m on-site observation. 5 days. Shanghai, China

2017/09 JCMT on-site observation. 7 nights. Mauna Kea, HI, US

2015/06 CSO remote observation. 5 days.

Skills

Software CASA, STARLINK, IDL/MIR, MIRIAD, POLARIS, RADEX, GILDAS, Athena++

Data reduction ALMA, SMA, NOEMA, JCMT, IRAM-30m, Tianma-65m, PMO-13.7m

Publications

ADS link to first-author/corresponding-author Papers

ADS link to all papers