

# Xing Pan

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## EDUCATION

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- Ph.D. in Astronomy** – Nanjing University, Nanjing, China *Sep. 2020-present*
  - Advisor: Prof. Keping Qiu
- B.S. in Astronomy** – Nanjing University, Nanjing, China *Sep. 2016-Jun. 2020*

## RESEARCH INTEREST

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- **Massive star formation:** Circumstellar disk and molecular outflows
- **Magnetic field in ISM:** Role of magnetic field in star formation
- **Galactic center:** Gas dynamics and star formation activities

## EXPERIENCE

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- Pre-doctoral fellow** – Center for Astrophysics | Harvard & Smithsonian Astrophysics Observatory, Cambridge, US *Apr. 2023-Oct. 2025*
  - Advisor: Dr. Qizhou Zhang
- Undergraduate research intern** – National Astronomy Observatory of Japan, Tokyo, Japan *Jul. 2019 – Aug. 2019*
  - Investigate the morphology and dynamics of molecular clouds in the Galactic Center
  - Advisor: Dr. Xing Lu
- On-site observing at Submillimeter Array** – 4 nights, Hilo, Hawaii, US *Nov. 2023*
- On-site observing at Tianma 65m telescope** – 3 nights, Shanghai, China *Dec. 2019*
- Teaching Assistant** – Nanjing University, Nanjing, China *Sep. 2020 – Jan. 2021*
  - Teaching assistant for undergraduate course “Observational Astronomy”
  - Lecturers: Prof. Keping Qiu & Prof. Yong Shi.

## APPROVED PI/CO-I OBSERVATIONAL PROPOSALS

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- **ALMA**, “From rotating envelopes to Keplerian disks: imaging the innermost accretion flows in high-mass star formation”, 21 hours
- **ALMA**, “Surveys of massive dense cores in Cygnus X: down to protostellar multiplicity and accretion disk”, 13 hours
- **ALMA**, “What drives the mini starburst in Sgr B2?”, 16 hours
- **ALMA**, “A Census of Magnetic Fields inside Massive Dense Cores in the Central Molecular Zone”, 41 hours
- **NOEMA**, “A census of circumstellar disks in Cygnus X”, 15 hours (as **PI**)
- **NOEMA**, “Initial conditions of star formation in an isolated, massive, and quiescent molecular filament”, 20 hours
- **SMA**, “What’s the role of core-scale magnetic field in the CMZ?”, 4 tracks, about 30 hours (as **PI**)
- **IRAM-30m**, “Investigating the internal structures in a massive and quiescent filament”, 19 hours

## ACADEMIC CONFERENCES & SEMINARS

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### Conference talks:

- New England Star & Planet Formation Meeting, Yale University, New Haven, CT *Jul. 2025*
- AAS 245th meeting, DC, Washington, US *Jan. 2025*
- Harvard-Heidelberg 2024 Meeting, MPIA, Heidelberg, Germany, *Dec. 2024*
- ACES Boston 2024 Meeting, CfA, Cambridge, MA, US *Aug. 2024*
- New England Star & Planet Formation Meeting, MIT Haystack Observatory, Boston, US *Jul. 2024*

- Magnetic Fields from Clouds to Stars (Bfields-2024), NAOJ, Mitaka, Tokyo, Japan *Mar. 2024*
- Molecular clouds and star formation conference, Nanjing University, Nanjing, China *Aug. 2022*

#### Workshop:

- (Invited talk) ALMA Proposal Preparation Workshop, CfA, Cambridge, MA, US *Mar. 2025*
- ALMA Data Reduction Party: Polarization, NRAO, Charlottesville, Virginia *Feb. 2025*
- ALMA Data Processing Workshop, CfA, Cambridge, MA, US *Oct. 2024*

## PUBLICATION LIST

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**As of Aug. 2025, I have published eight referred papers, 4 first-author papers.**

#### Primary-author journal articles:

1. **Pan, X.**, Zhang, Q., Qiu, K., Paré, D., Chuss, D., Butterfield, N., Tress, R., Sormani, M., Tang, Y., Longmore, S., Pillai, T., “Parallel Alignments between Magnetic Fields and Dense Structures in the Central Molecular Zone”, ApJ in print (2025), [arXiv:2508.04599](https://arxiv.org/abs/2508.04599) 
2. **Pan, X.**, Qiu, K., Zhang, Q., “Surveys of clumps, cores, and condensations in Cygnus-X: Searching for Keplerian disks on the scale of 500 au”, A&A, 696, 195, 2025, [arXiv:2503.16712](https://arxiv.org/abs/2503.16712) 
3. **Pan, X.**, Zhang, Q., Qiu, K., Rao, R., Zeng, L., Lu, X., Liu, J., “Magnetic Fields in Ministarburst Complex Sgr B2”, ApJ, 972, 30, 2024, [arXiv:2406.11800](https://arxiv.org/abs/2406.11800) 
4. **Pan, X.**, Qiu, K., Yang, K., Cao, Y., Zhang, X., “Surveys of clumps, cores, and condensations in Cygnus-X: Searching for circumstellar disks”, A&A, 684, 141, 2024, [arXiv:2312.17455](https://arxiv.org/abs/2312.17455) 
5. Yang, K., Qiu, K., **Pan, X.**, “Surveys of clumps, cores, and condensations in Cygnus-X: SMA observations of SiO (5-4)”, A&A, 684, 140, 2024, [arXiv:2312.04880](https://arxiv.org/abs/2312.04880) 

#### Contributing-author journal articles:

1. Zhao, Y., Zhang, Q., Liu, J., **Pan, X.**, Zeng, L., “Dense Cores in IRDC G14.225-0.506 Revealed by ALMA Observations”, ApJ, 984, 46, 2025, [arXiv:2502.16413](https://arxiv.org/abs/2502.16413) 
2. Paré, D., Chuss, D., Karpovich, K., Butterfield, B., Iuliano, J., **Pan, X.**, [...] “SOFIA/HAWC+ Far-infrared Polarimetric Large-area CMZ Exploration Survey. IV. Relative Magnetic Field Orientation throughout the CMZ”, ApJ, 978, 28, 2025, [arXiv:2410.10597](https://arxiv.org/abs/2410.10597) 
3. Zhang, X., Qiu, K., Zhang, Q., Cao, Y., Cheng, Y., Liu, J., Wang, Y., Lu, X., **Pan, X.**, “Surveys of clumps, cores, and condensations in Cygnus-X: Temperature and nonthermal velocity dispersion revealed by VLA NH3 observations”, A&A, 684, 142, 2024, [arXiv:2403.03845](https://arxiv.org/abs/2403.03845) 

#### Newsletters:

1. **Pan, X.**, Zhang, Q., Qiu, K., [...], “Magnetic Fields in Ministarburst Complex Sgr B2”, Submillimeter Array Newsletter 2025, [Science Highlights](#) 

## AWARDS & HONORS

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#### Awards:

- Student Report Award, Molecular clouds and star formation conference *Aug. 2022*
- Nanjing University Principle scholarship *Sep. 2020*
- Scholarships of National Top Talents Training Plan for Basic Disciplines, second prize *Nov. 2019*
- National Observatory Scholarship *Dec. 2019*

## COLLABORATORS

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