Junhao Liu

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Research Interests

- Magnetic field and dust polarization in star-forming region.
- Jets and outflows associated with star formation activities.

Education

Sep 2015 - Present, **Ph.D. in Astrophysics**, School of Astronomy & Space Science, Nanjing University, Nanjing, China.
Advisor: Prof. Keping Qiu

Sep 2011 - Jun 2015 **B.S. in Astronomy**, School of Astronomy & Space Science, Nanjing University, Nanjing, China.

Research Experience

Aug 2018 - Present, **Pre-doctoral Fellow**, Center for Astrophysics | Harvard & Smithsonian, Cambridge, US.
Advisor: Dr. Qizhou Zhang

Techinical Skills

Skilled: Python

Working Experience: CASA, MIRIAD, MIR, POLARIS, RADEX, GILDAS

Approved PI Proposals

2019 ALMA Cycle 7: 2019.1.00833.S; Grade-B; 14.5 hours allocated. "A dust polarization survey of dense cores in IRDC G28.34: are magnetic fields aligned with outflows?"

2019 SMA 2019A: 2019A-S032; re-submission; 4 B tracks allocated. "A pilot dust polarization survey of massive dense cores in Cygnus-X"

2018 SMA 2018A: 2018A-S030; 4 B tracks allocated but not observed. "A pilot dust polarization survey of massive dense cores in Cygnus-X"

2019 JCMT 2019B: M19BP037; re-submission; Tier 1; 4.6 hours allocated. "Dust polarization survey of massive dense cores in Cygnus-X"

2018 JCMT 2018B: M18BP047; Tier 2; 10 hours allocated but partially observed. "Dust polarization survey of massive dense cores in Cygnus-X"

Approved Co-I Proposals

2016 SMA 2016A: 2016A-S021; PI: Keping Qiu. "Completing the SMA survey of massive cores in Cygnus X"

2018 NOEMA 2018 summer: S18AS; PI: Keping Qiu. "Anatomy of a massive and quiescent filament feeding massive star formation"

2019 JCMT 2019A: M19AP029; PI: Bo Hu. "DR21 south filament"

2016 JCMT 2016B: M16BP040; PI: Keping Qiu. "SMA and JCMT CO 2-1 Survey of Massive Outflows in Cygnus-X"

Observation Experience

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

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

Jun 2015 CSO remote observation. 5 days.

Publications (ADS link)

First Author Papers

2019 "The JCMT BISTRO Survey: The Magnetic Field in the Starless Core ρ Ophiuchus C", **Junhao Liu**, Keping Qiu, and 129 coauthors, ApJ, 877, 43

2018 "An Isothermal Outflow in High-mass Star-forming Region G240.31+0.07", **Junhao Liu**, Keping Qiu, Friedrich Wyrowski, Karl Menten, Rolf Güsten, Yue Cao, and Yuwei wang, ApJ, 860, 106

Contributing Papers

2019 "Magnetic fields in the infrared dark cloud G34.43+0.24", Soam, Archana; Liu, Tie; Andersson, B-G; Lee, Chang Won; **Liu, Junhao**; and 9 co-authors, ApJ, 883, 1

2019 "Surveys of Clumps, Cores, and Condensations in Cygnus X. I. A New Catalog of âĹij0.1 pc Massive Dense Cores", Cao, Yue; Qiu, Keping; Zhang, Qizhou; Wang, Yuwei; Hu, Bo; and **Liu, Junhao**, ApJS, 241, 1

Talks & Posters

May 2019 Poster. "ALMA Insight into Magnetic Fields In IRDC G28.34+0.06". Workshop on Polarization in Protoplanetary Disks and Jets in San Cugat, Spain

Aug 2018 Conference Talk. "Magnetic fields in Ophiuchus C". Molecular Clouds and Star Formation Colloquium in Lhasa, China

Nov 2017 Conference Talk. "An Isothermal Outflow in High-mass Star-forming Region G240.31+0.07". Molecular Clouds and Star Formation Colloquium in Yichang, China

Aug 2017 Conference Talk. "First results of BISTRO: Ophiuchus C". Chinese Astronomical Society Meeting in Urumqi, China