

JANE HUANG

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CONTACT INFORMATION

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APPOINTMENTS

Assistant Professor Columbia University Dept. of Astronomy	<i>July 2023-present</i>
NASA Hubble Fellowship Program Sagan Fellow University of Michigan Dept. of Astronomy	<i>August 2020-June 2023</i>
Postdoctoral Researcher Center for Astrophysics Harvard & Smithsonian	<i>July 2020-August 2020</i>

EDUCATION

Harvard University , Cambridge, MA, United States Ph.D., Astronomy and Astrophysics Secondary Field: Computational Science and Engineering	<i>May 28, 2020</i>
M.A., Astronomy and Astrophysics	<i>May 26, 2016</i>
University of Chicago , Chicago, IL, United States B.S., Chemistry (with honors) with a minor in physics	<i>June 14, 2014</i>

AWARDS, FELLOWSHIPS, AND SCHOLARSHIPS

Astronomical Society of the Pacific Robert J. Trumpler Award (PhD thesis prize)	<i>2021</i>
International Astronomical Union PhD Prize, Division F (Planetary Systems and Bioastronomy)	<i>2021</i>
National Radio Astronomy Observatory R. L. Brown Outstanding Dissertation Award	<i>2021</i>
NASA Hubble Fellowship Program Sagan Postdoctoral Fellowship	<i>2020-2023</i>
National Science Foundation Graduate Research Fellowship	<i>2015-2020</i>
Peirce Fellowship (Harvard University)	<i>2014-2017</i>
Goldwater Scholarship	<i>2013</i>
Chicago Public Schools Scholarship (University of Chicago)	<i>2010-2014</i>

GRANTS

National Science Foundation AAG #2307916 <i>Unveiling diverse planet formation environments with millimeter imaging, \$449,288 (PI)</i>	<i>09/2023-08/2026</i>
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CONFERENCE AND WORKSHOP PRESENTATIONS

Invited talks

- “The Multi-wavelength View of Late Infall and Streamers,” *Setting the Stage for Planet Formation: The Importance of the Environment for the Evolution of Protoplanetary Discs* (symposium at the European Astronomical Society annual meeting), Cork, Ireland, 2025
- “Insights into Planet Formation from Long-Baseline ALMA Observations,” *ALMA Data Reduction Workshop*, New York, USA, 2024

- “An Astronomer’s View of Molecules in Protoplanetary Disks,” *Molecular Astrophysics: Linking interstellar molecules with the organic inventory of (exo)-Planets and the Solar System* (Focus session at the *American Physical Society March Meeting 2024*), Minneapolis, USA, 2024
- “Insights into Planet Formation from Protoplanetary Disk Observations,” *Exoplanets: Atmospheres to Architectures* (Ninth Annual Giant Magellan Telescope Community Science Meeting), Washington, DC, 2023
- “Insights into Planet Formation from Molecular Mapping of Protoplanetary Disks,” *The Astrochemistry Subdivision: A Decade of Progress and Prospects for the Next Decade*, Symposium at the *ACS Fall 2023 National Meeting*, San Francisco, CA, 2023
- “Unveiling the Birth Sites of Planets: Recent Results and Future Prospects with ALMA,” *ALMA Status and Plans for Increased Capability*, ALMA Special Session at the *241st Meeting of the American Astronomical Society*, Seattle, WA, 2023
- “Inferring the Characteristics of Young Planets from High Resolution Protoplanetary Disk Imaging,” *The Hidden Newly Born Planets* session at *Europlanet Science Congress 2022*, Granada, Spain, 2022
- “Observational Signatures of Planet-Disk Interactions,” *Planet and Binary Formation in Gravitationally Unstable Protoplanetary Discs in the High-Resolution Era*, Leicester, United Kingdom, 2022
- “Rings and Spirals in Protoplanetary Disks: The ALMA View of Planet Formation,” Division F meeting (Planetary Systems and Bioastronomy) at the International Astronomical Union General Assembly, Busan, South Korea, 2022
- “Millimeter Observations of Protoplanetary Disks,” *The Dynamical and Chemical Connection*, Lorentz Center Workshop, Leiden, Netherlands, 2022
- “An Observational Overview of Substructures in Protoplanetary Disks,” *Gaps, Rings, Spirals, and Vortices: Structure Formation in Planet-forming Disks*, Munich Institute for Astro- and Particle Physics workshop, Munich, Germany, 2021 (remote participant)
- “The Millimeter Perspective on Disk Substructures,” *Planet-forming Disks: From Surveys to Answers*, Lorentz Center Workshop (virtual), 2021
- “Towards Resolving Terrestrial-Scale Planet Formation,” *The Scientific Quest for High Angular Resolution*, ngVLA Special Session at the *235th Meeting of the American Astronomical Society*, Honolulu, HI, 2020
- “Insights into Disk Structures from High Angular Resolution ALMA Observations,” *Great Barriers in Planet Formation*, Palm Cove, Australia, 2019
- “The Molecular View of Disk Substructures,” *Ringberg Workshop: Turbulence and Structure Formation in Protoplanetary Disks 2019*, Kreuth, Germany, 2019

Contributed talks

- “High Resolution ALMA Observations of Disks in σ Orionis,” *New Heights in Planet Formation*, Garching, Germany, 2024
- “Molecular Mapping of the Peculiar DR Tau System,” *241st Meeting of the American Astronomical Society*, Seattle, United States, 2023
- “Molecular Mapping of the Peculiar DR Tau System,” *NASA Hubble Fellows Symposium*, Baltimore, United States, 2022 (remote participant)
- “Contextualizing Planet Formation: Mapping the Complex Environments of Protoplanetary Disks,” *NASA Hubble Fellows Symposium* (virtual), 2021
- “Spiral Structures Traced by CO Emission Around RU Lup and GM Aur,” *Five Years After HL Tau* (virtual), 2020
- “Observing Spiral Structures in Protoplanetary Disks,” *NASA Hubble Fellows Symposium*, (virtual), 2020
- “The ALMA View of Planet Formation in Disks Around Young Stars,” Dissertation talk at the *235th Meeting of the American Astronomical Society*, Honolulu, HI, USA, 2020
- “An Introduction to the Disk Substructures at High Angular Resolution Project,” *Planet-forming disks: A workshop to honor Antonella Natta*, Menaggio, Italy, 2019
- “Small-scale Substructures in Protoplanetary Disks,” *Boston Area Exoplanets Science Meeting #5*, Boston, USA, 2019
- “High Angular Resolution ALMA Observations of Protoplanetary Disks,” *Astrochemistry 2018: Past, Present, and Future*, Pasadena, CA, USA, 2018
- “High Resolution ALMA Observations of Gas and Dust in Protoplanetary Disks,” *Star and Planet Formation in the Southwest 2*, Oracle, AZ, USA, 2018

- “High Resolution ALMA Observations of Gas and Dust in Protoplanetary Disks,” *Exoplanets and Planet Formation*, Shanghai, China, 2017
- “An ALMA Survey of Deuterium Chemistry in Protoplanetary Disks,” *Protoplanetary Discussions*, Edinburgh, United Kingdom, 2016
- “Modeling Linear Molecules as Carriers of the $\lambda 5797 \text{ \AA}$ and $\lambda 6613 \text{ \AA}$ Diffuse Interstellar Bands,” *69th International Symposium on Molecular Spectroscopy*, Urbana-Champaign, IL, USA, 2014

RECENT COLLOQUIA & SEMINARS

Chemical & Physical Sciences Colloquium, University of Toronto Mississauga	2024
TASTY Seminar, University of Toronto (St. George)	2024
Astronomy Colloquium, Pennsylvania State University	2024
Summer Science Seminar, Wesleyan University	2024
Colloquium, Carnegie Observatories	2023
Astrophysics Lunch Seminar, Jet Propulsion Laboratory	2023
Astronomy Seminar, Michigan State University	2022
Astrophysics Colloquium, Massachusetts Institute of Technology	2022
Astronomy Colloquium, Columbia University	2022
Astronomy Colloquium, University of California, Berkeley	2022
Astro Seminar, Queen's University (Canada)	2021
Colloquium, National Radio Astronomy Observatory/University of Virginia	2021
Planetary Science Seminar, California Institute of Technology	2021
DAO Astronomy Colloquium, NRC Herzberg	2021
Astronomy Colloquium, Yale University	2021
Astronomy Colloquium, University of California, Berkeley	2021
Exoplanet Meeting, University of Cambridge	2021
Astrophysics Seminar, University of Leicester	2020
Astronomy Seminar, Rice University	2020
Tuesday UVa/NRAO Astronomy Lunch Talk, National Radio Astronomy Observatory/University of Virginia	2020
Exoplanet Seminar, Yale University	2020

ADVISING AND MENTORING

Graduate students advised: Sally Jiang (Columbia Astronomy PhD student, 2023-present)

Undergraduates advised: Andrew Li (Columbia College, 2025-present), Tzewa Dingpuntsawa (Barnard College, 2025), Catherine Harmon (Barnard College, 2023-2025), Shiqi (Bronco) Yang (Columbia SEAS, 2024-2025), Amelie Sharples (Columbia College, 2022-2023), Xinyue (Lúthien) Liu (University of Michigan, 2021-2023), Feilong Meng (University of Michigan, 2021)

Postdocs advised: Shangjia Zhang (NHFP Sagan Fellow at Columbia, 2024-present)

Postbacs advised: Forrest Weintraub (2024-present)

High school students advised (as part of Columbia Engineering the Next Generation): Jeronimo Piqueras (2025), Salvatore Aniello Aversano (2025), Asher Johnson (2024)

Committees: Ben Cassese (Columbia Astronomy second-year PhD project and thesis advisory committee, 2023-present), Stephen Coffey (Columbia Astronomy first-year PhD project committee, 2024), Thomas Pfeil (Flatiron CCA Postdoc Mentoring Committee, 2024-present), Sreejita Das (Max Planck Institute for Astronomy thesis advisory committee, 2025-present), Daniel Yahalomi (Columbia Astronomy thesis defense committee, 2025)

TELESCOPE TIME AWARDED AS PRINCIPAL INVESTIGATOR

Atacama Large Millimeter/Submillimeter Array (ALMA): 94 hours on the 12-m Array, 54 hours on the 7-m Array, 60 hours on the Total Power Array
 James Webb Space Telescope (JWST): 24 hours
 Northern Extended Millimeter Array (NOEMA): 20 hours
 Submillimeter Array: 14 tracks

IRAM 30-m telescope: 21 hours
 Green Bank Telescope: 11 hours
 Hubble Space Telescope: 4 orbits
 Magellan: 2 nights
 Very Large Telescope: 2.5 hours

COURSES TAUGHT

ASTRUN3105: Exoplanets and Astrobiology	<i>Spring 2024, Spring 2025</i>
ASTRUN2001: Intro to Astrophysics I	<i>Fall 2024</i>
ASTRG9003: Research Seminar I	<i>Fall 2023</i>

SELECTED OUTREACH ACTIVITIES

Presentations and Q&As

- Guest lecturer (virtual), Hamptons Observatory, June 12, 2025
- Guest lecturer, Columbia Nevis Laboratories Science-on-Hudson Public Lecture Series, March 13, 2025
- Guest on [SETI Live](#), January 23, 2025
- Guest lecturer (virtual), Amateur Astronomers Association, December 10, 2024
- Guest lecture for ASTRUN2900 (Frontiers of Astrophysics), Columbia University, November 10, 2023 and December 6, 2024
- Guest speaker, “‘Tell Me More’ with Suzan-Lori Parks,” The Glade at Little Island, July 12, 2024
- Virtual Q&A for ASTR 19 (Habitable Planets), Dartmouth University, April 11, 2024
- Guest lecturer, Columbia University Society of Physics Students meeting, March 28, 2024
- Guest lecture for Science Research Fellows Seminar, Columbia University, November 17, 2023
- “The Worlds Outside Our Solar System” online presentation, Oak Park School District Hoffman Planetarium, Nov. 17, 2021
- “Mapping the Birthplaces of Planets” online presentation, Project Exploration STEM Summer Camp, Aug. 4, 2021
- Guest lecture for Astro 220 (New Discoveries in Astronomy), University of Michigan, March 11, 2021 and September 29, 2022
- Guest on [Weekly Space Hangouts](#), October 14, 2020
- Astronomy Club online Guest Lecture, Thomas Jefferson High School for Science and Technology Oct. 7, 2020
- “Ask an Astronomer” online panel, Astronomy at the Beach, Sept. 26, 2020
- “Mapping the Birthplaces of Planets” online presentation, [YouthAstroNet Astro Chat](#), May 19, 2020
- Interviewee, [BBC Science in Action](#), December 23, 2018

Contributor to LinkNYC Astronomy Month images *2023-2025*

NHFP Mentoring Program, co-founder and co-manager *2022-2023*

Oversaw a year-long virtual mentoring program connecting current and recent postdoctoral fellows from the NASA Hubble Fellowship Program to graduate students nearing the completion of their PhD.

Harvard Observing Project session leader *2015-2020*

- Led several observing sessions each semester introducing members of the Harvard community to the 16” Clay Telescope
- Provided guidance to three undergraduates using data from the observing sessions to prepare posters for American Astronomical Society meetings and to one undergraduate preparing a paper for *The Minor Planet Bulletin*

Volunteer Tutor

2011-2014

Weekly tutoring of elementary and middle school students in math and science at Hyde Park Neighborhood Club, a community center in Chicago

PROFESSIONAL SERVICE**External Service:**

SOC member, "Planet Formation Across Various Environments and Epochs" at Munich Institute for Astro-, Particle and BioPhysics 2025-present
 PRIMA Planet Formation and Exoplanets working group 2025-present
 NRAO Users Committee 2024-present
 Referee for various journals (*The Astrophysical Journal*, *Astronomy & Astrophysics*, *Nature Astronomy*, *Monthly Notices of the Royal Astronomical Society*, *The Astrophysical Journal Letters*, *Science*) 2017-present
 Chair of the (NRAO) Data Management and Software Panel of the Users Committee 2024-2025
 New York Area Exoplanets Meeting I and II organizing committee 2024-2025
 James Webb Space Telescope Time Allocation Committee external panelist 2025
 James Webb Space Telescope Time Allocation Committee discussion panelist 2024
 Hubble Space Telescope Time Allocation Committee discussion panelist 2023
 CASA Users Committee 2022-2023
 Grant review panel chair on a NASA research and analysis program 2022
 Subject-matter expert reviewer in a NASA peer review 2022
 FONDECYT (Chile's National Fund for Scientific and Technological Development) grant reviewer 2020
 Grant review panelist on a NASA research and analysis program 2020

Departmental/University Service:

Columbia Arts & Sciences Junior Faculty Advisory Board member 2024-present
 Columbia Astronomy Department Colloquium Committee 2024-present
 Columbia Astronomy Graduate Admissions Committee 2024-present
 Columbia Astronomy Department faculty search committee 2023-2024
 Columbia representative at NYU Conference for Undergraduate Women and Gender Minorities in Physics 2025
 University of Michigan Astronomy Department colloquium co-organizer 2022-2023

PUBLICATIONS

h-index: 44, citations: 7113 (including 1180 as lead author). Source: [NASA ADS](#)

Refereed publications as first author:

- 15) **Huang, J.**, Aizawa, M., Bae, J. et al., 2025, "Grand Design Spiral Arms in the Compact, Embedded Protoplanetary Disk of Haro 6-13," *ApJ*, 988, 106
- 14) **Huang, J.**, Ansdell, M., Birnstiel, T. et al., 2024, "High Resolution ALMA Observations of Richly Structured Protoplanetary Disks in σ Orionis," *ApJ*, 976, 132
- 13) **Huang, J.**, Bergin, E. A., Le Gal, R. et al., 2024, "Constraints on the gas-phase C/O ratio of DR Tau's outer disk from CS, SO, and C₂H observations," *ApJ*, 973, 135
- 12) **Huang, J.**, Bergin, E. A., Bae, J. et al., 2023, "Molecular Mapping of DR Tau's Protoplanetary Disk, Envelope, Outflow, and Large-Scale Spiral Arm," *ApJ*, 943, 107
- 11) **Huang, J.**, Ginski, C., Benisty, M. et al., 2022, "Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs): A Panchromatic View of DO Tau's Complex Kilo-astronomical-unit Environment," *ApJ*, 930, 171
- 10) **Huang, J.**, Bergin, E. A., Öberg, K. I. et al. 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XIX. Spiral arms, a tail, and diffuse structures traced by CO around the GM Aur disk," *ApJS*, 257, 19
- 9) **Huang, J.**, Andrews, S. M., Öberg, K. I. et al., 2020, "Large-scale CO Spirals and Complex Kinematics Associated with the T Tauri Star RU Lup," *ApJ*, 898, 140
- 8) **Huang, J.**, Andrews, S. M., Dullemond, C. P. et al., 2020, "A Multi-Frequency ALMA Characterization of Substructures in the GM Aur Protoplanetary Disk," *ApJ*, 891, 48
- 7) **Huang, J.**, Andrews, S. M., Pérez, L. M. et al. 2018, "The Disk Substructures at High Angular Resolution Project (DSHARP). III. Spiral Structures in the Millimeter Continuum of the Elias 27, IM Lup, and WaOph 6 Disks," *ApJL*,

- 6) **Huang, J.**, Andrews, S. M., Dullemond, C. P. et al. 2018, “The Disk Substructures at High Angular Resolution Project (DSHARP). II. Characteristics of Annular Substructures,” *ApJL*, 869, L42
- 5) **Huang, J.**, Andrews, S. M., Cleeves, L. I. et al. 2018, “CO and Dust Properties in the TW Hya Disk From High-Resolution ALMA Observations,” *ApJ*, 852, 122
- 4) **Huang, J.**, Öberg, K. I., Qi, C. et al. 2017, “An ALMA Survey of DCN/H¹³CN and DCO⁺/H¹³CO⁺ in Protoplanetary Disks,” *ApJ*, 835, 231
- 3) **Huang, J.**, Öberg, K. I., and Andrews, S. M. 2016, “Evidence of a CO Desorption Front in the Outer AS 209 Disk,” *ApJL*, 823, L18
- 2) **Huang, J.** and Oka, T., 2015, “Constraining the Size of the Carrier of the λ 5797.1 Diffuse Interstellar Band,” *Mol. Phys.*, 113, 2159-2168
- 1) **Huang, J.** and Öberg, K. I., 2015, “Detection of N₂D⁺ in a protoplanetary disk,” *ApJL*, 809, 26

Refereed publications as second or third author:

- 12) Pinte, C., Ilee, J. D., **Huang, J.** et al., 2025, “exoALMA X: channel maps reveal complex ¹²CO abundance distributions and a variety of kinematic structures with evidence for embedded planets,” *ApJL*, 984, 15
- 11) Zhang, Y., Ginski, C., **Huang, J.** et al. 2023, “Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYS): Diverse outcomes of binary-disk interactions,” *A&A*, 672, 145
- 10) Teague, R., Law, C. J., **Huang, J.**, Meng, F., 2021, “disksurf: Extracting the 3D Structure of Protoplanetary Disks,” *Journal of Open Source Software*, 6(67), 3827
- 9) Ginski, C., Facchini, S., **Huang, J.** et al., 2021, “Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYS): Late Infall Causing Disk Misalignment and Dynamic Structures in SU Aur,” *ApJL*, 908, 25
- 8) Le Gal, R., Öberg, K. I., **Huang, J.** et al., 2020, “A 3 mm Chemical Exploration of Small Organics in Class I YSOs,” *ApJ*, 898, 131
- 7) Teague, R., Bae, J., **Huang, J.**, & Bergin, E. A., 2019, “Spiral Structure in the Gas Disk of TW Hya,” *ApJL*, 884, L56
- 6) Isella, A., **Huang, J.**, Andrews, S. M. et al., 2018, “The Disk Substructures at High Angular Resolution Project (DSHARP). IX. A high definition study of the HD 163296 planet forming disk,” *ApJL*, 869, L49
- 5) Guzmán, V. V., **Huang, J.**, Andrews, S. M. et al., 2018, “The Disk Substructures at High Angular Resolution Project (DSHARP). VIII. The Rich Ringed Substructures in the AS 209 Disk,” *ApJL*, 869, L48
- 4) Zhang, S., Zhaohuan, Z., **Huang, J.** et al., 2018, “The Disk Substructures at High Angular Resolution Project (DSHARP). VII. The Planet-Disk Interactions Interpretation,” *ApJL*, 869, L47
- 3) Dullemond, C. P., Birnstiel, T., **Huang, J.** et al., 2018, “The Disk Substructures at High Angular Resolution Project (DSHARP). VI. Dust trapping in thin-ringed protoplanetary disks,” *ApJL*, 869, L46
- 2) Andrews, S. M., **Huang, J.**, Pérez, L. M. et al., 2018, “The Disk Substructures at High Angular Resolution Project (DSHARP). I. Motivation, Sample, Calibration, and Overview,” *ApJL*, 869, L41
- 1) Guzmán, V. V., Öberg, K. I., **Huang, J.** et al., 2017, “Nitrogen Fractionation in Protoplanetary Disks from the H¹³CN/HC¹⁵N Ratio,” *ApJ*, 836, 30

Other refereed papers as contributing author:

- 93) Czekala, I. et al. (including **J. Huang**), “Million Points of Light (MPoL): a PyTorch library for radio interferometric imaging and inference,” submitted to *Journal of Open Source Software*
- 92) Narang, M. et al. (including **J. Huang**), “Characterizing the Extended Molecular Hydrogen Winds in Protoplanetary Disks from the JWST Disk Infrared Spectroscopic Chemistry Survey (JDISCS),” submitted to *AAS Journals*
- 91) Cugno, G. et al., (including **J. Huang**), “Direct Measurement of Extinction in a Planet-Hosting Gap,” submitted to *AAS Journals*
- 90) Armitage, T. et al. (including **J. Huang**), “Tracing Pebble Drift History in Two Protoplanetary Disks with CO Enhancement,” submitted to *AAS Journals*
- 89) Krijt, S. et al. (including **J. Huang**), “Cosmic cascades: How disk substructure regulates the flow of water to inner planetary systems,” accepted by *ApJL*
- 88) Romero-Mirza, C. et al. (including **J. Huang**), 2025, “JWST-MIRI Observations of the Irradiated Chemistry in the

Inner Disk Cavity of GM Aur,” accepted by ApJ

- 87) Zagaria, F. et al. (including **J. Huang**), 2025, “SO emission in the dynamically perturbed protoplanetary disks around CQ Tau and MWC 758,” ApJ, 989, 30
- 86) Fadul, A. et al. (including **J. Huang**), 2025, “Searching for Ethylene Glycol and Glycolonitrile in the V883 Ori Protoplanetary Disk,” ApJL, 988, L44
- 85) Ginski, C. et al. (including **J. Huang**), 2025, “Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYS): Evidence for planet-disk interaction in the MASSJ16120668-3010270 system?,” A&A, 699, A237
- 84) Arulanantham, N. et al. (including **J. Huang**), 2025, “The JDISC Survey: Linking the physics and chemistry of inner & outer protoplanetary disk zones,” AJ, 170, 67
- 83) Fadul, A. et al. (including **J. Huang**), 2025, “A deep search for complex organic molecules toward the protoplanetary disk of V883 Ori,” AJ, 169, 307
- 82) Uyama, T. et al. (including **J. Huang**), 2025, “JWST/NIRCam Coronagraphic Search for Hidden Planets in the HD 163296 Protoplanetary Disk,” AJ, 169, 287
- 81) Wölfer, L. et al. (including **J. Huang**), 2025, “exoALMA XVII: Characterizing the Gas Dynamics Around Dust Asymmetries,” ApJL, 984, 22
- 80) Barazza-Afara, M. et al., (including **J. Huang**), 2025, “exoALMA XVI: Predicting signatures of large-scale turbulence in protoplanetary disks,” ApJL, 984, 21
- 79) Rosotti, G. et al. (including **J. Huang**), 2025, “exoALMA XV: Interpreting the height of CO emission layer,” ApJL, 984, 20
- 78) Yoshida, T. et al. (including **J. Huang**), “exoALMA XIV. Gas Surface Densities in the RX J1604.3-2130 A Disk from Pressure-broadened CO Line Wings,” ApJL, 984, 19
- 77) Trapman, L. et al. (including **J. Huang**), 2025, “exoALMA XIII: gas masses from N_2H^+ and C^{18}O : a comparison of protoplanetary gas disk mass measurement techniques,” ApJL, 984, 18
- 76) Longarini, C. et al. (including **J. Huang**), 2025, “exoALMA XII: Weighing and sizing exoALMA disks with rotation curve modelling,” ApJL, 984, 17
- 75) Gardner, C. et al. (including **J. Huang**), 2025, “exoALMA XI: ALMA Observations and Hydrodynamic Models of LkCa 15: Implications for Planetary Mass Companions in the Dust Continuum Cavity,” ApJL, 984, 16
- 74) Zawadzki, B. et al. (including **J. Huang**), 2025, “exoALMA IX: Regularized Maximum Likelihood Imaging of Non-Keplerian Features,” ApJL, 984, 14
- 73) Hilder, T. et al. (including **J. Huang**), 2025, “exoALMA VIII: Probabilistic super-resolution moment maps and data products using non-parametric linear models,” ApJL, 984, 13
- 72) Bae, J. et al. (including **J. Huang**), 2025, “exoALMA VII. Benchmarking Hydrodynamics and Radiative Transfer Codes,” ApJL, 984, 12
- 71) Stadler, J. et al. (including **J. Huang**), 2025, “exoALMA VI: Rotating under Pressure: Rotation curves, azimuthal velocity substructures and pressure variations,” ApJL, 984, 11
- 70) Galloway-Sprietsma, M. et al. (including **J. Huang**), 2025, “exoALMA V: Emission Surfaces and Temperature Structures,” ApJL, 984, 10
- 69) Curone, P. et al. (including **J. Huang**), 2025, “exoALMA IV: Substructures, Asymmetries, and the Faint Outer Disk in Continuum Emission,” ApJL, 984, 9
- 68) Izquierdo, A. et al. (including **J. Huang**), 2025, “exoALMA III: Line-intensity modelling and radial profile extraction from protoplanetary discs,” ApJL, 984, 8
- 67) Loomis, R. A. et al. (including **J. Huang**), 2025, “exoALMA II: Data Calibration and Imaging Pipeline,” ApJL, 984, 7
- 66) Teague, R. et al. (including **J. Huang**), 2025, “exoALMA I: Science Goals, Project Design and Data Products,” ApJL, 984, 6
- 65) Yamato, Y. et al. (including **J. Huang**), 2024, “Detection of Dimethyl Ether in the MWC 480 Protoplanetary Disk,” ApJ, 974, 83
- 64) Long, D. et al. (including **J. Huang**), 2024, “Exploring the Complex Ionization Environment of the Turbulent DM Tau Disk,” ApJ, 972, 88
- 63) Carvalho, A. S. et al. (including **J. Huang**), 2024, “A Dust-Trapping Ring in the Planet-Hosting Disk of Elias 2-24,” ApJ, 971, 129

- 62) Derkink, A. et al. (including **J. Huang**), 2024, "Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs): PDS 111, an old T Tauri star with a young-looking disk," A&A, 688, 149
- 61) Andrews, S. M. et al. (including **J. Huang**), 2024, "On Kinematic Measurements of Self-Gravity in Protoplanetary Disks," ApJ, 970, 153
- 60) Tanious, M. et al. (including **J. Huang**), 2024, "Anatomy of the Class I protostar L1489 IRS with NOEMA: disk, streamers, outflow(s) and bubbles at 3mm," A&A, 687, 92
- 59) Vægård, Per-Gunnar, (including **J. Huang**), 2024, "The SPHERE view of the Orion star-forming region," A&A, 685, 54
- 58) Garufi, A. et al. (including **J. Huang**), 2024, "The SPHERE View of the Taurus Star-Forming Region," A&A, 685, 53
- 57) Ginski, C. et al. (including **J. Huang**), 2024, "The SPHERE view of the Chamaeleon I star-forming region," A&A, 685, 52
- 56) Muñoz-Romero, C. et al. (including **J. Huang**), 2024, "JWST-MIRI Spectroscopy of Warm Molecular Emission and Variability in the AS 209 Disk," ApJ, 964, 36
- 55) Miley, J. et al. (including **J. Huang**), 2024, "High-resolution ALMA observations of compact discs in the wide-binary system Sz 65 and Sz 66," A&A, 682, A55
- 54) Galloway-Sprietsma, M. et al. (including **J. Huang**), 2023, "Molecules with ALMA at Planet-forming Scales (MAPS). Complex Kinematics in the AS 209 Disk Induced by a Forming Planet and Disk Winds," ApJ, 950, 147
- 53) Law, C. J. et al. (including **J. Huang**), 2023, "Mapping Protoplanetary Disk Vertical Structure with CO Isotopologue Line Emission," ApJ, 948, 60
- 52) Pegues, J. et al. (including **J. Huang**), 2023, "An SMA Survey of Chemistry in Disks around Herbig Ae/Be Stars," ApJ, 948, 57
- 51) Muñoz-Romero, C. et al. (including **J. Huang**), 2023, "Cold Deuterium Fractionation in the Nearest Planet-Forming Disk," ApJ, 943, 35
- 50) Calahan, J. et al. (including **J. Huang**), 2023, "UV-driven Chemistry as a Signpost for Late-Stage Planet Formation," Nature Astronomy, 7, 49
- 49) Pinilla, P. et al. (including **J. Huang**), 2022, "The Distributions of Gas, Small-, and Large-grains in the LkH α 330 Disk Trace a Young Planetary System," A&A, 665, 128
- 48) Long, F. et al. (including **J. Huang**), 2022, "ALMA Detection of Dust Trapping around Lagrangian Points in the LkCa 15 Disk," ApJL, 937, 1
- 47) Teague, R. et al. (including **J. Huang**), 2022, "Mapping the Complex Kinematic Substructure in the TW Hya Disk," ApJ, 936, 163
- 46) Bae, J. et al. (including **J. Huang**), 2022, "Molecules with ALMA at Planet-forming Scales (MAPS). XXI. A Circumplanetary Disk Candidate in Molecular Line Emission in the AS 209 Disk," ApJL, 934, L20
- 45) Law, C. J. et al. (including **J. Huang**), 2022, "CO Line Emission Surfaces and Vertical Structure in Mid-Inclination Protoplanetary Disks," ApJ, 932, 114
- 44) Teague, R. et al. (including **J. Huang**), 2022, "Gas and Dust Shadows in the TW Hydrae Disk," ApJ, 930, 144
- 43) Martín-Doménch, R. et al. (including **J. Huang**), 2021, "Hot corino chemistry in the Class I binary source Ser-emb 11," ApJ, 923, 155
- 42) Schwarz, K. R. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XX. The Massive Disk Around GM Aurigae," ApJS, 257, 20
- 41) Teague, R. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XVIII. Kinematic Substructure in the Disks of HD 163296 and MWC 480," ApJS, 257, 18
- 40) Calahan, J. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XVII. Determining the 2D Thermal Structure of HD 163296," ApJS, 257, 17
- 39) Booth, A. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XVI. Characterising the Impact of the Molecular Wind on the Evolution of the HD 163296 System," ApJS, 257, 16
- 38) Bosman, A. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XV. Tracing Proto-planetary Disk Structure within 20 au," ApJS, 257, 15
- 37) Sierra, A. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XIV. Revealing Disk Substructures in Multi-wavelength Continuum Emission," ApJS, 257, 14

- 36) Aikawa, Y. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XIII. HCO^+ and Disk Ionization," ApJS, 257, 13
- 35) Le Gal, R. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XII. Inferring the C/O and S/H Ratios in Protoplanetary Disks with Sulfur Molecules," ApJS, 257, 12
- 34) Bergner, J. B. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) XI. CN and HCN as Tracers of Photochemistry in Disks," ApJS, 257, 11
- 33) Cataldi, G. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) X. Distributions of Deuterated Molecules," ApJS, 257, 10
- 32) Ilee, J. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) IX. Distribution and Properties of the Large Organic Molecules HC_3N , CH_3CN , and $c\text{-C}_3\text{H}_2$," ApJS, 257, 9
- 31) Alarcón, F. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) VIII. Gap Chemistry in AS 209 : Gas Depletion or Chemical processing?," ApJS, 257, 8
- 30) Bosman, A. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) VII. Sub-stellar O/H and C/H and super-stellar C/O in Planet Feeding Gas," ApJS, 257, 7
- 29) Guzmán, V. V. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) VI. Distribution of the Small Organics HCN, C_2H , and H_2CO ," ApJS, 257, 6
- 28) Zhang, K. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) V. CO Gas Distributions," ApJS, 257, 5
- 27) Law, C. J. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) IV. Emission Surfaces and Vertical Distribution of Molecules," ApJS, 257, 4
- 26) Law, C. J. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) III. Characteristics of Radial Chemical Substructures," ApJS, 257, 3
- 25) Czekala, I. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) II. CLEAN Strategies for Synthesizing Images of Molecular Line Emission in Protoplanetary Disks," ApJS, 257, 2
- 24) Öberg, K. I. et al. (including **J. Huang**), 2021, "Molecules with ALMA at Planet-forming Scales (MAPS) I. Program Overview and Highlights," ApJS, 257, 1
- 23) Andrews, S. M. et al. (including **J. Huang**), 2021, "Limits on Millimeter Continuum Emission from Circumplanetary Material in the DSHARP Disks," ApJ, 916, 51
- 22) Pegues, J. et al. (including **J. Huang**), 2021, "An ALMA Survey of Chemistry in Disks around Low-Mass M-Stars," ApJ, 911, 150
- 21) Cleeves, L. I. et al. (including **J. Huang**), 2021, "The TW Hya Rosetta Stone Project IV: A Hydrocarbon Rich Disk Atmosphere," ApJ, 911, 29
- 20) Macías, E. et al. (including **J. Huang**), 2021, "Characterizing the dust content of disk substructures in TW Hya," A&A, 648, A33
- 19) Jorquera, S. et al. (including **J. Huang**), 2021, "A search for companions via direct imaging in the DSHARP planet-forming disks," AJ, 161, 146
- 18) Pegues, J. et al. (including **J. Huang**), 2021, "Dynamical Masses and Stellar Evolutionary Model Predictions of M-Stars," ApJ, 908, 42
- 17) Calahan, J. et al., (including **J. Huang**), 2021, "The TW Hya Rosetta Stone Project III: Resolving the Gaseous Thermal Profile of the Disk," ApJ, 908, 8
- 16) Terwisscha van Scheltinga, J. (including **J. Huang**), 2021, "The TW Hya Rosetta Stone Project II: Spatially Resolved Emission of Formaldehyde Hints at Low-temperature Gas-phase Formation," ApJ, 906, 111
- 15) Öberg, K. I. et al. (including **J. Huang**), 2021, "The TW Hya Rosetta Stone Project I: Radial and Vertical Distributions of DCN and DCO^+ ," AJ, 161, 38
- 14) Ginski, C. et al. (including **J. Huang**), 2020, "Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs): A Close Low Mass Companion to ET Cha?," A&A, 642, A119
- 13) Bergner, J. B. et al. (including **J. Huang**), 2020, "An Evolutionary Study of Volatile Chemistry in Protoplanetary Disks," ApJ, 898, 97
- 12) Loomis, R. A. et al. (including **J. Huang**), 2020, "An Unbiased ALMA Spectral Survey of the LkCa 15 and MWC 480 Protoplanetary Disks," ApJ, 893, 101

- 11) Pegues, J. et al. (including **J. Huang**), 2020, "An ALMA Survey of H_2CO in Protoplanetary Disks," *ApJ*, 890, 142
- 10) Pinte, C. et al. (including **J. Huang**), 2020, "Nine Localized Deviations from Keplerian Rotation in the DSHARP circumstellar disks: Kinematic Evidence for Protoplanets Carving the Gaps," *ApJL*, 890, L9
- 9) Anderson, D. E. et al. (including **J. Huang**), 2019, "Probing the Gas Content of Late-Stage Protoplanetary Disks with N_2H^+ ," *ApJ*, 881, 127
- 8) Zhu, Z. et al. (including **J. Huang**), 2019, "One Solution to the Mass Budget Problem for Planet Formation: Optically Thick Disks with Dust Scattering," *ApJL*, 877, L18
- 7) Pérez, L. M. et al. (including **J. Huang**), 2018, "The Disk Substructures at High Angular Resolution Project (DSHARP). X. Multiple Rings, a Misaligned Inner Disk, and a Bright Arc in the Disk around the T Tauri star HD143006," *ApJL*, 869, L50
- 6) Birnstiel, T. et al. (including **J. Huang**), 2018, "The Disk Substructures at High Angular Resolution Project (DSHARP). V. Interpreting ALMA maps of protoplanetary disks in terms of a dust model," *ApJL*, 869, L45
- 5) Kurtovic, N. T. et al. (including **J. Huang**), 2018, "The Disk Substructures at High Angular Resolution Project (DSHARP). IV. Characterizing substructures and interactions in disks around multiple star systems," *ApJL*, 869, L44
- 4) Cleeves, L. I. et al. (including **J. Huang**), 2018, "Constraining Gas-phase Carbon, Oxygen, and Nitrogen in the IM Lup Protoplanetary Disk," *ApJ*, 865, 155
- 3) Loomis, R. A. et al. (including **J. Huang**), 2018, "Detecting Weak Spectral Lines in Interferometric Data Through Matched Filtering," *AJ*, 155, 182
- 2) Öberg, K. I. et al. (including **J. Huang**), 2017, " H_2CO Distribution and Formation in the TW Hya Disk," *ApJ*, 839, 43
- 1) Cleeves, L. I. et al. (including **J. Huang**), 2016, "The Coupled Physical Structure of Gas and Dust in the IM Lup Protoplanetary Disk," *ApJ*, 823, 110

Non-refereed publications:

- 2) Abrams, N. et al. (including **J. Huang**), 2020, "Measured Light Curves and Rotational Periods of 3122 Florence, 3830 Trelleborg and (131077) 2000 YH105," *The Minor Planet Bulletin*, 47, 3
- 1) Cleeves, L. I. et al. (including **J. Huang**), 2019, "Realizing the Unique Potential of ALMA to Probe the Gas Reservoir of Planet Formation," *Astro2020: Decadal Survey on Astronomy and Astrophysics*, science white papers; *Bulletin of the American Astronomical Society*, 51, 81