

JANE HUANG

Assistant Professor
Columbia University
Department of Astronomy

CONTACT INFORMATION

E-mail: jane.huang@columbia.edu
Office: Pupin Hall, 1011
ORCID: 0000-0001-6947-6072
Website: <http://janehuang.astro.columbia.edu/>

APPOINTMENTS

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| 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

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

RESEARCH INTERESTS

Planet formation, protoplanetary disks, astrochemistry, radio observations

AWARDS, FELLOWSHIPS, AND SCHOLARSHIPS

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| 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

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| 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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COLLOQUIA & SEMINARS

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| Chemical & Physical Sciences Colloquium, University of Toronto Mississauga | <i>2024</i> |
| TASTY Seminar, University of Toronto (St. George) | <i>2024</i> |
| Astronomy Colloquium, Pennsylvania State University | <i>2024</i> |
| Summer Science Seminar, Wesleyan University | <i>2024</i> |
| Colloquium, Carnegie Observatories | <i>2023</i> |

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| 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 |
| AstroCoffee, University of Hawai'i | 2019 |
| Exoplanets Tea, Massachusetts Institute of Technology | 2019 |
| Exoplanets Discussion Group, Princeton University | 2019 |
| CIERA Observational Astronomy Meeting, Northwestern University | 2019 |
| Center for Integrative Planetary Science Seminar, University of California, Berkeley | 2019 |
| Origins Seminar, University of Arizona | 2019 |
| Astro Seminar, Carnegie Earth and Planets Laboratory | 2019 |
| Astrochemistry Seminar, Leiden University | 2019 |
| Exoplanets and Disks Seminar, University of Amsterdam | 2019 |
| Star and Planet Formation Seminar, European Southern Observatory-Garching | 2019 |
| Astro Seminar, American Museum of Natural History | 2019 |
| ITC Luncheon, Center for Astrophysics Harvard & Smithsonian | 2019 |
| Exoplanet Pizza Lunch, Center for Astrophysics Harvard & Smithsonian | 2018 |
| Small-Scale Seminar, Center for Astrophysics Harvard & Smithsonian | 2016 |
| AstroStatistics Seminar, Harvard University | 2015 |

CONFERENCE AND WORKSHOP PRESENTATIONS

Invited talks

- "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

ADVISING AND MENTORING

Graduate students advised: Sally Jiang (Columbia Astronomy first-year PhD project, 2023-present)

Undergraduates advised: Shiqi (Bronco) Yang (Columbia, 2024-present), Catherine Harmon (Barnard College, 2023-present), Amelie Sharples (Columbia, 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: Asher Johnson (2024, Columbia Engineering the Next Generation program)

Committees: Ben Cassese (Columbia Astronomy second-year PhD project and thesis committee, 2023-present), Stephen Coffey (Columbia Astronomy first-year PhD project committee, 2024), Thomas Pfeil (Flatiron CCA Post-doc Mentoring Committee, 2024-present)

COURSES TAUGHT

ASTRUN3105: Exoplanets and Astrobiology
ASTRUN2001: Intro to Astrophysics I
ASTRG9003: Research Seminar I

Spring 2024, Spring 2025
Fall 2024
Fall 2023

SELECTED OUTREACH ACTIVITIES

Presentations and Q&As

- Interviewee, SETI Live, January 23, 2024
- Guest speaker, Amateur Astronomers Association, December 10, 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 speaker, Columbia University Society of Physics Students meeting, March 28, 2024
- Guest lecture for Science Research Fellows Seminar, Columbia University, November 17, 2023
- Guest lecture for ASTRUN2900 (Frontiers of Astrophysics), Columbia University, November 10, 2023 and December 6, 2024
- “The Worlds Outside Our Solar System” presentation, Oak Park School District Hoffman Planetarium, Nov. 17, 2021
- “Mapping the Birthplaces of Planets” 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
- Astronomy Club Guest Lecture, Thomas Jefferson High School for Science and Technology Oct. 7, 2020
- “Ask an Astronomer” Panel, [Astronomy at the Beach](#) Sept. 26, 2020
- “Mapping the Birthplaces of Planets” presentation, [YouthAstroNet Astro Chat](#) May 19, 2020

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*

[Worldwide Telescope](#) Ambassador

2014-2020

- Performed demonstrations of WorldWide Telescope for children and adults at Cambridge Explores the Universe (April 19, 2015; April 24, 2016; April 23, 2017; April 22, 2018; April 14, 2019)
- Co-taught workshops on Worldwide Telescope for Girl Scouts from the 4th to 8th grade at the “Geek is Glam” Expo, Worcester Polytechnic Institute, October 18, 2014

Python Workshop instructor, [SAO Latino Initiative](#)

“Scientific Computing with SciPy”

July 13, 2020

“Image Processing with scikit-image”

August 12, 2019

Instructor, [Banneker Institute](#)

July 2017, July 2018

Taught an order-of-magnitude physics course for two weeks in 2017 and one week in 2018 for a Harvard-Smithsonian Center for Astrophysics summer research program aimed at undergraduates from underrepresented backgrounds

[Science in the News \(Harvard University\)](#) blog editor

2017-2019

PROFESSIONAL SERVICE

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| NRAO Users Committee | 2024-present |
| Chair of the (NRAO) Data Management and Software Panel of the Users Committee | 2024-present |
| New York Area Exoplanets Meeting organizing committee | 2023-present |
| Columbia Arts & Sciences Junior Faculty Advisory Board member | 2024-present |
| Columbia Astronomy Colloquium Committee | 2024-2025 |
| Columbia Astronomy Graduate Admissions Committee | 2024-2025 |
| James Webb Space Telescope Time Allocation Committee discussion panelist | 2024 |
| Columbia Astronomy faculty search committee | 2023-2024 |
| Hubble Space Telescope Time Allocation Committee discussion panelist | 2023 |
| CASA Users Committee | 2022-2023 |
| Referee for various journals (<i>The Astrophysical Journal</i> , <i>Astronomy & Astrophysics</i> , <i>Nature Astronomy</i> , <i>Monthly Notices of the Royal Astronomical Society</i> , <i>The Astrophysical Journal Letters</i> , <i>Science</i>) | 2017-present |
| Colloquium co-organizer, University of Michigan Astronomy Department | 2022-2023 |
| Grant review panel chair on a NASA research and analysis program | 2022 |
| Subject-matter expert reviewer in a NASA peer review | 2022 |
| University of Michigan Astronomy Department Diversity, Equity, and Inclusion Committee member | 2021-2022 |
| University of Michigan Astronomy Department Faculty Meeting Postdoc Representative | 2020-2021 |
| Co-organizer, University of Michigan Astronomy booth, National Society for Black Physicists meeting | 2020 |
| FONDECYT (Chile's National Fund for Scientific and Technological Development) grant reviewer | 2020 |
| Grant review panelist on a NASA research and analysis program | 2020 |

PUBLICATIONS

Refereed publications as first author:

- 15) **Huang, J.**, Aizawa, M., Bae, J. et al., "Grand Design Spiral Arms in the Compact, Embedded Protoplanetary Disk of Haro 6-13," submitted to AAS Journals
- 14) **Huang, J.**, Ansdell, M., Birnstiel, T. et al., 2024, "[High Resolution ALMA Observations of Richly Structured Protoplanetary Disks in \$\sigma\$ 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, 869, L43
- 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 \$\lambda\$ 5797.1 Diffuse Interstellar Band](#)," Mol.

Phys., 113, 2159-2168

1) **Huang, J.** and Öberg, K. I., 2015, "Detection of N_2D^+ in a protoplanetary disk," *ApJL*, 809, 26

Refereed publications as second or third author:

12) Pinte, C., Ilee, J. D., **Huang, J.** et al., "exoALMA X: channel maps reveal complex ^{12}CO abundance distributions and a variety of kinematic structures with evidence for embedded planets," submitted to *ApJL*

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 $H^{13}CN/HC^{15}N$ Ratio," *ApJ*, 836, 30

Other refereed papers as contributing author:

84) Fadul, A. et al. (including **J. Huang**), "A deep search for complex organic molecules toward the protoplanetary disk of V883 Ori," submitted to *AAS Journals*

83) Wölfer, L. et al. (including **J. Huang**), "exoALMA XVII: Characterizing the Gas Dynamics Around Dust Asymmetries," submitted to *ApJL*

82) Barazza-Afara, M. et al., (including **J. Huang**), "exoALMA XVI: Predicting signatures of large-scale turbulence in protoplanetary disks," submitted to *ApJL*

81) Rosotti, G. et al. (including **J. Huang**), "exoALMA XV: Interpreting the height of CO emission layer," submitted to *ApJL*

80) 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," submitted to *ApJL*

79) Trapman, L. et al. (including **J. Huang**), "exoALMA XIII: gas masses from N_2H^+ and C_2H_2 : a comparison of protoplanetary gas disk mass measurement techniques," submitted to *ApJL*

78) Longarini, C. et al. (including **J. Huang**), "exoALMA XII: Weighing and sizing exoALMA disks with rotation curve modelling," submitted to *ApJL*

77) Gardner, C. et al. (including **J. Huang**), "exoALMA XI: ALMA Observations and Hydrodynamic Models of LkCa 15: Implications for Planetary Mass Companions in the Dust Continuum Cavity," submitted to *ApJL*

76) Zawadzki, B. et al. (including **J. Huang**), "exoALMA IX: Regularized Maximum Likelihood Imaging of Non-Keplerian Features," submitted to *ApJL*

75) Hilder, T. et al. (including **J. Huang**), "exoALMA VIII: Probabilistic super-resolution moment maps and data products using non-parametric linear models," submitted to *ApJL*

74) Bae, J. et al. (including **J. Huang**), "exoALMA VII. Benchmarking Hydrodynamics and Radiative Transfer Codes,"

submitted to ApJL

- 73) Stadler, J. et al. (including **J. Huang**), “exoALMA VI: Rotating under Pressure Rotation curves, azimuthal velocity substructures and pressure variations,” submitted to ApJL
- 72) Galloway-Sprietsma, M. et al. (including **J. Huang**), “exoALMA V: Emission Surfaces and Temperature Structures,” submitted to ApJL
- 71) Curone, P. et al. (including **J. Huang**), “exoALMA IV: Substructures, Asymmetries, and the Faint Outer Disk in Continuum Emission,” submitted to ApJL
- 70) Izquierdo, A. et al. (including **J. Huang**), “exoALMA III: Line-intensity modelling and radial profile extraction from protoplanetary discs,” submitted to ApJL
- 69) Loomis, R. A. et al. (including **J. Huang**), “exoALMA II: Data Calibration and Imaging Pipeline,” submitted to ApJL
- 68) Teague, R. et al. (including **J. Huang**), “exoALMA I: Science Goals, Project Design and Data Products”, submitted to ApJL
- 67) Uyama, T. et al. (including **J. Huang**), “JWST/NIRCam Coronagraphic Search for Hidden Planets in the HD 163296 Protoplanetary Disk,” submitted to AAS Journals
- 66) Ginski, C. et al. (including **J. Huang**), “Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs): Evidence for planet-disk interaction in the MASSJ16120668-3010270 system?,” submitted to A&A
- 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
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