

JAEHAN BAE

Curriculum Vitae

University of Florida
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ACADEMIC POSITIONS

Assistant Professor University of Florida	08/2021 – present
NASA Hubble Fellowship Program Sagan Postdoctoral Fellow Carnegie Earth and Planets Laboratory	09/2019 – 08/2021
Vera Rubin Postdoctoral Fellow Carnegie Department of Terrestrial Magnetism	09/2017 – 08/2019
Postdoctoral Researcher Department of Astronomy, University of Michigan	05/2017 – 08/2017
Research Associate Korea Astronomy and Space Science Institute	04/2008 – 06/2011

EDUCATION

Ph.D. in Astronomy & Astrophysics University of Michigan Thesis Title: Studies of Young, Star-forming Circumstellar Disks Advisor: Prof. Lee Hartmann	09/2011 – 04/2017
M.S. in Astronomy Seoul National University, South Korea Thesis Title: Properties of Interstellar Turbulence Driven by Localized Explosive Sources Advisor: Prof. Woong-Tae Kim	03/2006 – 02/2008
B.S. in Astronomy Seoul National University, South Korea Thesis Title: Kelvin-Helmholtz Instability in Ionized, Incompressible Fluids Advisor: Prof. Woong-Tae Kim	03/2002 – 02/2006

AWARDS AND GRANTS

Awards

• 2023 Scialog Fellow – Signatures of Life in the Universe	2023
• NASA Hubble Fellowship Program Sagan Fellow	2019
• Ralph B. Baldwin Prize in Astrophysics and Space Science	2018
• Carnegie Vera Rubin Postdoctoral Fellowship	2017
• UM Rackham Dissertation Fellowship	2016
• National Research Foundation of Korea Research Fellowship	2006 – 2008
• Undergraduate Scholarship for Academic Excellence	2002 – 2006

Grants

- NASA Exoplanets Research Program (PI: Bae) 2022
- ALMA Student Observing Support Program (PI: Bae) 2022
- JWST General Observers Program (PI: Facchini) 2022
- European Research Council (PI: Benisty) 2020
- NASA Exoplanets Research Program (PI: Mawet) 2018
- NSF Astronomy and Astrophysics (PI: Monnier) 2018
- NASA Emerging Worlds (PI: Hartmann, Science PI: Bae) 2016
- UM Rackham Graduate Student Research Grant 2016
- UM Rackham Conference Travel Grant 2015, 2016, 2017

RESEARCH INTERESTS

planet-protoplanetary disk interaction, planet hunting, planet formation, (sub-)millimeter radio interferometric observations, hydrodynamic/magnetohydrodynamic instabilities, exoplanets, protostellar outbursts, accretion disks, application of machine learning techniques to astronomical data

PUBLICATIONS

- 74 published/accepted peer-reviewed papers (17 as first author)
- 2,600+ total citations with h-index of 32 as of March 2023 [Source: [SAO/NASA ADS](#)]
- A review chapter for Protostar and Planets VII, titled “Structured Distributions of Gas and Solids in Protoplanetary Disks” [[PPVII chapter list](#)]

MENTORING AND TEACHING**Research Advisor**

- Postdoc Xiao Hu 11/2022 – present
- PhD student Lorraine Nicholson (NSF GRSF) 08/2022 – present
- PhD student Maria Galloway-Sprietsma 01/2018 – present
- PhD student Han-Gyeol Yun 08/2021 – present
- Undergraduate student Grady Robbins 09/2022 – present
- Undergraduate student Leah Morgen 05/2022 – present
- Undergraduate student Shreya Karthikeyan (REU) 03/2022 – present
- Undergraduate student Hajmyrat Geldimuradov (University Scholar) 08/2021 – present
- Undergraduate student Raymond Banton 08/2021 – 04/2022
- Undergraduate student Van Le (Senior Thesis Award) 08/2021 – 04/2022

Teaching

- AST 7939 “Machine Learning in Astronomy” Spring 2023
- AST 2730 “Introduction to Python for Physical Sciences” Fall 2022
- AST 4930 “AI and Machine Learning in Physical Sciences” Fall 2021
- Led Astro 361 “Astronomical Techniques” lab sections Fall 2015
- Led Astro 101 “Introductory Astronomy” discussion sections Winter 2012

Invited School Lectures

- Dustbusters school on protostellar discs and planet formation 05/2022
- “Hydrodynamical simulations of planet forming discs”

Certificates

- The NASA Center for Astronomy Education Regional Teaching Exchange 01/2012

SERVICE AND OUTREACH

Carnegie Institution Diversity, Equity, and Inclusion Postdoc Committee

US Extremely Large Telescope Key Science Program Working Group

NASA Advanced Supercomputer Facility Pilot User

IAU-Sponsored Public Exoplanet Naming Contest

UM Astronomy Graduate Student Representative

Conference Organizer & Committee

- Visualizing the Kinematics of Planet Formation
- 7th National Capital Area Disks Meeting

Panelist & External Reviewer

- NSF Astronomy & Astrophysics Program
- NASA Earth and Space Science Fellowship
- NASA Emerging Worlds
- NASA Exoplanets Research Program
- Chilean National Science and Technology Commission Regular Grant Competition

Journal Referee

Astronomy & Astrophysics, Astronomy and Computing, Astrophysics and Space Science, Journal of the Korean Astronomical Society, Monthly Notices of the Royal Astronomical Society, Nature Astronomy, New Astronomy, The Astrophysical Journal, The Astrophysical Journal Letters

PRESENTATIONS

Invited Talks, Seminars, and Colloquia

- Protostar and Planets VII review talk 04/2023
- Florida State University Astrophysics colloquium 10/2022
- Lorenz Center Workshop: The Dynamic & Chemical Connection 07/2022
- University of Cambridge Astronomy seminar 01/2022
- UCLA EPSS Planetary seminar 01/2022
- 88th Annual Meeting of the APS Southeastern Section invited talk 11/2021
- Gaps, Rings, Spirals, and Vortices: Structure Formation in Planet-Forming Disks invited review 10/2021
- 2021 Sagan Exoplanet Summer Workshop: Circumstellar Disks and Young Planets, invited review 07/2021
- European Astrobiology Institute Project Team meeting, invited review 04/2021
- University of Florida Colloquium, Gainesville, FL 03/2021
- Rice University Colloquium, Houston, TX 02/2021
- Yale University Exoplanet Seminar, New Haven, CT 11/2020
- Origins Seminar, University of Arizona, Tucson, AZ 10/2020
- MPIA Planet and Star Formation Department Seminar, Munich, Germany 10/2020
- NHFP Symposium, STScI, Baltimore, MD 09/2020
- Clemson University Colloquium, Clemson, SC 04/2020
- Harvard & Smithsonian CfA disk group meeting, Cambridge, MA 04/2020
- University of Chicago Colloquium, Chicago, IL 02/2020
- STScI Colloquium, Baltimore, MD 01/2020
- Carnegie Exoplanetary Worlds Workshop, Washington, DC 10/2019
- NHFP Symposium, Washington, DC 10/2019

- Korea Astronomy and Space Science Institute Colloquium, Daejeon, Korea 07/2019
- Seoul National University Seminar, Seoul, Korea 07/2019
- Kyung Hee University Colloquium, Yongin, Korea 07/2019
- Gordon Research Seminars Discussion Leader: Origins of Solar System, South Hadley, MA 06/2019
- Carnegie HQ Lunch & Learn, Washington, DC 05/2019
- Princeton University Exoplanet Lunches, Princeton, NJ 05/2019
- Ralph Baldwin Prize Lecture, Ann Arbor, MI 04/2019
- Planet-Forming Disks, Como, Italy 03/2019
- University of Maryland CosmoMeet, College Park, MD 01/2019
- University of Michigan Star and Planet Formation Seminar, Ann Arbor, MI 01/2019
- Carnegie DTM Seminar, Washington, DC 06/2018
- STScI Exoplanet, Star, and Planet Seminar, Baltimore, MD 05/2018
- Carnegie DTM Support Staff Lunch & Learn, Washington, DC 03/2018
- University of Wyoming Astronomy Colloquium, Laramie, WY 02/2018
- Southwest Research Institute Colloquium, Boulder, CO 02/2018
- NASA Goddard Extrasolar Planets Seminar, Greenbelt, MD 01/2018
- Harvard/CfA Stars & Planets Seminar, Boston, MA 11/2016
- MIT MKI/EAPS Exoplanet Tea, Boston, MA 11/2016
- Princeton SFIR Seminar, Princeton, NJ 10/2016
- Korea Astronomy and Space Science Institute Colloquium, Daejeon, Korea 06/2014

Contributed Conference Talks

- From Clouds to Planets II: The Astrochemical Link 10/2022
- Planet and binary formation in gravitationally unstable protoplanetary discs in the high-resolution era 09/2022
- Star Formation: From Clouds to Discs 10/2021
- Planet-forming Disks: From Surveys to Answers 09/2021
- Five Years After HL Tau: A new era in planet formation, online conference, Chile 12/2020
- 235th American Astronomical Society Meeting, Honolulu, HI 01/2020
- Chesapeake Bay Area Exoplanet Meeting, Newark, DE 09/2019
- 7th National Capital Area Disks Meeting, Baltimore, MD 09/2018
- Star and Planet Formation in the Southwest, Oracle, AZ 03/2018
- 231th American Astronomical Society Meeting, Washington, DC 01/2018
- Gordon Research Seminars: Origins of Solar System, South Hadley, MA 06/2017
- 229th American Astronomical Society Meeting (dissertation talk), Grapevine, TX 01/2017
- Workshop on Young Solar Systems, Sant Cugat, Spain 04/2016
- Frontier in Star Formation, Ann Arbor, MI 06/2015
- 2011 Korean Astronomical Society Meeting, Cheong-Ju, Korea 04/2011
- 2008 Korean Astronomical Society Meeting, Kyung-Ju, Korea 04/2008

Posters

- The Inner Regions of Protoplanetary Disks 09/2022
- IAU 368 Machine Learning in Astronomy: Possibilities and Pitfalls 08/2022
- Gordon Research Conference: Origins of Solar System, South Hadley, MA 06/2019
- The Origin of Galaxies, Stars, and Planets in the Era of ALMA, Pasadena, CA 11/2017
- Gordon Research Conference: Origins of Solar System, South Hadley, MA 06/2017
- Gordon Research Conference: Origins of Solar System, South Hadley, MA 06/2015
- UM Research Computing Symposium, Ann Arbor, MI 11/2014

- Circumstellar Disks and Planet Formation, Ann Arbor, MI 10/2014
- UM Research Computing Symposium, Ann Arbor, MI 11/2013
- Gordon Research Conference: Origins of Solar System, South Hadley, MA 06/2013
- Star Formation through Spectroimaging, Taipei, Taiwan 06/2011

PUBLICATIONS

First Author

17. **Bae, J.**, Isella, A., Zhu, Z., et al. “Structured Distributions of Gas and Solids in Protoplanetary Disks”, 2022, *Review Chapter for Protostars and Planets VII* [\[ADS\]](#)
16. **Bae, J.**, Teague, R., Andrews, S., et al. “Molecules with ALMA at Planet-forming Scales (MAPS): A Circumplanetary Disk Candidate in Molecular-line Emission in the AS 209 Disk”, 2022, *The Astrophysical Journal Letters*, 934, L20 [\[ADS\]](#)[\[PRESS\]](#)
15. **Bae, J.**, Teague, R., & Zhu, Z., “Observational Signatures of Tightly Wound Spirals Driven by Buoyancy Resonances in Protoplanetary Disks”, 2021, *The Astrophysical Journal*, 912, 56 [\[ADS\]](#)
14. **Bae, J.**, Zhu, Z., Baruteau, C., et al. “An Ideal Testbed for Planet-disk Interaction: Two Giant Protoplanets in Resonance Shaping the PDS 70 Protoplanetary Disk”, 2019, *The Astrophysical Journal Letters*, 884, L41 [\[ADS\]](#)
13. **Bae, J.**, Pinilla, P., & Birnstiel, T., “Diverse Protoplanetary Disk Morphology Produced by a Jupiter-mass Planet”, 2018, *The Astrophysical Journal Letters*, 864, L26 [\[ADS\]](#)
12. **Bae, J.**, & Zhu, Z., “Planet-driven Spiral Arms in Protoplanetary Disks: II. Implications”, 2018, *The Astrophysical Journal*, 859, 119 [\[ADS\]](#)
11. **Bae, J.**, & Zhu, Z., “Planet-driven Spiral Arms in Protoplanetary Disks: I. Formation Mechanism”, 2018, *The Astrophysical Journal*, 859, 118 [\[ADS\]](#)
10. **Bae, J.**, Zhu, Z., & Hartmann, L., “On the Formation of Multiple Concentric Rings and Gaps in Protoplanetary Disks”, 2017, *The Astrophysical Journal*, 850, 201 [\[ADS\]](#)
9. **Bae, J.**, Nelson, R. P., & Hartmann, L., “The Spiral Wave Instability Induced by a Giant Planet: I. Particle Stirring in the Inner Regions of Protoplanetary Disks”, 2016, *The Astrophysical Journal*, 833, 126 [\[ADS\]](#)
8. **Bae, J.**, Nelson, R. P., Hartmann, L., & Richard, S., “Self-destructing Spiral Waves: Global Simulations of a Spiral-wave Instability in Accretion Disks”, 2016, *The Astrophysical Journal*, 829, 13 [\[ADS\]](#)
7. **Bae, J.**, Zhu, Z., & Hartmann, L., “Planetary Signatures in the SAO 206462 (HD 135344B) Disk: A Spiral Arm Passing Through Vortex?”, 2016, *The Astrophysical Journal*, 819, 134 [\[ADS\]](#)
6. **Bae, J.**, Hartmann, L., & Zhu, Z., “Are Protoplanetary Disks Born With Vortices? Rossby Wave Instability Driven by Protostellar Infall”, 2015, *The Astrophysical Journal*, 805, 15 [\[ADS\]](#)
5. **Bae, J.**, Hartmann, L., Zhu, Z., & Nelson, R. P., “Accretion Outbursts in Self-gravitating Protoplanetary Disks”, 2014, *The Astrophysical Journal*, 795, 61 [\[ADS\]](#)
4. **Bae, J.**, Hartmann, L., Zhu, Z., & Gammie, C., “The Long-term Evolution of Photoevaporating Protoplanetary Disks”, 2013, *The Astrophysical Journal*, 774, 57 [\[ADS\]](#)

3. **Bae, J.**, Hartmann, L., Zhu, Z., & Gammie, C., “Variable Accretion Outbursts in Protostellar Evolution”, 2013, *The Astrophysical Journal*, 764, 141 [\[ADS\]](#)
2. **Bae, J.-H.**, Kim, K.-T., Yoon, S.-Y., et al., “A Multi-epoch, Simultaneous Water and Methanol Maser Survey Toward Intermediate-mass Young Stellar Objects”, 2011, *The Astrophysical Journal Supplement Series*, 196, 21 [\[ADS\]](#)
1. **Bae, J.-H.**, & Byun, D.-Y., “Analysis of KVN 21m Radio Antenna Optics using Ray-tracing Method”, 2009, *Journal of Astronomy and Space Sciences*, 26, 187 [\[ADS\]](#)

Co-Author

57. Huang, J., Bergin, E. A., **Bae, J.** et al. “Molecular Mapping of DR Tau’s Protoplanetary Disk, Envelope, Outflow, and Large-scale Spiral Arm”, 2023, *The Astrophysical Journal*, 943, 107 [\[ADS\]](#)
56. Rigliaco, E., Gratton, R., Ceppi, S. et al. “Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs): Characterization of the young star T CrA and its circumstellar environment”, 2023, *Astronomy & Astrophysics*, 671, A82 [\[ADS\]](#)
55. Stadler, J., Benisty, M., Izquierdo, A. et al. “A kinematically detected planet candidate in a transition disk”, 2023, *Astronomy & Astrophysics Letters*, 670, L1 [\[ADS\]](#)
54. Yun, H.-G., Kim, W.-T., **Bae, J.** et al. “Effects of Radiative Diffusion on Dynamical Corotation Torque in Three-dimensional Protoplanetary Disks”, 2022, *The Astrophysical Journal*, 938, 102 [\[ADS\]](#)
53. Long, F., Andrews, S. M., Zhang, S. et al. “ALMA Detection of Dust Trapping around Lagrangian Points in the LkCa 15 Disk”, 2022, *The Astrophysical Journal Letters*, 937, 1 [\[ADS\]](#)
52. Teague, R., **Bae, J.**, Andrews, S. M. et al. “Mapping the Complex Kinematic Substructure in the TW Hya Disk”, 2022, *The Astrophysical Journal*, 936, 163 [\[ADS\]](#)
51. Pinilla, P., Benisty, M., Kurtovic, N. T. et al. “Distributions of gas and small and large grains in the LkH α 330 disk trace a young planetary system”, 2022, *Astronomy & Astrophysics*, 655, A128 [\[ADS\]](#)
50. Zhou, Y., Sanghi, A., Bowler, B. P. et al. “HST/WFC3 H α Direct-imaging Detection of a Pointlike Source in the Disk Cavity of AB Aur”, 2022, *The Astrophysical Journal Letters*, 934, 13 [\[ADS\]](#)
49. Law, C., Crystian, S., Teague, R. et al. “CO Line Emission Surfaces and Vertical Structure in Midinclination Protoplanetary Disks”, 2022, *The Astrophysical Journal*, 932, 114 [\[ADS\]](#)
48. Huang, J., Ginski, G., Benisty, M. et al. “Disk Evolution Study through Imaging of Nearby Young Stars (DESTINYs): A Panchromatic View of DO Tau’s Complex Kilo-astronomical-unit Environment”, 2022, *The Astrophysical Journal*, 930, 171 [\[ADS\]](#)
47. Teague, R., **Bae, J.**, Benisty, M. et al. “Gas and Dust Shadows in the TW Hydrae Disk”, 2022, *The Astrophysical Journal*, 930, 144 [\[ADS\]](#)
46. Davies, C. L., Rich, E. A., Harris, T. J. “Scattering and sublimation: a multiscale view of μ m-sized dust in the inclined disc of HD 145718”, 2022, *Monthly Notices of the Royal Astronomical Society*, 511, 2434 [\[ADS\]](#)

45. Kuznetsova, A., **Bae, J.**, Hartmann, L., & Mac Low, M.-M. “Anisotropic Infall and Substructure Formation in Embedded Disks”, 2022, *The Astrophysical Journal*, 928, 92 [\[ADS\]](#)
44. Zhang, S., Hu, X., Zhu, Z., & **Bae, J.** “Self-consistent Ring Model in Protoplanetary Disks: Temperature Dips and Substructure Formation”, 2021, *The Astrophysical Journal*, 923, 70 [\[ADS\]](#)
43. Yu, H., Teague, R., **Bae, J.**, & Öberg, K. “Mapping the 3D Kinematical Structure of the Gas Disk of HD 169142”, 2021, *The Astrophysical Journal Letters*, 920, L33 [\[ADS\]](#)
42. Schwarz, K. R., Calahan, J. K., Zhang, K. et al. “Molecules with ALMA at Planet-forming Scales XX: The Massive Disk Around GM Aurigae”, 2021, *The Astrophysical Journal Supplement Series*, 257, 20 [\[ADS\]](#)
41. Huang, J., Bergin, E., Öberg, K. I., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) XIX. Spiral arms, a tail, and diffuse structures traced by CO around the GM Aur disk”, 2021, *The Astrophysical Journal Supplement Series*, 257, 19 [\[ADS\]](#)
40. Teague, R., **Bae, J.**, Aikawa, Y., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) XVIII: Kinematic Substructures in the Disks of HD 163296 and MWC 480”, 2021, *The Astrophysical Journal Supplement Series*, 257, 18 [\[ADS\]](#)
39. Calahan, J., Bergin, E. A., Zhang, K., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) XVII: Determining the 2D Thermal Structure of the HD 163296 Disk”, 2021, *The Astrophysical Journal Supplement Series*, 257, 17 [\[ADS\]](#)
38. Booth, A. S., Tabone, B., Ilee, J. D., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) XVI: Characterizing the impact of the molecular wind on the evolution of the HD 163296 system”, 2021, *The Astrophysical Journal Supplement Series*, 257, 16 [\[ADS\]](#)
37. Bosman, A. D., Bergin, E. A., Loomis, R. A., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) XV: Tracing proto-planetary disk structure within 20 au”, 2021, *The Astrophysical Journal Supplement Series*, 257, 15 [\[ADS\]](#)
36. Sierra, A., Pérez, L., Guzmán, V. V., et al. “Molecules with ALMA on Planet-forming Scales (MAPS) XIV: Revealing disk substructures in multi-wavelength continuum emission”, 2021, *The Astrophysical Journal Supplement Series*, 257, 14 [\[ADS\]](#)
35. Aikawa, Y., Cataldi, G., Yamato, Y., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) XIII: HCO⁺ and disk ionization structure”, 2021, *The Astrophysical Journal Supplement Series*, 257, 13 [\[ADS\]](#)
34. Ilee, J. D., Walsh, C., Booth, A. S., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) IX: Distribution and properties of the large organic molecules HC₃N, CH₃CN, and c-C₃H₂”, 2021, *The Astrophysical Journal Supplement Series*, 257, 9 [\[ADS\]](#)
33. Alarcón, F., Bosman, A. D., Bergin, E., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) VIII: Gap Chemistry in AS 209 - Gas Depletion or Chemical Processing?”, 2021, *The Astrophysical Journal Supplement Series*, 257, 8 [\[ADS\]](#)
32. Zhang, K., Booth, A. S., Law, C. J., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) V: CO gas distributions”, 2021, *The Astrophysical Journal Supplement Series*, 257, 5 [\[ADS\]](#)

31. Law, C. J., Teague, R., Loomis, R. A., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) IV: Emission Surfaces and Vertical 5 Distribution of Molecules”, 2021, *The Astrophysical Journal Supplement Series*, 257, 4 [ADS]
30. Law, C. J., Loomis, R. A., Teague, R., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) III: Characteristics of Radial Chemical Substructures”, 2021, *The Astrophysical Journal Supplement Series*, 257, 3 [ADS]
29. Czekala, I., Loomis, R. A., Teague, R., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) II: CLEAN Strategies for Synthesizing Images of Molecular Line Emission in Protoplanetary Disks”, 2021, *The Astrophysical Journal Supplement Series*, 257, 2 [ADS]
28. Öberg, K. I., Guzmán, V. V., Walsh, C., et al. “Molecules with ALMA at Planet-forming Scales (MAPS) I: Program Overview and Highlights”, 2021, *The Astrophysical Journal Supplement Series*, 257, 1 [ADS]
27. Benisty, M., **Bae, J.**, Facchini, S., et al. “ A Circumplanetary Disk around PDS70c”, 2021, *The Astronomical Journal Letters*, 916, 2 [ADS]
26. Facchini, S., Teague, R., **Bae, J.**, et al. “The Chemical Inventory of the Planet-hosting Disk PDS 70”, 2021, *The Astronomical Journal*, 162, 99 [ADS]
25. Paneque-Carreno, T., Pérez, L. M., Benisty, M., et al. “Spiral Arms and a Massive Dust Disk with non-Keplerian Kinematics: Possible Evidence for Gravitational Instability in the Disk of Elias 2-27”, 2021, *The Astrophysical Journal*, 914, 88 [ADS]
24. Ginski, C., Facchini, S., Huang, J., et al. “Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYs): Late Infall Causing Disk Misalignment and Dynamic Structures in SU Aur”, 2021, *The Astrophysical Journal Letters*, 908, L25 [ADS]
23. Kraus, S., Kreplin, A., Young, A. K., et al. “Disk Tearing in a Young Triple Star System with Misaligned Disk/Orbit Planes”, 2020, *Science*, 369, 1233 [ADS][PRESS]
22. Uyama, T., Currie, T., Christiaens, V., et al. “SCEXAO/CHARIS High-contrast Imaging of Spirals and Darkening Features in the HD 34700 A Protoplanetary Disk”, 2020, *The Astrophysical Journal*, 900, 135 [ADS]
21. Facchini, S., Benisty, M., **Bae, J.**, et al., “Annular Substructures in the Transition Disks Around LkCa 15 and J1610”, 2020, *Astronomy & Astrophysics*, 639, 121 [ADS]
20. Thanathibodee, T., Molina, B., Calvet, N., et al., “Variable Accretion onto Protoplanet Host Star PDS 70”, 2020, *The Astrophysical Journal*, 892, 81 [ADS]
19. Uyama, T., Muto, T., Mawet, D., et al. “Near-Infrared Imaging of a Spiral in the CQ Tau Disk”, 2020, *The Astronomical Journal*, 159, 118 [ADS]
18. Laws, A. S. E., Harries, T. J., Setterholm, B. R. et al., “Irregular Dust Features Around Intermediate-mass Young Stars with GPI: Signs of Youth or Misaligned Disks?”, 2020, *The Astrophysical Journal*, 888, 7 [ADS]
17. Thanathibodee, T., Calvet, N., **Bae, J.**, et al., “Magnetospheric Accretion as a Source of H α Emission from Proto-planets around PDS 70”, 2019, *The Astrophysical Journal*, 885, 94 [ADS]

16. Mesa, D., Keppler, M., Cantalloube, F., et al. “VLT/SPHERE Exploration of the Young Multiplanetary System PDS 70”, 2019, *Astronomy & Astrophysics*, 632, A25 [\[ADS\]](#)
15. Teague, R., **Bae, J.**, Huang, J., & Bergin, E. A., “Spiral Structure in the Gas Disk of TW Hya”, 2019, *The Astrophysical Journal Letters*, 884, L56 [\[ADS\]](#)
14. Yun, H. G., Kim, W.-T., **Bae, J.**, & Han, C., “Properties of Density and Velocity Gaps Induced by a Planet in a Protoplanetary Disk”, 2019, *The Astrophysical Journal*, 884, 142 [\[ADS\]](#)
13. Teague, R., **Bae, J.**, & Bergin, E. A., “Meridional Flows in the Disk Around a Young Star”, 2019, *Nature*, 574, 378 [\[ADS\]](#) [\[PRESS\]](#)
12. Isella, A., Benisty, M., Teague, R., et al., “Submillimeter emission associated with candidate protoplanets”, 2019, *The Astrophysical Journal Letters*, 879, L25 [\[ADS\]](#) [\[PRESS\]](#)
11. Keppler, M., Teague, R., **Bae, J.**, et al., “Highly structured disk around the planet host PDS 70 revealed by high-angular resolution observations with ALMA”, 2019, *Astronomy & Astrophysics*, 625, A118 [\[ADS\]](#)
10. Monnier, J. D., Harries, T. J., **Bae, J.**, et al., “Multiple Spiral Arms in the Disk Around Intermediate-mass Binary HD 34700A”, 2019, *The Astrophysical Journal*, 872, 122 [\[ADS\]](#)
9. Teague, R., **Bae, J.**, Birnstiel, T., et al., “Evidence For a Vertical Dependence on the Pressure Structure in AS 209”, 2018, *The Astrophysical Journal*, 868, 113 [\[ADS\]](#)
8. De Rosa, G., Fausnaugh, M. M., Grier, C. J., et al., “Velocity-resolved Reverberation Mapping of Five Bright Seyfert I Galaxies”, 2018, *The Astrophysical Journal*, 866, 133 [\[ADS\]](#)
7. Teague, R., **Bae, J.**, Bergin, E. A., et al., “A Kinematical Detection of Two Embedded Jupiter-mass Planets in HD 163296”, 2018, *The Astrophysical Journal Letters*, 860, L12 [\[ADS\]](#) [\[PRESS\]](#)
6. Hartmann, L., & **Bae, J.**, “How do T Tauri Stars Accrete?”, 2018, *Monthly Notices of the Royal Astronomical Society*, 474, 88 [\[ADS\]](#)
5. Herczeg, G. J., Johnstone, D., Mairs, S., et al., “How do stars gain their mass? A JCMT/SCUBA-2 Transient Survey of Protostars in Nearby Star Forming Regions”, 2017, *The Astrophysical Journal*, 849, 43 [\[ADS\]](#)
4. Niinuma, K., Lee, S.-S., Kino, M., et al., “VLBI Observations of Bright AGN Jets with the KVN and VERA Array (KaVA): Evaluation of Imaging Capability”, 2014, *Publications of the Astronomical Society of Japan*, 66, 103 [\[ADS\]](#)
3. Matsumoto, N., Hirota, T., Sugiyama, K., et al., “The First Very Long Baseline Interferometry Image of a 44 GHz Methanol Maser with the KVN and VERA Array (KaVA)”, 2014, *The Astrophysical Journal*, 789, 1 [\[ADS\]](#)
2. Lee, S.-S., Byun, D.-Y., Oh, C. S., et al., “Single-Dish Performance of KVN 21 m Radio Telescopes: Simultaneous Observations at 22 and 43 GHz”, 2011, *Publications of the Astronomical Society of Pacific*, 123, 1398 [\[ADS\]](#)
1. Kim, K.-T., Byun, D.-Y., Je, D.-H., et al., “100-GHz Band Test Observations of the KVN 21 m Radio Telescopes”, 2011, *Journal of the Korean Astronomical Society*, 44, 81 [\[ADS\]](#)