Angus "Gus" Beane

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Sixth Year Graduate Student
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Education

BA/MS Physics & Astronomy, University of Pennsylvania. 2019
PhD Astronomy, Harvard University. 2025 (anticipated)

Positions

Associate Research Assistant, Flatiron Institute, New York, NY. Aug 2018 – Dec 2018
Summer Research Assistant, Flatiron Institute, New York, NY. Jun 2018 – Aug 2018
Research Assistant, University of Richmond, Richmond, VA. Jun 2014 – Jun 2017

Honors & Fellowships

National

NASA FINESST Fellowship. 2020 – 2022
Honorable Mention, NSF GRFP. 2019 & 2020
Barry Goldwater Scholarship. 2018

University

James Mill Peirce Fellowship, Harvard University. 2019
Rose Undergraduate Research Award, University of Pennsylvania. 2019
Dean's Scholar, University of Pennsylvania. 2019
Phi Beta Kappa, University of Pennsylvania. 2018
Roy & Diana Vagelos Science Challenge Award, University of Pennsylvania. 2017 – 2019

Refereed publications

1. Speagle, S., Zucker, C., Bonaca, A., Cargile, P. A., Johnson, B. D., **Beane, A.**, Conroy, C., Finkbeiner, D. P., Green, G. M., Kamdar, H. M., Naidu, R., Rix, H.-W., Schlafly, E. F., Dotter, A., Eadier, G., Eisenstein, D. J., Goodman, A. A., Han, J. J., Saydjari, A. K., Ting, Y.-S., & Zelko, I. A., 2024, Mapping the Milky Way in 5D with 170 Million Stars, *Astrophys. J.* **970** 121.
2. Moriwaki, K., **Beane, A.**, & Lidz, A., 2024, Insights into the 21 cm field from the vanishing cross-power spectrum at the epoch of reionization, *Mon. Not. R. Astr. Soc.* **530** 3183.
3. Li, Z., Du, M., Debattista, V. P., Shen, J., Li, H., Liu, J., Vogelsberger, M., **Beane, A.**, Marinacci, F., & Sales, L. V., 2023, How Nested Bars Enhance, Modulate, and Are Destroyed by Gas Inflows, *Astrophys. J.* **958** 77.
4. **Beane, A.**, Hernquist, L., D'Onghia, E., Marinacci, F., Conroy, C., Qi, J., Sales, L. V., Torrey, P., & Vogelsberger, M., 2023, Stellar Bars in Isolated Gas-rich Spiral Galaxies Do Not Slow Down, *Astrophys. J.* **953** 173.
5. Tu, A. J., Zucker, C., Speagle, J. S., **Beane, A.**, Goodman, A., Alves, J., Faherty, J., & Burkert, A., 2022, Characterizing the 3D Kinematics of Young Stars in the Radcliffe Wave, *Astrophys. J.* **936** 57.
6. Jones, D., Palatnick, S., Chen, R., **Beane, A.**, & Lidz, A., 2021, Fuzzy Dark Matter and

the 21cm Power Spectrum, *Astrophys. J.* **913** 7.

7. Angus, R., **Beane, A.**, Price-Whelan, A. M., Newton, E., Curtis, J. L., Berger, T., van Saders, J., Kiman, R., Foreman-Mackey, D., Lu, Y., Anderson, L., & Faherty, J.K., 2020, Exploring the Evolution of Stellar Rotation Using Galactic Kinematics, *Astron. J.* **160** 90.
8. Ness, M. K., Johnston, K. V., Blancato, K., Rix, H.-W., **Beane, A.**, Bird, J. C., & Hawkins, K., 2019, In the Galactic Disk, Stellar [Fe/H] and Age Predict Orbits and Precise [X/Fe], *Astrophys. J.* **883** 177.
9. **Beane, A.**, Sanderson, R. E., Ness, M. K., Johnston, K. V., Grion Filho, D., Mac Low, M.-M., Anglés-Alcázar, D., Hogg, D. W., & Laporte, C. F. P., 2019, The Implications of Local Fluctuations in the Galactic Midplane for Dynamical Analysis in the *Gaia* Era, *Astrophys. J.* **883** 103.
10. **Beane, A.**, Villaescusa-Navarro, F., & Lidz, A., 2019, Measuring the EoR Power Spectrum Without Measuring the EoR Power Spectrum, *Astrophys. J.* **874** 133.
11. **Beane, A.**, Ness, M. K., & Bedell, M., 2018, Actions Are Weak Stellar Age Indicators in the Milky Way Disk, *Astrophys. J.* **867** 31.
12. **Beane, A.** & Lidz, A., 2018, Extracting Bias Using the Cross-bispectrum: An EoR and 21 cm-[C II]-[C II] Case Study, *Astrophys. J.* **867** 26.
13. **Beane, A.**, Miller III, B., & Parish, C., 2017, Internal abstraction of dynemicin A: An MD approach, *J. Mol. Graph. Model.* **74** 251–264.

Submitted manuscripts

McClure, R., **Beane, A.**, D'Onghia, E., Filion, C., & Daniel, K. J. The Impact of Classical Bulges on Stellar Bars and Box-Peanut-X-Features in Disk Galaxies, *Submitted to Mon. Not. R. Astr. Soc.* `arXiv:2410.08277`

Beane, A. Rising from the Ashes: How the Milky Way Got Its Scars, *Submitted to Astrophys. J* `arXiv:2407.07985`

Invited talks

ACS National Meeting, Orlando, FL, USA. Apr 2019

Contributed talks

Surveying the Milky Way Conference, Pasadena, CA, USA. Oct 2023
Harvard-Heidelberg Star Formation Workshop, Cambridge, MA, USA. Oct 2023
Galactic Bars Meeting, Granada, Spain. Jul 2023
AAS 235th Meeting, Honolulu, HI, USA. Jan 2020
CCA Intensity Mapping Workshop, New York, NY, USA. Feb 2019
AAS 233rd Meeting, Seattle, WA, USA. Jan 2019

Informal talks

Galaxy Formation Seminar, Flatiron Institute, New York, NY, USA. Feb 2024
Journal Club, University of Pennsylvania, Philadelphia, PA, USA. Sep 2023
Informal Seminar, Mullard Space Science Laboratory, Dorking, United Kingdom. Jul 2023
Galaxies Discussion Group, University of Cambridge, Cambridge, United Kingdom. Jul 2023
Special Seminar, Durham University, Durham, United Kingdom. Jul 2023
Astronomy Seminar, York University, Toronto, Ontario, Canada. Jun 2023
Science Seminar, University of Wisconsin-Madison, Madison, WI, USA. (virtual) Mar 2023

Cosmology Seminar, Max Planck Insititute for Astrophysics, Garching, Germany. May 2022
Astronomy Seminar, Tufts University, Medford, MA, USA. Mar 2022
Lunch Talk, Massachusetts Institute of Technology, Cambridge, MA, USA. (virtual) Oct 2020
Lunch Talk, University of Wisconsin-Madison, Madison, WI, USA. Feb 2020

Posters

First Light Summer School, São Paulo, SP, Brazil. Aug 2019
ASBMB National Meeting, Boston, MA, USA. Mar 2015

Teaching

Harvard University

Teaching Fellow, ASTR 202B (Cosmology). Spring 2022
Teaching Fellow, ASTR 200 (Radiative Processes). Fall 2020

University of Pennsylvania

Grader, ASTR 212 (Introduction to Astrophysics II). Spring 2018
Teaching Assistant, MATH 114 (Multi-variable Calculus). Spring 2017
Teaching Assistant, MATH 104 (Single-variable Calculus). Fall 2016