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Appointments

Assistant Professor, Rutgers, The State University of New Jersey, 2019-present
Associate Research Scientist, Flatiron Institute Center for Computational Astrophysics, 2018-present
Institute for Theory and Computation (ITC) Postdoctoral Fellow, Harvard, 2017-2018
NASA Einstein Postdoctoral Fellow, Harvard, 2014-2017

Education

Ph.D. Astronomy, University of Wisconsin-Madison, 2014
M.A. Astronomy, University of Wisconsin-Madison, 2010
M.S. Physics, University of Wisconsin-Madison, 2010
B.S. Physics & Mathematics (minor: Latin), University of Louisville, 2008, *Magna Cum Laude*

Awards and Honors

2022 Maria Goeppert Mayer Award, American Physical Society
2021 Alfred P. Sloan Research Fellowship
2020 Packard Fellowship for Science and Engineering
2019 Annie Jump Cannon Award, American Astronomical Society
2017 Robert J. Trumpler Award, Astronomical Society of the Pacific
2016 Division of Astrophysics Ph.D. Thesis Award Finalist, American Physical Society
2011 UW Madison Jansky Fellowship for Outstanding Research
2011 NASA Space Science Student Ambassador
2009 National Science Foundation Graduate Research Fellowship (Astrophysics)
2008 Donald M. Bennett Award for Outstanding Scholastic Achievement in Physics
2008 American Astronomical Society, Chambliss Award, Honorable Mention
2006 Bullitt Award in Astrophysics
2004 University of Louisville Presidential Scholarship (Full Tuition)

Grants

- 2024-2027, “*Star Formation in the Early Universe via the Stream Velocity in the Era of JWST*”, NASA ATP, \$225,968
- 2022-2025, “*A Revolution for Astrophysical Turbulence Using Machine Learning*”, NASA FINESST, \$150,00
- 2022-2025, “*The Cosmic Origins Spectrograph as a Probe of AGN Feedback in the Low Redshift Lyman Alpha Forest*”, NASA ATP, \$354,361
- 2021-2023, Alfred P. Sloan Research Fellowship, \$75,000
- 2020-2025, Packard Fellowship for Science and Engineering, \$875,000
- 2020-2023, “*Shining Light on Supersonically Induced Gas Objects (SIGOs)*”, NASA ATP, \$314,000
- 2021-2024, “*Collaborative Research: Stars from the Clouds - Turbulence, Magnetic Fields and the Dynamics of Star Cluster Formation*”, NSF AAG, \$299,643

Invited Talks

2023

- Cosmic turbulence and magnetic fields: physics of baryonic matter across time and scales*, Corsica, FR, September
- The Physics of Star Formation: From Stellar Cores to Galactic Scales*, Lyon, FR, June
- Johns Hopkins Astronomy Colloquium, May
- Wesleyan Astronomy Colloquium, May
- Univ. Illinois Astronomy Colloquium, April
- UC Berkeley Astronomy Colloquium, April
- Harvard-Smithsonian CfA Colloquium, April
- KITP Galaxy Evolution with Data-Driven Astronomy*, Santa Barbara, March

2022

- MSU Physics Colloquium, November
- SAGI workshop*, Invited Review, Vietnam, July
- University of Heidelberg Astronomy Colloquium, June
- EPoS 2020 The Early Phase of Star Formation - Insights from Dynamics*, Invited Review, Ringberg, Germany, April
- APS General Meeting, Invited Talk, March
- UMASS Amherst Astronomy Colloquium, March
- CU Boulder Astronomy Colloquium, February
- Galaxy Formation Workshop*, Tel Aviv, Israel, February
- Arizona/Steward Astronomy Colloquium, January

2021

- 1st VARNET Workshop on Star Formation and Stellar Feedback*, December
- APS MAS, Invited Review, December
- NASA Cosmic Origins Program - Stars Science Interest Group* Invited Review, November
- JPL Colloquium, September
- MagNet, Madison, WI, August
- The Grand Cascade*, Paris, France, July
- AAS Plenary Talk, Virtual, June

AAS-LAD Invited Talk, Virtual, June

2020

UW Madison Astronomy Colloquium, December

Computational Galaxy Formation 2020, Ringberg, Germany, April (canceled)

Where the Star Formation Ends, Leiden, Netherlands, March (canceled)

Magnetic Fields in the Universe VI, Vietnam, February

2019

Confronting simulations with observations from pc to Mpc scale, Hunter Valley, Australia, November

LOFAR MKSP Annual Meeting, Bochum, Germany, September

SO-Star, Paris, France, September

Flatiron Colloquium, New York, May

UC Riverside Physics Colloquium, April

Joint IAS/Princeton Astronomy Colloquium, March

Life and Death of Star Forming Galaxies, Perth, Australia, March

2018

Cosmic Dust and Magnetism Conference, Daejeon, Korea, November

The Milky Way in the Age of Gaia, Paris, France, October

Stellar and Interstellar Environments: Shocking Structures in and around Astrospheres and their Relevance for Cosmic Ray Transport, Bochum, Germany, September

Magnetic Fields or Turbulence: Which is the critical factor for the formation of stars and planetary disks?, Taipei, Taiwan, February

Center for Astrophysics Colloquium, Harvard CfA, February

2017

STScI Colloquium, November

NASA Ames Colloquium, November

UCLA Physics Colloquium, October

Magnetic Fields in the Universe VI, Natal, Brazil, October

ISM in 3D, Paris, France, July

Galactic Star Formation with Surveys, Heidelberg, Germany, July

Breakthrough Discuss Invited Panel, Stanford, April

UofL Honors Physics Colloquium, April

Univ. Maryland Astronomy Colloquium, March

Univ. Arizona Astronomy Colloquium, February

UC Santa Barbara Physics Colloquium, February

6 Years of ISM SPP - What have we learned?, Cologne, Germany, February

Cornell Astronomy Colloquium, January

Columbia Astronomy Colloquium, January

2016

NRAO/Socorro Colloquium, December

Cosmic Rays, Astrophysical Turbulence and Magnetic Reconnection, Natal, Brazil, December

Next in Science, Radcliffe Institute for Advanced Study, October

Fellows on the Frontier, Chicago, August
The Cold Universe, Kavli Week Lecturer, Santa Barbara, June
Astronomy Colloquium, Caltech, May
Breakthrough Discuss Invited Panel, Stanford, April
From Stars to Massive Stars, Gainesville, April
APS Thesis Prize Talk, Salt Lake City, April
TAC Seminar, UC Berkeley, April
Univ. of Florida Physics Colloquium, March
CITA Seminar, Univ. Toronto, March
Tel Aviv University Physics Colloquium, January

2015

Ben-Gurion University Physics Colloquium, December
Ohio State Astronomy Colloquium, December
Boston University Astronomy Colloquium, November
Magnetic Fields in the Universe V, Corsica, France, October
UC Santa Cruz Astronomy Colloquium, September
GBT High Frequency Science Workshop, Green Bank, September
Life Cycle of Gas in Galaxies: A Local Perspective, Dwingeloo, Netherlands, August
Orion Unplugged, Vienna, July
Boston University Lunch Seminar, February
NRAO/UVA Astronomy Colloquium, February
UMASS Amherst Astronomy Colloquium, February
Star Formation Mini-Meeting, UMASS Amherst, January

2014

Univ. of Illinois Urbana-Champaign Astronomy Colloquium, November
Superbubbles, HI Holes and Supershells, Freising, Germany, November
Turbulence in the Sky as on the Earth, Natal, Brazil, October
Cosmic Magnetic Fields, Krakow, Poland, October
Asia-Pacific Regional IAU Meeting, Dajeeon, Korea, August
CIERA Astrophysics Seminar, Northwestern, May
Caltech TAPIR Seminar, May

2013

Galactic Magnetism in the Era of LOFAR and SKA, Stockholm, Sweden, September
8th International Conference on Numerical Modeling of Space Plasma Flows, Biarritz, France, July
Magnetic Fields in the Universe IV, Playa del Carmen, Mexico, February
UNAM Astronomy Colloquium, February

2012

The Low-metallicity ISM: Chemistry, Turbulence and B Fields, Goettingen, Germany, October
Univ. Notre Dame Astronomy Colloquium, September
Solar and Astrophysical Dynamos, Symposium 294, IAU General Assembly, Beijing, China, August
7th International Conference on Numerical Modeling of Space Plasma Flows, Hawaii, June

2011

Univ. of Costa Rica Astronomy Colloquium, Costa Rica, November
Univ. of São Paulo Astronomy Colloquium, November
Young CMSO, Durham, New Hampshire, October
Univ. of Bonn Astronomy Colloquium, August

Teaching

2023 Fall, *Physics 345: Computational Astrophysics*
2022 Fall, *Physics 345: Computational Astrophysics*
2021 Fall, *Physics 610: Interstellar Matter*
2020 Fall, *Honors Seminar: The Past, Present, and Future of Prediction*
2019 Fall, *Physics 610: Interstellar Matter*

Rutgers Student/Postdoc Supervision

2023-current, Madisen Johnson, Rutgers Grad. Student
2023-current, Dr. Shyam Menon, Rutgers/CCA FRF Postdoctoral Scholar
2023-current, Avi Chen, Rutgers Grad. Student
2022-current, Megan Pirecki, Rutgers Undergrad. Student
2021-current, Lori Porter, Rutgers/CCA Undergrad. Intern
2020-current, Megan Tillman, Rutgers Grad. Student
2019-current, Dr. Matt Orr, Rutgers/CCA FRF Postdoctoral Scholar
2019-current, Diane Salim, Rutgers Grad. Student
2018-current, Sabrina Appel, Rutgers Grad. Student
2021-2022, Avery Kiihne, Rutgers Undergrad. Student
2019-2022, Brandon Shane, Rutgers Undergrad. Student
2020-2021, Michael O'Brien, Rutgers/CCA Undergrad. Intern

Other Student/Postdoc Supervision

2018-2020, Lucas Barreto Santos, University of Sao Paulo Masters Student
2017-2019, Monica Gallegos-Garcia, Harvard Banneker & Aztlán Student
2016, Missy McIntosh, Harvard Senior Thesis
2015, Alex Gurvich, Harvard REU Student
2014, Chris Herron, UW Madison/Univ. Sydney Ph.D. Student
2012-2014, Caio Correia, UFRN Brazil Masters Student
2010, Ben Tofflemire, UW Madison REU student

Conferences Organized

- 2024 SOC Chair, *Turbulence in the Heavens: A Conference Honoring Alex Lazarian*, Location: TBD
- 2023 KITP Conference Coordinator, *Galaxy Formation and Evolution in the Data Science Era*, Santa Barbara
- 2023 SOC Co-Chair, *Hyperion/Eos Space Telescope Meeting*, New York
- 2023 SOC, *FRBs at CCA*, New York
- 2023 SOC, *Olympian Symposium*, Greece
- 2022 SOC, *From Stars to Galaxies II*, Gothenburg, Sweden
- 2021 SOC, *The Interstellar Institute*, Paris, France
- 2020 SOC Chair, *The Interstellar Medium of Galaxies in the Era of Big Data*, AAS Mini-meeting, virtual
- 2019 SOC Chair, *Universality: Turbulence Across Vast Scales*, CCA, New York, NY
- 2019 SOC Chair, *Big Apple Magnetic Fields*, CCA, New York, NY
- 2017 SOC Chair, *Harvard-Heidelberg Star Formation Workshop*, Cambridge, MA
- 2017 SOC, *Magnetic Fields in the Universe VI*, Natal, Brazil
- 2016 SOC Chair, *Star formation, magnetic fields, and diffuse matter in the Galaxy: A conference honoring the contributions of Richard Crutcher & Carl Heiles*, Madison, WI
- 2015 SOC, *Harvard-Heidelberg Star Formation Workshop*, Cambridge, MA
- 2011, 2012, 2013, 2014 Conference Co-Organizer for the *Midwest Magnetic Fields*, Madison, WI
- 2011 Conference Co-Organizer for *ISM and Magnetic Fields Workshop*, Natal, Brazil

Professional External Service

- 2023 JWST Cycle 2 Review Panelist
- 2022-current The *Eos* Mission, NASA SMEX (proposed) Space Telescope, Chief Science Team Lead
- 2022 Hubble Postdoctoral Fellowship Selection Committee
- 2021-current CCA Computational Steering Committee
- 2019-2022 *Hyperion*, NASA MIDEX (proposed) Space Telescope, Science Co-Lead
- 2021 Guest Editor, *Annual Review of Astronomy and Astrophysics*, Volume 59
- 2021-current Selection Committee for *The PI Launchpad: A NASA Space Mission Workshop*
- 2020 Founder of CATS: Catalogue for Astrophysical Turbulence Simulations, mhdturbulence.com
- 2019 *Advancing Theoretical Astrophysics Summer School*, teaching/organizing.
- 2019 *CCA Plasma Astrophysics Summer School*, teaching
- 2018-current Flatiron Research Postdoc Fellow (FRF) selection committee
- 2016-2019 NRAO Science Review Panel
- 2015, 2016 CfA Seminar & ITC Colloquium Co-Chair
- 2012-current Referee for: *Astrophysical Journal*, *Astrophysical Journal Letters*, *Astronomy & Astrophysics*, *Monthly Notices of the Royal Astronomical Society*, *Nature*, *Nature Astronomy*

Rutgers Internal Service

2022-current Faculty Evaluator for the Rutgers SGS Deans Fellowships to Broaden Participation
2020, 2021, 2022, 2023 Honors Student Mentor
2020, 2022 Graduate Admissions in Physics
2021, 2022 Qualifier Exam Committee
2022, 2023 Building Committee
2020, 2021 Faculty Adviser for the Rutgers Astronomical Society
2019 Rutgers Astro Seminar/Colloquium Organizer

Outreach

2022-current *Open Interval* Dance Choreograph Collaboration
2020-2022 Rutgers Astronomical Society Speaker
2020 Rutgers Scarlet Speakers Public Talk
2019 CCA Telescope Outreach Coordinator
2017 Harvard Observatory Nights Public Talk
2013-2014 *5 Minute Astronomy*, Host of Podcast on iTunes, Featured on iTunes *New and Noteworthy*
2012-2014 *Radio Astronomy*, Host of weekly radio show WORT 89.9FM, Madison, WI
2011-2013 Outreach Coordinator for the Department of Astronomy, UW Madison
2008-2012 Organizer for *Expanding Your Horizons* (STEM middle school girl's program)
2008-2014 *Universe in the Park* telescope shows
2011 *Science Expeditions* Presenter, Madison, WI
2011 *Madison Middle School Science Symposium* Mentor
2008-2011 Public Outreach Talks at the UW Space Place and Local Public Schools
2010 *SciFest Africa* Exhibitioner, Grahamstown, South Africa
2009-2010 Writer for American Physical Society's *Physics Frontline*
2008-2009 Assistant Editor of *The Nucleus* (National Society of Physics Students website)

Refereed Journal Publications

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++ denotes a student or postdoc primarily mentored by B. B.

1. **Burkhart, B.**, Falceta-Gonçalves D., Kowal G., & Lazarian A., 2009, "*Density Studies of MHD Interstellar Turbulence: Statistical Moments, Correlations and Bispectrum*", ApJ, 692, 250, arXiv:0811.0822
2. **Burkhart, B.**, Stanimirović S., Lazarian A., & Kowal G., 2010, "*Characterizing Magnetohydrodynamic Turbulence in the Small Magellanic Cloud*", ApJ, 708, 1204, arXiv:0911.3652
3. ++Tofflemire, B. M., **Burkhart, B.**, & Lazarian, A., 2011, "*Interstellar Sonic and Alfvénic Mach Numbers and the Tsallis Distribution*", ApJ, 736, 60, arXiv:1103.3299
4. Gaensler, B. M., Haverkorn, M., **Burkhart, B.**, Newton-McGee, K. J., Ekers, R. D., Lazarian, A., McClure-Griffiths, N. M., Robishaw, T., Dickey, J. M., & Green, A. J., 2011, "*Low-Mach-number turbulence in interstellar gas revealed by radio polarization gradients*", Nature, 478, 214, arXiv:1110.2896
5. **Burkhart, B.**, Lazarian A., & Gaensler B. M., 2012, "*Properties of Interstellar Turbulence from Gradients of Linear Polarization Maps*", ApJ, 749, 145, arXiv:1111.3544
6. **Burkhart, B.** & Lazarian A., 2012, "*The Column Density Variance- \mathcal{M}_s Relationship*", ApJ, 755, L19, arXiv:1205.3792

7. Saul, D. R., Peek, J. E. G., Grcevich, J., Putman, M. E., Douglas, K. A., Korpela, E. J., Stanimirović, S., Heiles, C., Gibson, S. J., Lee, M., Begum, A., Brown, A. R. H., **Burkhart, B.**, Hamden, E. T., Pingel, N. M., & Tonnesen, S., 2012, “*The GALFA-HI Compact Cloud Catalog*”, ApJ, 758, 44, arXiv:1208.4103
8. **Burkhart, B.**, Lazarian, A., Goodman, A., & Rosolowsky, E., 2013, “*Hierarchical Structure of Magnetohydrodynamic Turbulence in Position-position-velocity Space*”, ApJ, 770, 141, arXiv:1206.4703
9. **Burkhart, B.**, Ossenkopf, V., Lazarian, A., & Stutzki, J., 2013, “*The Effects of Radiative Transfer on the Probability Distribution Functions of Molecular Magnetohydrodynamic Turbulence*”, ApJ, 771, 122, arXiv:1304.3131
10. **Burkhart, B.**, Lazarian, A., Ossenkopf V., & Stutzki J., 2013, “*The Turbulence Power Spectrum in Optically Thick Interstellar Clouds*”, ApJ, 771, 123, arXiv:1305.3619
11. Pingel, N., Stanimirović, S., Peek, J. E. G., Lee, M.-Y., Lazarian, A., **Burkhart, B.**, Begum, A., Douglas, K. A., Heiles, C., Gibson, S. J., Grcevich, J., Korpela, E. J., Lawrence, A., Murray, C., Putman, M. E., & Saul, D., 2013, “*Characterizing the Turbulent Properties of the Starless Molecular Cloud MBM 16*”, ApJ, 779, 36, arXiv:1310.7244
12. ++Correia, C., **Burkhart, B.**, Lazarian, A., Ossenkopf, V., Stutzki, J., Kainulainen J., Kowal, G., & de Medeiros, J. R., 2013, “*Opacity Broadening of ^{13}CO Linewidths and its Effects on the Variance-Sonic Mach Number Relation*”, ApJ, 785, L1, arXiv:1402.6702
13. Meyer, C. D., Balsara, D. S., **Burkhart, B.**, & Lazarian, A., 2013, “*Observational diagnostics for two-fluid turbulence in molecular clouds as suggested by simulations*”, MNRAS, 439, 219, arXiv:1307.3527
14. ++Iacobelli, M., **Burkhart, B.**, Haverkorn, M., Lazarian, A., Carretti, E., Staveley-Smith, L., Gaensler, B. M., Bernardi, G., Kesteven, M. J., & Poppi, S., 2014, “*Galactic interstellar turbulence across the southern sky seen through spatial gradients of the polarization vector*”, A&A, 566, A5, arXiv:1404.6077
15. **Burkhart, B.**, Lazarian A., Leão, I. C., & de Medeiros, J. R., 2014, “*Measuring the Alfvénic Nature of the Interstellar Medium: Velocity Anisotropy Revisited*”, ApJ, 790, 130, arXiv:1408.4858
16. **Burkhart, B.**, Lazarian A., Balsara, D., Meyer, C., & Cho, J., 2015, “*Alfvénic Turbulence Beyond the Ambipolar Diffusion Scale*”, ApJ, 805, 118, arXiv:1412.3452
17. **Burkhart, B.**, Collins, D. C., & Lazarian, A., 2015, “*Observational Diagnostics of Self-gravitating MHD Turbulence in Giant Molecular Clouds*”, ApJ, 808, 48, arXiv:1505.03855
18. Chepurnov, A., **Burkhart, B.**, Lazarian, A., & Stanimirović, S., 2015, “*The Turbulence Velocity Power Spectrum of Neutral Hydrogen in the Small Magellanic Cloud*”, ApJ, 810, 33, arXiv:1506.03448
19. **Burkhart, B.**, Lee, M.-Y., Murray, C. E., & Stanimirović, S., 2015, “*The Lognormal Probability Distribution Function of the Perseus Molecular Cloud: A Comparison of HI and Dust*”, ApJ, 811, L28, arXiv:1509.02889
20. ++Correia, C., Lazarian, A., **Burkhart, B.**, Pogosyan, D., & de Medeiros, J. R., 2016, “*Principal Component Analysis Studies of Turbulence in Optically Thick Gas*”, ApJ, 818, 118, arXiv:1511.03712
21. ++Herron, C. A., **Burkhart, B.**, Lazarian, A., Gaensler, B. M., & McClure-Griffiths, N. M., 2015, “*Radio Synchrotron Fluctuation Statistics as a Probe of Magnetized Interstellar Turbulence*”, ApJ, 822, 13, arXiv:1603.02751
22. Krumholz, M. R. & **Burkhart, B.**, 2016, “*Is turbulence in the interstellar medium driven by feedback or gravity? An observational test*”, MNRAS, 458, 1671, arXiv:1512.03439
23. **Burkhart, B.** & Loeb, A., 2016, “*Predicted Sizes of Pressure-Supported HI Clouds in the Outskirts of the Virgo Cluster*”, ApJ, 834, L7, arXiv:1604.01767
24. **Burkhart, B.** & Lazarian, A., 2016, “*The Phase Coherence of Interstellar Density Fluctuations*”, ApJ, 827, 26, arXiv:1511.03660

25. Imara, N. & **Burkhart, B.**, 2016, “*The HI Probability Distribution Function and the Atomic-to-molecular Transition in Molecular Clouds*”, ApJ, 829, 2, arXiv:1609.04817
26. **Burkhart, B.**, Stalpes, K., & Collins, D. C., 2017, “*The Razor’s Edge of Collapse: The Transition Point from Lognormal to Power-Law Distributions in Molecular Clouds*”, ApJ, 834, L1, arXiv:1609.04409
27. ++Gurvich, A., **Burkhart, B.**, & Bird, S., 2017, “*The Effect of AGN Heating on the Low-redshift Ly α Forest*”, ApJ, 835, 175, arXiv:1608.03293
28. Hoang, T., Lazarian, A., **Burkhart, B.**, & Loeb, A., 2017, “*The Interaction of Relativistic Spacecrafts with the Interstellar Medium*”, ApJ, 837, 5, arXiv:1608.05284
29. Mocz, P., **Burkhart, B.**, Hernquist, L., McKee, C. F., & Springel, V., 2017, “*Moving-mesh Simulations of Star-forming Cores in Magneto-gravo-turbulence*”, ApJ, 838, 40, arXiv:1702.06133
30. Herron, C. A., Federrath, C., Gaensler, B. M., McClure-Griffiths, N. M., & **Burkhart, B.**, 2017, “*Probes of turbulent driving mechanisms in molecular clouds from fluctuations in synchrotron intensity*”, MNRAS, 466, 2272, arXiv:1612.05672
31. Hull, C. L. H., Mocz, P., **Burkhart, B.**, Goodman, A. A., Girart, J. M., Cortés, P. C., Hernquist, L., Springel, V., Li, Z.-Y., & Lai, S.-P., 2017, “*Unveiling the Role of the Magnetic Field at the Smallest Scales of Star Formation*”, ApJ, 842, L9, arXiv:1706.03806
32. ++Bialy, S., **Burkhart, B.**, & Sternberg, A., 2017, “*The HI-to-H₂ Transition in a Turbulent Medium*”, ApJ, 843, 92, arXiv:1703.08549
33. **Burkhart, B.** & Loeb, A., 2017, “*The Detectability of Radio Auroral Emission from Proxima b*”, ApJ, 849, L10, arXiv:1706.07038
34. ++Herron, C. A., **Burkhart, B.**, Gaensler, B. M., Lewis, G. F., McClure-Griffiths, N. M., Bernardi, G., Carretti, E., Haverkorn, M., Kesteven, M., Poppi, S., & Staveley-Smith, L., 2018, “*Advanced Diagnostics for the Study of Linearly Polarized Emission. II. Application to Diffuse Interstellar Radio Synchrotron Emission*”, ApJ, 855, 29, arXiv:1802.05403
35. ++Pingel, N. M., Lee, M.-Y., **Burkhart, B.**, & Stanimirović, S., 2018, “*Multi-phase Turbulence Density Power Spectra in the Perseus Molecular Cloud*”, ApJ, 856, 136, arXiv:1802.10092
36. ++Chen, H. H.-H., **Burkhart, B.**, & Goodman, A., 2018, “*The Anatomy of the Column Density Probability Distribution Function (N-PDF)*”, ApJ, 859, 162, arXiv:1707.09356
37. Kong, S., et al. (including **Burkhart, B.** and 36 co-authors), 2018, “*The CARMA-NRO Orion Survey*”, ApJS, 236, 25, arXiv:1803.11522
38. Krumholz, M., **Burkhart, B.**, Forbes, J., & Crocker, R., “*A unified model for galactic discs: star formation, turbulence driving, and mass transport*”, 2018, MNRAS, 477, 2716, arXiv:1706.00106
39. Portillo, S. K. N., Slepian, Z., **Burkhart, B.**, Kahraman, S., & Finkbeiner, D. P., 2018, “*Developing the 3-point Correlation Function for the Turbulent Interstellar Medium*”, ApJ, 862, 119, arXiv:1711.09907
40. **Burkhart, B.**, 2018, “*The Star Formation Rate in the Gravoturbulent Interstellar Medium*”, ApJ, 863, 118, arXiv:1801.05428
41. Yuen, K. H., Chen, J., Hu, Y., Ho, K. W., Lazarian, A., Lazarian, V., Yang, B., **Burkhart, B.**, Correia, C., Cho, J., Canto, B., & de Medeiros, J. R., 2018, “*Statistical Tracing of Magnetic Fields: Comparing and Improving the Techniques*”, ApJ, 865, 54, arXiv:1804.02732
42. Mocz, P. & **Burkhart, B.**, 2018, “*Star formation from dense shocked regions in supersonic isothermal magnetoturbulence turbulence*”, MNRAS, 480, 3916, arXiv:1805.11105
43. González-Casanova, D., Lazarian, A., & **Burkhart, B.**, 2019, “*Velocity centroid gradients for absorbing media*”, MNRAS, 483, 1287, arXiv:1703.03035
44. Chiou, Y., Naoz, S., **Burkhart, B.**, Marinacci, F., & Vogelsberger, M., 2019, “*The Supersonic Project: Shining Light on SIGOs — A New Formation Channel for Globular Clusters*”, ApJ, 878, L23, arXiv:1904.08941

45. Koch, E. W., Rosolowsky, E. W., Boyden, R. D., **Burkhart, B.**, Ginsburg, A., Loeppky, J. L., & Offner, S. S. R., 2019, “*TURBUSTAT: Turbulence Statistics in Python*”, *AJ*, 158, 1, arXiv:1904.10484
46. **Burkhart, B.** & Mocz, P., 2019, “*The Self-gravitating Gas Fraction and the Critical Density for Star Formation*”, *ApJ*, 879, 129, arXiv:1805.11104
47. Peek, J. & **Burkhart, B.**, 2019, “*Do Androids Dream of Magnetic Fields? Using Neural Networks to Interpret the Turbulent Interstellar Medium*”, *ApJ*, 882, L12, arXiv:1905.00918
48. Basu, A., Schwarz, D. J., Klöckner, H.-R., von Hausegger, S., Kramer, M., Wieching, G., & **Burkhart, B.**, 2019, “*CMB foreground measurements through broad-band radio spectro-polarimetry: prospects of the SKA-MPG telescope*”, *MNRAS*, 488, 161, arXiv:1906.04788
49. Mocz, P. & **Burkhart, B.**, 2019, “*A Markov Model for Non-lognormal Density Distributions in Compressive Isothermal Turbulence*”, *ApJ*, 884, L35, arXiv:1908.00544
50. Bialy, S., Neufeld, D., Wolfire, M., Sternberg, A., & **Burkhart, B.**, 2019, “*Chemical Abundances in a Turbulent Medium — H_2 , OH^+ , H_2O^+ , ArH^+* ”, *ApJ*, 885, 109, arXiv:1909.12305
51. Basu, A., Fletcher, A., Mao, S. A., **Burkhart, B.**, Beck, R., & Schnitzeler, D., 2019, “*An In-depth Investigation of Faraday Depth Spectrum Using Synthetic Observations of Turbulent MHD Simulations*”, *Galaxies*, 7, 89, arXiv:1911.09029
52. Rosen, A. L., Li, P. S., Zhang, Q., & **Burkhart, B.**, 2019, “*Massive-star Formation via the Collapse of Subvirial and Virialized Turbulent Massive Cores*”, *ApJ*, 887, 108, arXiv:1902.10153
53. Raymond, J. C., Chilingarian, I. V., Blair, W. P., Sankrit, R., Slavin, J. D., & **Burkhart, B.**, 2020, “*Turbulence and Energetic Particles in Radiative Shock Waves in the Cygnus Loop. I. Shock Properties*”, *ApJ*, 894, 108, arXiv:2004.09567
54. ++Bialy, S. & **Burkhart, B.**, 2020, “*The Driving Scale-Density Decorrelation Scale Relation in a Turbulent Medium*”, *ApJ*, 894, L2, arXiv:1909.12305
55. ++Gallegos-Garcia, M., **Burkhart, B.**, Rosen, A. L., Naiman, J. P., & Ramirez-Ruiz, E., 2020, “*Winds in Star Clusters Drive Kolmogorov Turbulence*”, *ApJ*, 899, L30, arXiv:2006.14626
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