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Publication List

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Publications — [ADS search](#) — [ORCID](#)

refereed: 46 — first author: 8 — citations: 1672 — h-index: 24 (2023-12-01)

First Author

- 8 **Fielding, D. B.**; Ripperda, B.; Philippov, A. A., *Plasmoid Instability in the Multiphase Interstellar Medium*, *ApJ*, **949**, 2023 ([arXiv:2211.06434](#)) [8 citations]
- 7 **Fielding, D. B.**; Bryan, G. L., *The Structure of Multiphase Galactic Winds*, *ApJ*, **924**, 82, 2022 ([arXiv:2108.05355](#)) [62 citations]
- 6 **Fielding, D. B.**; Tonnesen, S.; DeFelippis, D.; Li, M. *et al.*, *First Results from SMAUG: Uncovering the Origin of the Multiphase Circumgalactic Medium with a Comparative Analysis of Idealized and Cosmological Simulations*, *ApJ*, **903**, 32, 2020 ([arXiv:2006.16316](#)) [45 citations]
- 5 **Fielding, D. B.**; Ostriker, E. C.; Bryan, G. L.; Jermyn, A. S., *Multiphase Gas and the Fractal Nature of Radiative Turbulent Mixing Layers*, *ApJ*, **894**, 2020 ([arXiv:2003.08390](#)) [95 citations]
- 4 **Fielding, D. B.**; Quataert, E.; Martizzi, D., *Clustered supernovae drive powerful galactic winds after superbubble breakout*, *MNRAS*, **481**, 3325, 2018 ([arXiv:1807.08758](#)) [113 citations]
- 3 **Fielding, D. B.**; Quataert, E.; Martizzi, D.; Faucher-Giguère, C., *How supernovae launch galactic winds?*, *MNRAS*, **470**, 2017 ([arXiv:1704.01579](#)) [72 citations]
- 2 **Fielding, D. B.**; Quataert, E.; McCourt, M.; Thompson, T. A., *The impact of star formation feedback on the circumgalactic medium*, *MNRAS*, **466**, 3810, 2017 ([arXiv:1606.06734](#)) [132 citations]
- 1 **Fielding, D. B.**; McKee, C. F.; Socrates, A.; Cunningham, A. J. *et al.*, *The turbulent origin of spin-orbit misalignment in planetary systems*, *MNRAS*, **450**, 3306, 2015 ([arXiv:1409.5148](#)) [80 citations]

Second Author (* = primary mentor for student led project)

- 16 Smith, M. C.; **Fielding, D. B.**; Bryan, G. L.; Kim, C. *et al.*, *ARKENSTONE - I. A novel method for robustly capturing high specific energy outflows in cosmological simulations*, *MNRAS*, **527**, 1216, 2024 ([arXiv:2301.07116](#)) [6 citations]
- 15 Stern, J.; **Fielding, D. B.**; Hafen, Z.; Su, K. *et al.*, *Accretion onto disk galaxies via hot and rotating CGM inflows*, 2023 ([arXiv:2306.00092](#)) [6 citations]
- 14 Kempster, P.; **Fielding, D. B.**; Quataert, E.; Galishnikova, A. K. *et al.*, *Cosmic ray transport in large-amplitude turbulence with small-scale field reversals*, *MNRAS*, **525**, 4985, 2023 ([arXiv:2304.12335](#)) [8 citations]
- 13 *Tan, B.; **Fielding, D. B.**, *Cloud Atlas: Navigating the Multiphase Landscape of Tempestuous Galactic Winds*, 2023 ([arXiv:2305.14424](#)) [6 citations]
- 12 *Pandya, V.; **Fielding, D. B.**; Bryan, G. L.; Carr, C. *et al.*, *A Unified Model for the Coevolution of Galaxies and Their Circumgalactic Medium: The Relative Roles of Turbulence and Atomic Cooling Physics*, *ApJ*, **956**, 118, 2023 ([arXiv:2211.09755](#)) [8 citations]

- 11 *Abruzzo, M. W.; **Fielding, D. B.**; Bryan, G. L., *TuRMoiL of Survival: A Unified Survival Criterion for Cloud-Wind Interactions*, 2023 (arXiv:2307.03228)
- 10 *Chen, Z.; **Fielding, D. B.**; Bryan, G. L., *The Anatomy of a Turbulent Radiative Mixing Layer: Insights from an Analytic Model with Turbulent Conduction and Viscosity*, ApJ, **950**, 91, 2023 (arXiv:2211.01395) [3 citations]
- 9 *Abruzzo, M. W.; **Fielding, D. B.**; Bryan, G. L., *Taming the TuRMoiL: The Temperature Dependence of Turbulence in Cloud-Wind Interactions*, 2022 (arXiv:2210.15679) [9 citations]
- 8 Orr, M. E.; **Fielding, D. B.**; Hayward, C. C.; Burkhart, B., *Bursting Bubbles: Feedback from Clustered Supernovae and the Trade-off Between Turbulence and Outflows*, ApJ, **932**, 88, 2022 (arXiv:2109.14656) [18 citations]
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- 6 *Pandya, V.; **Fielding, D. B.**; Anglés-Alcázar, D.; Somerville, R. S. et al., *Characterizing mass, momentum, energy, and metal outflow rates of multiphase galactic winds in the FIRE-2 cosmological simulations*, MNRAS, **508**, 2979, 2021 (arXiv:2103.06891) [63 citations]
- 5 Stachenfeld, K.; **Fielding, D. B.**; Kochkov, D.; Cranmer, M. et al., *Learned Coarse Models for Efficient Turbulence Simulation*, 2021 (arXiv:2112.15275) [27 citations]
- 4 *Butsky, I. S.; **Fielding, D. B.**; Hayward, C. C.; Hummels, C. B. et al., *The Impact of Cosmic Rays on Thermal Instability in the Circumgalactic Medium*, ApJ, **903**, 77, 2020 (arXiv:2008.04915) [67 citations]
- 3 Stern, J.; **Fielding, D. B.**; Faucher-Giguère, C.; Quataert, E., *The maximum accretion rate of hot gas in dark matter haloes*, MNRAS, **492**, 6042, 2020 (arXiv:1909.07402) [44 citations]
- 2 Stern, J.; **Fielding, D. B.**; Faucher-Giguère, C.; Quataert, E., *Cooling flow solutions for the circumgalactic medium*, MNRAS, **488**, 2549, 2019 (arXiv:1906.07737) [59 citations]
- 1 Martizzi, D.; **Fielding, D. B.**; Faucher-Giguère, C.; Quataert, E., *Supernova feedback in a local vertically stratified medium: interstellar turbulence and galactic winds*, MNRAS, **459**, 2311, 2016 (arXiv:1601.03399) [94 citations]

Co-author

- 22 Hummels, C. B.; Rubin, K. H. R.; Schneider, E. E.; **Fielding, D. B.**, *CloudFlex: A Flexible Parametric Model for the Small-Scale Structure of the Circumgalactic Medium*, 2023 (arXiv:2311.05691)
- 21 Su, K. et al. (incl. **DBF**), *Unraveling Jet Quenching Criteria Across L* Galaxies and Massive Cluster Ellipticals*, 2023 (arXiv:2310.17692)
- 20 Coil, A. L. et al. (incl. **DBF**), *Ionized Gas Extended Over 40 kpc in an Odd Radio Circle Host Galaxy*, 2023 (arXiv:2310.15162) – accepted to Nature
- 19 Steinwandel, U. P. et al. (incl. **DBF**), *The structure and composition of multiphase galactic winds in a Large Magellanic Cloud mass simulated galaxy*, 2022 (arXiv:2212.03898) [10 citations]
- 18 McPherson, D. K. et al. (incl. **DBF**), *DUVET survey: mapping outflows in the metal-poor starburst Mrk 1486*, MNRAS, **525**, 6170, 2023 (arXiv:2308.06918)
- 17 Roy, M.; Su, K.; Tonnesen, S.; **Fielding, D. B.** et al., *Seeding the CGM: how satellites populate the cold phase of milky way haloes*, MNRAS, **527**, 265, 2024 (arXiv:2310.04404)
- 16 Carr, C.; Bryan, G. L.; **Fielding, D. B.**; Pandya, V. et al., *Regulation of Star Formation by a Hot Circumgalactic Medium*, ApJ, **949**, 21, 2023 (arXiv:2211.05115) [6 citations]
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- 14 Butsky, I. S.; Werk, J. K.; Tchernyshyov, K.; **Fielding, D. B.** et al., *The Impact of Cosmic Rays on the Kinematics of the Circumgalactic Medium*, ApJ, **935**, 69, 2022 (arXiv:2106.14889) [14 citations]
 - 13 Hafen, Z. et al. (incl. **DBF**), *Hot-mode accretion and the physics of thin-disc galaxy formation*, MNRAS, **514**, 5056, 2022 (arXiv:2201.07235) [47 citations]
 - 12 Abruzzo, M. W.; Bryan, G. L.; **Fielding, D. B.**, *A Simple Model for Mixing and Cooling in Cloud-Wind Interactions*, ApJ, **925**, 199, 2022 (arXiv:2101.10344) [25 citations]
 - 11 Stern, J. et al. (incl. **DBF**), *Neutral CGM as damped Ly α absorbers at high redshift*, MNRAS, **507**, 2869, 2021 (arXiv:2105.06489) [16 citations]
 - 10 Stern, J.; Faucher-Giguère, C.; **Fielding, D. B.**; Quataert, E. et al., *Virialization of the Inner CGM in the FIRE Simulations and Implications for Galaxy Disks, Star Formation, and Feedback*, ApJ, **911**, 88, 2021 (arXiv:2006.13976) [77 citations]
 - 9 Pandya, V. et al. (incl. **DBF**), *First Results from SMAUG: The Need for Preventative Stellar Feedback and Improved Baryon Cycling in Semianalytic Models of Galaxy Formation*, ApJ, **905**, 4, 2020 (arXiv:2006.16317) [30 citations]
 - 8 Burkhart, B. et al. (incl. **DBF**), *The Catalogue for Astrophysical Turbulence Simulations (CATS)*, ApJ, **905**, 14, 2020 (arXiv:2010.11227) [13 citations]
 - 7 Kim, C.; Ostriker, E. C.; **Fielding, D. B.**; Smith, M. C. et al., *A Framework for Multiphase Galactic Wind Launching Using TIGRESS*, ApJ, **903**, 2020 (arXiv:2010.09090) [28 citations]
 - 6 Kim, C. et al. (incl. **DBF**), *First Results from SMAUG: Characterization of Multiphase Galactic Outflows from a Suite of Local Star-forming Galactic Disk Simulations*, ApJ, **900**, 61, 2020 (arXiv:2006.16315) [69 citations]
 - 5 Lochhaas, C. et al. (incl. **DBF**), *Properties of the simulated circumgalactic medium*, MNRAS, **493**, 1461, 2020 (arXiv:1908.00021) [29 citations]
 - 4 Martizzi, D.; Quataert, E.; Faucher-Giguère, C.; **Fielding, D. B.**, *Simulations of jet heating in galaxy clusters: successes and challenges*, MNRAS, **483**, 2465, 2019 (arXiv:1805.06461) [46 citations]
 - 3 Stern, J. et al. (incl. **DBF**), *Does Circumgalactic O VI Trace Low-pressure Gas Beyond the Accretion Shock? Clues from H I and Low-ion Absorption, Line Kinematics, and Dust Extinction*, ApJ, **865**, 91, 2018 (arXiv:1803.05446) [40 citations]
 - 2 Offner, S. S. R. et al. (incl. **DBF**), *The Turbulent Origin of Outflow and Spin Misalignment in Multiple Star Systems*, ApJ, **827**, 2016 (arXiv:1606.08445) [82 citations]
 - 1 Schlieder, J. E. et al. (incl. **DBF**), *The Na 8200 Å Doublet as an Age Indicator in Low-mass Stars*, AJ, **143**, 114, 2012 (arXiv:1202.4191) [63 citations]