

# Drummond B. Fielding

## Publication List

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### Publications — ADS search — ORCID

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total: 64 — citations: 2752 — h-index: 27 (30 Nov 2024) — \* indicates  $\geq 100$  citations

#### First Author

- <sup>8</sup> **Fielding, D. B.**; Ripperda, B.; Philippov, A. A., *Plasmoid Instability in the Multiphase Interstellar Medium*, ApJ, 949, 2023 (arXiv:2211.06434) [21 citations]
- <sup>\*7</sup> **Fielding, D. B.**; Bryan, G. L., *The Structure of Multiphase Galactic Winds*, ApJ, 924, 82, 2022 (arXiv:2108.05355) [108 citations]
- <sup>6</sup> **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) [75 citations]
- <sup>\*5</sup> **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) [155 citations]
- <sup>\*4</sup> **Fielding, D. B.**; Quataert, E.; Martizzi, D., *Clustered supernovae drive powerful galactic winds after superbubble breakout*, MNRAS, 481, 3325, 2018 (arXiv:1807.08758) [183 citations]
- <sup>\*3</sup> **Fielding, D. B.**; Quataert, E.; Martizzi, D.; Faucher-Giguère, C., *How supernovae launch galactic winds*, MNRAS, 470, 2017 (arXiv:1704.01579) [106 citations]
- <sup>\*2</sup> **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) [191 citations]
- <sup>\*1</sup> **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) [100 citations]

#### Second Author (<sup>‡</sup>=mentor for student led project)

- <sup>17</sup> Smith, M. C.; **Fielding, D. B.**; Bryan, G. L.; Bennett, J. S. *et al.*, *Arkenstone - II. A model for unresolved cool clouds entrained in galactic winds in cosmological simulations*, MNRAS (arXiv:2408.15321) [3 citations]
- <sup>‡16</sup> Abruzzo, M. W.; **Fielding, D. B.**; Bryan, G. L., *Taming the TuRMoiL: The Temperature Dependence of Turbulence in Cloud-Wind Interactions*, ApJ, 966, 181 (arXiv:2210.15679) [19 citations]
- <sup>15</sup> Stern, J.; **Fielding, D. B.**; Hafen, Z.; Su, K. *et al.*, *Accretion onto disc galaxies via hot and rotating CGM inflows*, MNRAS, 530, 1711 (arXiv:2306.00092) [27 citations]
- <sup>‡14</sup> Tan, B.; **Fielding, D. B.**, *Cloud atlas: navigating the multiphase landscape of tempestuous galactic winds*, MNRAS, 527, 9683 (arXiv:2305.14424) [26 citations]
- <sup>13</sup> 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 (arXiv:2301.07116) [21 citations]
- <sup>12</sup> Kempfski, 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 (arXiv:2304.12335) [25 citations]
- <sup>‡11</sup> 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 (arXiv:2211.09755) [23 citations]
- <sup>‡10</sup> Abruzzo, M. W.; **Fielding, D. B.**; Bryan, G. L., *TuRMoiL of Survival: A Unified Survival Criterion for Cloud-Wind Interactions* (arXiv:2307.03228) [11 citations]
- <sup>‡9</sup> 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 (arXiv:2211.01395) [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 (arXiv:2109.14656) [39 citations]
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- 6 Stachenfeld, K.; **Fielding, D. B.**; Kochkov, D.; Cranmer, M. et al., *Learned Coarse Models for Efficient Turbulence Simulation* (arXiv:2112.15275) [75 citations]
- \*‡5 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 (arXiv:2103.06891) [117 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 (arXiv:2008.04915) [93 citations]
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- \*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 (arXiv:1601.03399) [131 citations]

#### Co-author

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- 38 Voit, G. M.; Pandya, V.; **Fielding, D. B.** et al., *Equilibrium States of Galactic Atmospheres. I. The Flip Side of Mass Loading*, ApJ, 976, 150 (arXiv:2406.07631) [3 citations]
- 37 Perrotta, S. et al. (incl. DBF), *The Outflowing [O II] Nebulae of Compact Starburst Galaxies at  $z \sim 0.5$* , ApJ, 975, 263 (arXiv:2409.10013)
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- 35 Bennett, J. S.; Smith, M. C.; **Fielding, D. B.** et al., *Prevention is better than cure? Feedback from high specific energy winds in cosmological simulations with Arkenstone* (arXiv:2410.12909)
- 34 Choi, B. et al. (incl. DBF), *The Metallicity Mapping of the Ionized Diffuse Gas at the Milky Way Disk-halo Interface* (arXiv:2410.06286)
- 33 Stone, J. M.; Mullen, P. D.; **Fielding, D. B.** et al., *AthenaK: A Performance-Portable Version of the Athena++ AMR Framework* (arXiv:2409.16053) [7 citations]
- 32 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*, ApJ, 972, 148 (arXiv:2311.05691) [6 citations]
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- 30 Su, K. et al. (incl. DBF), *Unravelling jet quenching criteria across  $L^*$  galaxies and massive cluster ellipticals*, MNRAS, 532, 2724 (arXiv:2310.17692) [9 citations]
- 29 Steinwandel, U. P.; Rennehan, D.; Orr, M. E.; **Fielding, D. B.** et al., *Pumping Iron: How turbulent metal diffusion impacts multiphase galactic outflows* (arXiv:2407.14599) [5 citations]
- ‡28 Ramesh, R.; Nelson, D.; **Fielding, D. B.** et al., *Zooming in on the Circumgalactic Medium with GIBLE: Tracing the Origin and Evolution of Cold Clouds* (arXiv:2407.00172) [4 citations]
- 27 Hamel-Bravo, M. J. et al. (incl. DBF), *DUVET: Resolved direct metallicity measurements in the outflow of starburst galaxy NGC 1569*, MNRAS, 530, 3855 (arXiv:2404.04600)
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- 21 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 (arXiv:2310.04404) [8 citations]
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- †18 Carr, C.; Bryan, G. L.; **Fielding, D. B.** *et al.*, *Regulation of Star Formation by a Hot Circumgalactic Medium*, *ApJ*, 949, 21 (arXiv:2211.05115) [19 citations]
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- 13 Stern, J. *et al.* (incl. **DBF**), *Neutral CGM as damped Ly  $\alpha$  absorbers at high redshift*, *MNRAS*, 507, 2869 (arXiv:2105.06489) [28 citations]
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- 10 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 (arXiv:2006.16317) [45 citations]
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- 5 Voit, G. M.; Babul, A.; Babyk, I. *et al.*, *Circumgalactic Gas and the Precipitation Limit* (arXiv:1903.11212)
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- 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 (arXiv:1803.05446) [61 citations]
- \*2 Offner, S. S. R. *et al.* (incl. **DBF**), *The Turbulent Origin of Outflow and Spin Misalignment in Multiple Star Systems*, *ApJ*, 827 (arXiv:1606.08445) [122 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 (arXiv:1202.4191) [65 citations]