Refereed Publications

MICHAEL BOYLAN-KOLCHIN

- 172. Testing the Near-Far Connection with FIRE Simulations: Inferring the Stellar Mass Function of the Proto-Local Group at z > 6 Using the Fossil Record of Present-day Galaxies
 P. Gandhi, A. Wetzel, M. Boylan-Kolchin, R. Sanderson, A. Savino, D. Weisz, E. Tollerud, G. Sun, C. Faucher-Giguère (2023), submitted to MNRAS (arXiv:2309.09940)
- 171. The JWST Resolved Stellar Populations Early Release Science Program IV: The Star Formation History of the Local Group Galaxy WLM

 K. McQuinn and 25 co-authors, including M. Boylan-Kolchin (2023), submitted to AAS Journals
- 170. Hooks & Bends in the Radial Acceleration Relation: Tests for Dark Matter and Challenges for MOND F. Mercado, J. Bullock, J. Moreno, M. Boylan-Kolchin, A. Wetzel, C. Faucher-Giguère, J. Samuel (2023), submitted to MNRAS; arXiv:2307.09507
- 169. An Analytic Surface Density Profile for ΛCDM Haloes and Gravitational Lensing Studies
 A. Lazar, J. Bullock, A. Nierenberg, L. Moustakas, M. Boylan-Kolchin (2023), submitted to MNRAS; arXiv:2304.11177
- 168. Dissipative Dark Matter on FIRE: II. Observational Signatures and Constraints from Local Dwarf Galaxies
 X. Shen, P. Hopkins, L. Necib, F. Jiang, M. Boylan-Kolchin, A. Wetzel (2023), submitted to ApJ; arXiv:2206.05327
- Metallicity Distribution Functions of 13 Ultra-Faint Dwarf Galaxy Candidates from Hubble Space Telescope Narrowband Imaging
 Fu, D. Weisz, E. Starkenburg, N. Martin, A. Savino, M. Boylan-Kolchin, P. Côté, A. Dolphin, A. Ji, N. Longeard, M. Mateo, E. Patel, N, Sandford (2023), accepted by ApJ; arXiv:2306.06260
- 166. Orientations of Dark Matter Halos in CDM and SIDM Latte Galaxies
 J. Baptista, R. Sanderson, D. Huber, A. Wetzel, O. Sameie, M. Boylan-Kolchin, J. Bailin, P. Hopkins, C. Faucher-Giguère, S. Chakrabarti, D. Vargya, N. Panithanpaisal, A. Arora, E. Cunningham (2023), ApJ, 958, 44
- 165. The Hubble Space Telescope Survey of M31 Satellite Galaxies II. The Star Formation Histories of Ultra-Faint Dwarf Galaxies

 A. Savino and 38 co-authors, including M. Boylan-Kolchin (2023), ApJ, 956, 86
- 164. A Jolt to the System: Impulsive Ram Pressure on Low-Mass Local Group Galaxies in Simulations J. Samuel, B. Pardasani, A. Wetel, I. Santistevan, M. Boylan-Kolchin, J. Moreno, C. Faucher-Giguère (2023), MNRAS, 525, 3849
- 163. The Impact of UV Variability on the Abundance of Bright Galaxies at $z \ge 9$ X. Shen, M. Vogelsberger, **M. Boylan-Kolchin**, S. Tacchella, R. Kannan (2023), MNRAS, **525**, 3254
- 162. What Causes The Formation of Disks and End of Bursty Star Formation?
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- 161. *The JWST Resolved Stellar Populations Early Release Science Program II. Survey Overview* D. Weisz and 41 coauthors, including **M. Boylan-Kolchin** (2023), ApJS, **268**, 15
- 160. Born This way: Thin disc, Thick Disc, and Isotropic Bulge Formation in FIRE-2 Milky-Way-mass Galaxy Simulations

- S. Yu, J. Bullock, A. Gurvich, Z. Hafen, J. Stern, M. Boylan-Kolchin, C. Faucher-Giguère, A. Wetzel, P. Hopkins, J. Moreno (2023), MNRAS, 523, 6220
- 159. *The Absolute Age of M92*J. Ying, B. Chaboyer, E. Boudreaux, C. Slaughter, M. Boylan-Kolchin, D. Weisz (2023), AJ, 166, 18
- 158. Dwarf Galaxy Formation With and Without Dark Matter-Baryon Streaming Velocities
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- 157. Formation of Proto-Globular Cluster Candidates in Cosmological Simulations of Dwarf Galaxies at z>4 O. Sameie, **M. Boylan-Kolchin**, P. Hopkins, A.Wetzel, X. Ma, J. Bullock, K. El-Badry, E. Quataert, J. Samuel, A. Schauer, D. Weisz (2023), MNRAS, **522**, 1800
- 156. Stress Testing ∧CDM with High-redshift Galaxy Candidates
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- 155. Cosmological Structure Formation and Soliton Phase Transition in Fuzzy Dark Matter with Axion Self-Interactions
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- 154. Public Data Release of the FIRE-2 Cosmological Zoom-in Simulations of Galaxy Formation A. Wetzel, C. Hayward, R. Sanderson, X. Ma, D. Anglés-Alcázar, R. Feldmann, T. Chan, K. El-Badry, C. Wheeler, S. Garrison-Kimmel, F. Nikakhtar, N. Panithanpaisal, A. Arora, A. Gurvic, J. Samuel, O. Sameie, V. Pandya, C. Hummels, S. Loebman, M. Boylan-Kolchin, J. Bullock, C. Faucher-Giguère, D. Kereš, E. Quataert, P. Hopkins (2023), ApJS, 265, 44
- 153. HETDEX Public Source Catalog 1: 280K Sources including over 50K Lyman Alpha Emitters From an Untargeted Wide-area Spectroscopic Survey

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- 152. On the Cosmic Web Elongation in Fuzzy Dark Matter Cosmologies: Effects on Density Profiles, Shapes and Alignments of Halos
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- 151. FIRE-3: Updated Stellar Evolution Models, Yields, & Microphysics and Fitting Functions for Applications in Galaxy Simulations
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- 150. *Great Balls of FIRE I: The Formation of Star Clusters Across Cosmic Time in a Milky Way-mass Galaxy* M. Grudić, Z. Hafen, C. Rodriguez, D. Guszejnov, A. Lamberts, A. Wetzel, **M. Boylan-Kolchin**, C. Faucher-Giguère (2023), MNRAS, **519**, 1366
- 149. The Hubble Space Telescope Survey of M31 Satellite Galaxies I. RR Lyrae-based Distances and Refined 3D Geometric Structure

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- 148. Shapes of Milky-Way-Mass Galaxies with Self-Interacting Dark Matter D. Vargya, R. Sanderson, O. Sameie, M. Boylan-Kolchin, P. Hopkins, A. Wetzel, A. Graus (2021), MN-RAS, 516, 2389
- 147. On the Probability of the Extremely Lensed z = 6.2 Earendel Source Being a Population III Star A. Schauer, V. Bromm, N. Drory, M. Boylan-Kolchin (2022), ApJ Letters, 934, L6

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- 145. Hot-mode Accretion and the Physics of Thin-disk Galaxy Formation
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- 144. *Sizing from the Smallest Scales: The Mass of the Milky Way*M. Rodriguez Wimberly, M. Cooper, D. Baxter, **M. Boylan-Kolchin**, J. Bullock, S. Fillingham, A. Ji, L. Sales, J. Simon (2022), MNRAS, **513**, 4968
- 143. The In-situ Origins of Dwarf Stellar Outskirts in FIRE-2
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- 142. The Effects of LMC-mass Environments on Their Dwarf Satellite Galaxies in the FIRE Simulations E. Jahn, L. Sales, A. Wetzel, J. Samuel, K. El-Badry, M. Boylan-Kolchin, J. Bullock (2022), MNRAS, 513, 2673
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- 140. The Galaxy-Halo Size Relation of Low-mass Galaxies in FIRE
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- 137. Planes of Satellites Are Not a Problem for (Just) ∧CDM M. Boylan-Kolchin (2021), Nature Astronomy, 5, 1188
- 136. From EMBER to FIRE: Predicting High Resolution Baryon Fields from Dark Matter Simulations with Deep Learning
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- 135. Globular Clusters and Streaming Velocities: Testing the New Formation Channel in High-resolution Cosmological Simulations
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- 134. *The Central Densities of Milky Way-mass Galaxies in Cold and Self-Interacting Dark Matter Models* O. Sameie, **M. Boylan-Kolchin**, R. Sanderson, D. Vargya, P. Hopkins, A. Wetzel, J. Bullock, A. Graus, V. Robles (2021), MNRAS, **507**, 720
- 133. Dissipative Dark Matter on FIRE: I. Structural and Kinematic Properties of Dwarf Galaxies X. Shen, P. Hopkins, L. Necib, F. Jiang, M. Boylan-Kolchin, A. Wetzel (2021), MNRAS, 506, 4421
- 132. A Model for the Formation of Stellar Associations and Clusters from Giant Molecular Clouds M. Grudić, J. Diederik Kruijssen, C. Faucher-Giguère, P. Hopkins, X. Ma, E. Quataert, M. Boylan-Kolchin (2021), MNRAS; MNRAS, 506, 3239
- 131. HETDEX [OIII] Emitters I: A spectroscopically selected low-redshift population of low-mass, low-metallicity galaxies
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- 130. *Uncertain Times: The Redshift-Time Relation from Cosmology and Stars* M. Boylan-Kolchin, D. Weisz (2021), MNRAS, 505, 2764
- 129. The Contribution of Globular Clusters to Cosmic Reionization X. Ma, E. Quataert, A. Wetzel, C. Faucher-Giguère, M. Boylan-Kolchin (2021), MNRAS, 504, 4062
- 128. Planes of Satellites Around Milky Way/M31-Mass Galaxies in the FIRE Simulations and Comparisons with the Local Group
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- 127. Out of Sight, Out of Mind? The Impact of Correlated Clustering in Substructure Lensing A. Lazar, J. Bullock, M. Boylan-Kolchin, R. Feldmann, O. Çatmabacak, L. Moustakas (2021), MNRAS, 502, 6064
- 126. A Relationship Between Stellar Metallicity Gradients and Galaxy Age in Dwarf Galaxies
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- 125. *NGC 6822 as a Probe of Dwarf Galactic Evolution*B. Belland, E. Kirby, **M. Boylan-Kolchin**, C. Wheeler (2020), ApJ, **903**, 10
- 124. *A Dark Matter Profile to Model Diverse Feedback-Induced Core Sizes of ΛCDM Halos*A. Lazar, J. Bullock, **M. Boylan-Kolchin**, T. Chan, P. Hopkins, A. Graus, A. Wetzel, K. El-Badry, C. Wheeler, M. Straight, D. Kereš, C. Faucher-Giguère, A. Fitts, S. Garrison-Kimmel (2020), MNRAS, 497, 2393
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- 121. Galaxy Formation with BECDM II. Cosmic Filaments and First Galaxies
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- 116. A Profile in FIRE: Resolving the Radial Distributions of Satellite Galaxies in the Local Group with Simulations
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- 114. Be it therefore resolved: Cosmological Simulations of Dwarf Galaxies with Extreme Resolution C. Wheeler, P. Hopkins, A. Pace, S. Garrison-Kimmel, M. Boylan-Kolchin, A. Wetzel, J. Bullock, D. Kereš, C. Faucher-Giguère, E. Quataert (2019), MNRAS, 490, 4447
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- 111. Star Formation Histories of Dwarf Galaxies in the FIRE Simulations: Dependence on Mass and Local Group Environment
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- 110. First Star-forming Structures in Fuzzy Cosmic Filaments
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- 109. Dark and Luminous Satellites of LMC-mass Galaxies in the FIRE Simulations
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- 106. The Local Group on Fire: Dwarf Galaxy Populations Across a Suite of Hydrodynamic Simulations S. Garrison-Kimmel, P. Hopkins, A. Wetzel, J. Bullock, M. Boylan-Kolchin, C. Faucher-Giguère, D. Kereš, K. El-Badry, A. Lamberts, E. Quataert, R. Sanderson (2019), MNRAS, 487, 1380
- 105. Warm FIRE: Simulating Galaxy Formation with Resonant Sterile Neutrino Dark Matter
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- 104. The Suppression of Star Formation on the Smallest Scales: What Role Does Environment Play?
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- 103. Statistics of Two-point Correlation and Network Topology for Lyman Alpha Emitters at $z \approx 2.67$ S. Hong, A. Dey, K. Lee, A. Orsi, K. Gebhardt, M. Vogelsberger, L. Hernquist, R. Xue, I. Jung, S. Finkelstein, S. Tuttle, **M. Boylan-Kolchin** (2019), MNRAS, **483**, 3950
- 102. Scalar Field Dark Matter: Helping or Hurting Small-Scale Problems in Cosmology? V. Robles, J. Bullock, M. Boylan-Kolchin (2019), MNRAS, 483, 289
- What Drives the Kinematic Evolution of Star-forming Galaxies?
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- 97. Discrete Effects in Stellar Feedback: Individual Supernovae, Hypernovae, and IMF Sampling in Dwarf Galaxies
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- 95. *The FIRE-2 Simulations: Physics versus Numerics in Galaxy Formation* P. Hopkins and 27 co-authors, including **M. Boylan-Kolchin** (2018), MNRAS, **480**, 800
- 94. Where Are the Most Ancient Stars in the Milky Way?

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- 93. The Little Engines That Could? Globular Clusters Contribute Significantly to Reionization-era Star Formation
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- 92. No Assembly Required: Mergers are Mostly Irrelevant for the Growth of Low-mass Dwarf Galaxies A. Fitts, M. Boylan-Kolchin, J. Bullock, D. Weisz, K. El-Badry, C. Wheeler, C. Faucher-Giguère, E. Quataert, P. Hopkins, D. Kereš, A. Wetzel (2018), MNRAS, 479, 319
- 91. Simulating Galaxies in the Reionization Era with FIRE-2: the Stellar Mass–Halo Mass Relation, Stellar Mass Function, and Luminosity Functions at $z \geq 5$ X. Ma, P. Hopkins, S. Garrison-Kimmel, C. Faucher-Giguère, E. Quataert, M. Boylan-Kolchin, C. Hayward, R. Feldmann, D. Kereš (2018), MNRAS, 478, 1694
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- Environmental Quenching of Low-Mass Field Galaxies
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