

KAREEM EL-BADRY

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RESEARCH INTERESTS

binary stars, stellar mass black holes, white dwarfs;
near-field cosmology, galactic archaeology, globular clusters;
galaxy formation, low-mass galaxies, stellar feedback

EDUCATION

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| Ph.D., Astrophysics, University of California, Berkeley Advisors: Eliot Quataert, Dan Weisz | 2021 |
| M.A., Astrophysics, University of California, Berkeley | 2018 |
| B.S., Astrophysics, <i>summa cum laude</i> , Yale University Advisor: Marla Geha | 2016 |

RESEARCH POSITIONS

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|---|-------------|
| Junior Fellow, Harvard Society of Fellows | 2021 – |
| ITC Fellow, Harvard-Smithsonian Center for Astrophysics | 2021 – |
| Postdoctoral Fellow, recurring summer appointment, MPIA, Heidelberg | 2021 – |
| Graduate Student, UC Berkeley | 2016 – 2021 |
| Kavli Summer Research Fellow, CCA, NYC | 2018 |
| Summer Visiting Researcher, MPIA, Heidelberg | 2017 – 2020 |
| Summer Undergraduate Research Fellow, Caltech | 2015 |
| Undergraduate Research Assistant, Yale | 2015 – 2016 |
| Dean's Summer Research Fellow, Yale | 2014 |

HONORS & AWARDS

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|--|-------------|
| Mary Elizabeth Uhl Dissertation Prize, Berkeley | 2021 |
| Outstanding Graduate Student Instructor Award, Berkeley | 2021 |
| Robert J. Trumpler Graduate Student Excellence Award, Berkeley | 2020 |
| CCAPP Prize in Cosmology and AstroParticle Physics | 2018 |
| NSF Graduate Research Fellowship | 2016 – 2021 |
| Berkeley Fellowship | 2016 – 2018 |
| Hellman Award for Graduate Study | 2016 – 2018 |
| George Beckwith Prize in Astronomy, Yale | 2016 |
| Phi Beta Kappa, Yale | 2015 |
| Jerry Inskeep Memorial Scholarship, Yale | 2014 |

AWARDED TELESCOPE TIME

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| PI: Keck - 2 nights <i>The progenitors of extremely low-mass white dwarfs</i> | 2021 |
| PI: MPG/ESO La Silla 2.2m - 140 hours <i>A search for detached black holes and neutron stars</i> | 2021 |
| CO-I: LBT 2×8.4 m - 3 hours (PI: David Martin) <i>Characterizing the atmosphere of the exoplanet-companion white dwarf TOI-1259B</i> | 2021 |
| PI: Las Cumbres Observatory 2×1 m - 1.5 nights <i>Spectral disentangling of a mass-transfer binary with NRES</i> | 2021 |
| PI: Lick Shane 3m - 10 nights <i>Characterization of mass-transfer binaries</i> | 2021 |
| PI: MPG/ESO La Silla 2.2m - 140 hours <i>Searching for detached black holes with FEROS</i> | 2020 |

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| PI: Lick Shane 3m - 15 nights | 2020 |
| <i>A search for detached black holes in binaries</i> | |
| PI: MPG/ESO La Silla 2.2m - 60 hours | 2020 |
| <i>A search for detached black holes in binaries</i> | |
| PI: Lick Shane 3m - 5 nights | 2020 |
| <i>A search for detached black holes in binaries</i> | |
| CO-I: Keck - 2 nights (PI: Alexie Leauthaud) | 2019 |
| <i>Testing the Feedback-driven Breathing Mode in Dwarf Galaxies at $z \approx 0.1$</i> | |
| CO-I: La Silla MPG 2.2m - 150 hours (PI: Hans-Walter Rix) | 2019 |
| <i>Wide Binaries as Fundamental Calibrators of Galactic Archeology</i> | |
| CO-I: Magellan - 3 nights (PI: Yuan-Sen Ting) | 2018 |
| <i>The Chemical Homogeneity of Wide Binaries in Gaia DR2</i> | |
| CO-I: McDondald - 5 nights (PI: Keith Hawkins) | 2018 |
| <i>The Chemical Homogeneity of Wide Binaries in Gaia DR2</i> | |
| CO-I: Keck - 7 nights total (PI: Tucker Jones) | 2017, 2018 |
| <i>Dissecting Galaxy Formation and Testing Feedback Models on 100 pc Scales: An OSIRIS Survey of Lensed Galaxies at $z = 2$</i> | |
| CO-I: Keck - 2.5 nights (PI: Dan Weisz) | 2017 |
| <i>Stellar Chemistry in Isolated Dwarf Galaxies</i> | |
| PI: Palomar Hale 200 inch - 1 night | 2015 |
| <i>Probing Radial Star-Formation Histories of Isolated Dwarf Galaxies</i> | |
| CO-I: Keck - 1 night (PI: Andrew Wetzel) | 2015 |
| <i>Constraining Star-Formation Quenching Mechanisms using Isolated Low-Mass Galaxies</i> | |

AWARDED SUPERCOMPUTING TIME

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| PI: NERSC Cori/KNL Early Access - 4.7 M cpu-hours | 2017 |
| <i>Simulating the Formation of Dwarf Galaxies</i> | |

OBSERVING EXPERIENCE

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| Public data – significant experience with data from Gaia, Kepler/K2, TESS, LAMOST, SDSS, ZTF | |
| Lick Shane telescope, KAST Spectrograph – 28 nights | 2020-2021 |
| Keck DEIMOS – 2.5 nights | 2017 |
| Palomar Hale telescope, Wide-Field IR Camera – 1 night | 2015 |
| Keck ESI – 3 nights | 2015, 2016 |
| WIYN, Hydra Multi-Fiber Spectrograph – 2 nights | 2014 |
| Arecibo, L-Band HI – 2 nights | 2013, 2014 |

JOURNAL REFEREE

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| A&A, A&AL, ApJ, ApJL, MNRAS, MNRASL, SCPMA | 17 papers total; 2017 – |
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STUDENT MENTORING

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| Pranav Nagarajan (Berkeley undergrad) | 2020– |
| <i>Mapping the Local Group with RR Lyrae stars</i> | |
| Nick Choksi (Berkeley undergrad; now Berkeley grad student) | 2018 – 2019 |
| <i>Forecasting high-redshift observations of globular cluster formation</i> | |

TEACHING EXPERIENCE

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|---|------------------|
| Co-Instructor, Astro 375, <i>Graduate Pedagogy</i> , UC Berkeley | 2019, 2020 |
| Sole Instructor, <i>Stellar Physics</i> , Hyeonpung High School, Daegu, South Korea | 2019 |
| Graduate Student Instructor, Astro 128, <i>Astronomy Data Lab</i> , UC Berkeley | 2019, 2020, 2021 |
| Course Designer, Astro 128, <i>Astronomy Data Lab</i> , UC Berkeley | 2018, 2019, 2020 |
| Graduate Student Instructor, Astro 160, <i>Stellar Physics</i> , UC Berkeley | 2018 |
| Graduate Student Instructor, Astro 7A, <i>Introduction to Astronomy</i> , UC Berkeley | 2017 |
| Graduate Student Instructor, Astro C12, <i>The Planets</i> , UC Berkeley | 2017 |
| Tutor & Grader, Math 120, <i>Multivariable Calculus</i> , Yale | 2013 – 2016 |
| Tutor, Math 111, <i>College Algebra</i> , Umpqua Community College | 2013 |

RECENT TALKS

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| <i>Binary stars as probes of stellar evolution and fundamental physics</i> – Königstuhl Colloquium, MPIA | 2021 |
| <i>Binary stars as probes of stellar evolution and fundamental physics</i> – Colloquium, CIERA/Northwestern | 2021 |
| <i>Emission-line stars and binary mass transfer</i> – Astronomy seminar, University of Warwick | 2021 |
| <i>Globular clusters as tracers of halo assembly</i> – Lunch talk, UC Berkeley | 2021 |
| <i>Binary stars as probes of stellar evolution and fundamental physics</i> – Colloquium, UC Berkeley | 2021 |
| <i>Binary stars as probes of stellar evolution and fundamental physics</i> – Colloquium, Caltech | 2021 |
| <i>Binary stars as probes of stellar evolution and fundamental physics</i> – Colloquium, U. Chicago | 2021 |
| <i>Binary stars as probes of stellar evolution and fundamental physics</i> – Colloquium, U. Utah | 2021 |
| <i>Found: the cataclysmic variable progenitors of ultra-compact binaries</i> – Lunch talk, Berkeley | 2020 |
| <i>Emission-line stars, binary mass transfer, and dormant black holes</i> – Tea talk, Caltech | 2020 |
| <i>A companion-stripping origin for Be stars</i> – CIERA seminar, Northwestern | 2020 |
| <i>Emission-line stars, mass transfer, and the search for stellar-mass black holes</i> – Colloquium, Princeton | 2020 |
| <i>A stripped star a day keeps the black holes away</i> – Galaxy coffee, MPIA, Heidelberg | 2020 |
| <i>A stripped-companion origin for Be stars</i> – Bildsten group meeting, KITP | 2020 |
| <i>Caught in the act: a stripped-companion origin for Be stars</i> – Lunch talk, UC Berkeley | 2020 |
| <i>Be stars masquerading as black holes</i> – Special discussion on HR 6819, compact objects group, CCA | 2020 |
| <i>Black holes in detached binaries</i> – Virtual ZTF theory meeting | 2020 |
| <i>Wide binaries as probes of star formation and dynamical evolution</i> – Astronomy seminar, U. Chicago | 2019 |
| <i>Hunting for black holes in detached Galactic binaries</i> – KIPAC Tea Talk, SLAC | 2019 |
| <i>Separated at birth? An unexpected population of identical-twin binaries</i> – Lunch talk, UC Berkeley | 2019 |
| <i>Wide binaries as probes of star formation and evolution</i> – Astronomy seminar, Boston University | 2019 |
| <i>Wide binaries as dynamical probes</i> – Galaxies and cosmology seminar, Harvard CFA | 2019 |
| <i>Binary stars in wide-field surveys</i> – Tea talk, Caltech | 2019 |
| <i>Twin binaries</i> – The Milky Way 2019: LAMOST and other Leading Survey meeting, Yichang, China | 2019 |
| <i>Wide binaries as probes of star formation and evolution</i> – Charles University, Prague, Czech Republic | 2019 |
| <i>Wide binaries in 2019</i> – Universe of Binaries meeting, Telč, Czech Republic | 2019 |
| <i>Gas kinematics of low-mass galaxies</i> – CosmoDwarfs meeting, Durham, UK | 2019 |
| <i>Conduction and cooling in supernovae-driven superbubbles</i> – Galaxy coffee, MPIA, Heidelberg | 2019 |
| <i>A new model for superbubbles driven by clustered supernovae</i> – Lunch talk, UC Berkeley | 2019 |
| <i>Successes and challenges in modeling low-mass galaxies</i> – FLASH seminar, UC Santa Cruz | 2019 |
| <i>Successes and challenges in modeling low-mass galaxies</i> – Cosmology seminar, UC Davis | 2019 |
| <i>The globular cluster systems of low-mass halos</i> – Lorentz Center workshop, Leiden, Netherlands | 2019 |
| <i>Feedback in low-mass galaxies at high redshift</i> – Near/Far workshop, Napa, CA | 2018 |
| <i>White dwarf demographics with Gaia</i> – Lunch talk, UC Berkeley | 2018 |
| <i>The binary fraction and metallicity</i> – GSPS, UC Berkeley | 2018 |
| <i>Dwarf galaxies as laboratories for astrophysics and cosmology</i> – CCAPP Price Prize lecture, Ohio State | 2018 |
| <i>Stars re-shaping galaxies</i> – Galactic angular momentum focus group, IAU, Vienna, Austria | 2018 |
| <i>Thermal conduction in superbubble evolution</i> – KSPA, CCA, NYC | 2018 |
| <i>What can Gaia do for white dwarfs?</i> – Lunch talk, CCA, NYC | 2018 |
| <i>The formation and hierarchical assembly of globular clusters</i> – Galaxy coffee, MPIA, Heidelberg | 2018 |
| <i>What do globular clusters tell us about the high-redshift universe?</i> – Galaxy lunch, Yale | 2018 |
| <i>How to fit a stellar spectrum</i> – GSPS, UC Berkeley | 2018 |
| <i>Gas kinematics from unresolved HI data</i> – Lunch talk, UC Berkeley | 2018 |
| <i>Globular cluster formation scenarios</i> – Near/Far workshop, Napa, CA | 2017 |
| <i>How to find long-period spectroscopic binaries</i> – Lunch talk, UC Berkeley | 2017 |
| <i>A self-consistent model for binary star spectra</i> – SFB seminar, ARI, Heidelberg | 2017 |
| <i>Effects of stellar feedback on dwarf galaxy evolution</i> – Galaxy coffee, MPIA, Heidelberg | 2017 |

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| <i>Angular momentum of low-mass halos</i> (poster) – Galaxy-Halo Connection Workshop, KITP | 2017 |
| <i>Does the IMF vary in ultrafaint galaxies?</i> – GSPS, UC Berkeley | 2017 |
| <i>What regulates disk formation in low-mass galaxies?</i> – Lunch talk, UC Berkeley | 2017 |
| <i>Small-scale problems in ΛCDM: feedback to the rescue?</i> – GalForm seminar, UC Berkeley | 2017 |
| <i>Dust and the simulated SED</i> – Near/Far Workshop, Santa Rosa, CA | 2016 |
| <i>Dynamical modeling of low-mass galaxies</i> – Lunch talk, UC Berkeley | 2016 |
| <i>Can baryonic feedback save ΛCDM on small scales?</i> – undergraduate thesis talk, Yale | 2016 |

PUBLICATIONS (54 TOTAL; 19 FIRST AUTHOR; 800+ FIRST-AUTHOR CITATIONS)

h-index: 25 (all papers), 16 (first-author papers)

54. Moss, A., von Hippel, T., Robinson, E., **El-Badry, K.**, Stenning, D., van Dyk, D., Fouesneau, M., Bailer-Jones, C., Jeffery, E., Sargent, J., Kloc, I., Moticska, N., 2021, “Ages of wide white dwarf - main sequence binaries with Gaia parallaxes and spectroscopic metallicities”, ApJ, submitted.
53. Jahn, E. D., Sales, L. V., Wetzel, A., Samuel, J., **El-Badry, K.**, Boylan-Kolchin, M., Bullock, J. S., 2021, “The effects of LMC-mass environments on their dwarf satellite galaxies in the FIRE simulations”, MNRAS, submitted.
52. Terreran, G., Jacobson-Galan, W. V., Groh, J. H., Margutti, R., Coppejans, D. L., Dimitriadis, G., Kilpatrick, C. D., Matthews, D. J., Siebert, M. R., Angus, C. R., Brink, T. G., Filippenko, A. V., Foley, R. J., Jones, D. O., Tinianont, S., Gall, C., Pfister, H., Zenati, Y., Ansari, Z., Auchettl, K., **El-Badry, K.**, Magnier, E. A., Zheng, W., 2021, “The early phases of Supernova 2020pni: shock-ionization of the nitrogen-enriched circumstellar material”, arXiv:2105.12296, ApJ, submitted.
51. Nelson, T., Ting, Y.-S., Hawkins, K., Ji, A., Kamdar, H., **El-Badry, K.**, 2021, “Distant relatives: The chemical homogeneity of comoving pairs identified in Gaia”, arXiv:2104.12883, ApJ, submitted.
50. **El-Badry, K.**, Quataert, E., Rix, H.-W., Weisz, D. R., Kupfer, T., Shen, K., Xiang M., Yang Y., Liu, X., 2021, “LAMOST J0140355+392651: An evolved cataclysmic variable donor transitioning to become an extremely low mass white dwarf”, arXiv:2104.07033, MNRAS, in press.
49. Stern, J., Sternberg, A., Faucher-Giguère, C.-A., Hafen, Z., Fielding, D., Quataert, E., Wetzel, A., Anglès-Alcàzar, D., **El-Badry, K.**, Kereš, D., Hopkins, P. F., 2021, “Neutral CGM as damped Ly absorbers at high redshift”, arXiv:2105.06489, MNRAS, submitted.
48. Santistevan, I., Wetzel, A., Sanderson, R., **El-Badry, K.**, Samuel, J., Faucher-Giguère, C.-A., 2021, “The origin of metal-poor stars on prograde disk orbits in FIRE simulations of Milky Way-mass galaxies”, arXiv:2102.03369, MNRAS, in press.
47. **El-Badry, K.**, Rix, H.-W., Heintz, T. M., 2021, “A million binaries from Gaia eDR3: sample selection and validation of Gaia parallax uncertainties”, arXiv:2101.05282, MNRAS, in press.
46. Martin, D. V., **El-Badry, K.**, Hodžić, V. K., Triaud, A. H. M. J., Angus, R., Birky, J., Foreman-Mackey, D., Hedges, C., Montet, B., Murphy, S. J., Santerne, A., Stassun, K. G., Stephan, A. P., Wang, J., Benni, P., Krushinsky, V., Chazov, N., Mishevskiy, N., Ziegler, C., Soubkiou, A., Benkhaldoun, Z., Caldwell, D. A., Collins, K., Henze, C. E., Guerrero, N. M., Jenkins, J. M., Latham D. W., Levine, A., McDermott, S., Mullally, S. E., Ricker, G., Seager, S., Shporer, A., Vanderburg, A., Vanderspek, R., Winn, J. N., 2021, “TOI-1259Ab – a gas giant with 2.6% deep transits and a bound white dwarf companion”, arXiv:2101.02707, MNRAS, submitted.
45. Mercado, F. J., Bullock, J. S., Boylan-Kolchin, M., Moreno, J., Wetzel, A., **El-Badry, K.**, Graus, A. S., Fitts, A., Hopkins, P. F., Faucher-Giguère, C.-A., 2020, “Totally metal: A relationship between stellar metallicity gradients and galaxy age in dwarf galaxies”, arXiv:2009.01241, MNRAS, 501, 5121.
44. Velázquez, J. F., Gurvich, A. B., Faucher-Giguère, C.-A., Bullock, J. S., Starkenburg, T. K., Moreno, J., Lazar, A., Mercado, F. J., Stern, J., Sparre, M., Hayward, C., Wetzel, A., **El-Badry, K.**, 2020 “The time-scales probed by star formation rate indicators for realistic, bursty star formation histories from the FIRE simulations”, arXiv:2008.08582, MNRAS, 501, 4812.
43. Xiang, M.-S., Rix, H.-W., Ting, Y.-S., Zari, E., **El-Badry, K.**, Yuan, H.-B., Cui, W.-Y., 2020, “Data-driven spectroscopic estimates of absolute magnitude, distance, and binarity — method and catalog of 16,002 O- and B-type stars from LAMOST”, arXiv:2008.10637, ApJ, in press.

42. Irrgang, A., Geier, S., Heber, U., Kupfer, T., **El-Badry, K.**, Bloemen, S., 2020, “A proto-helium white dwarf stripped by a substellar companion via common-envelope ejection: Uncovering the true nature of a candidate hypervelocity B-star”, arXiv:2007.03350, A&A., in press.
41. Kamdar, H., Conroy, C., Ting, Y.-S., **El-Badry, K.**, 2020, “Spatial and kinematic clustering of stars in the Galactic disk”, arXiv:2007.10990, ApJ, submitted.
40. Stern, J., Faucher-Giguère, C.-A., Fielding, D., Quataert, E., Hafen, Z., Gurvich, A. B., Ma, X., Byrne, L., **El-Badry, K.**, Anglès-Alcàzar, D., Chan, T.-K., Feldmann, R., Kereš, D., Wetzel, A., Murray, N., Hopkins, P. F., 2020, “Virialization of the inner CGM in the FIRE simulations and implications for galaxy discs, star formation and feedback”, arXiv: 2006.13976, ApJ, in press.
39. **El-Badry, K.** and Quataert, E., 2020, “A stripped-companion origin for Be stars: clues from the putative black holes HR 6819 and LB-1”, arXiv:2006.11974, MNRAS, 502, 3436.
38. Li, F., Rahman, M., Murray, N., Hafen, Z., Faucher-Giguère, C.-A., Stern, J., Hummels, C. B., Hopkins, P. F., **El-Badry, K.**, Kereš, D., 2020, “Probing the CGM of low-redshift dwarf galaxies using FIRE simulations”, arXiv:2010.13606, MNRAS, 500, 1038.
37. Lazar, A., Bullock, J. S., Boylan-Kolchin, M., Chan, T.-K., Hopkins, P. F., Graus, A., Wetzel, A., **El-Badry, K.**, Wheeler, C., Straight, M. C., Kereš, D., Faucher-Giguère, C.-A., Fitts, A., Garrison-Kimmel, S., 2020, “A dark matter profile to model diverse feedback-induced core sizes of Λ CDM haloes”, arXiv:2004.10817, MNRAS, 497, 2393.
36. Coronado, J., Rix, H.-W., Trick, W., **El-Badry, K.**, Rybizki, J., Xiang, M., 2020, “From birth associations to field stars: mapping the small-scale orbit distribution in the Galactic disc”, arXiv:2002.09496, MNRAS, 495, 4098.
35. Santistevan, I. B., Wetzel, A., **El-Badry, K.**, Bland-Hawthorn, J., Boylan-Kolchin, M., Bailin, J., Faucher-Giguère, C.-A., Benincasa, S., 2020, “Growing pains: the formation times and building blocks of Milky Way-mass galaxies in the FIRE simulations”, arXiv:2001.03178, MNRAS, 497, 747.
34. Pelliccia, D., Mobasher, B., Darvish, B., Lemaux, B. C., Lubin, L. M., Hirtenstein, J., Shen, L., Wu, P.-F., **El-Badry, K.**, Wetzel, A., Jones, T., 2020, “Effects of stellar feedback on stellar and gas kinematics of star-forming galaxies at $0.6 < z < 1.0$ ”, arXiv:2001.00590, ApJL, 896, 26.
33. **El-Badry, K.** and Quataert, E., 2019, “Not so fast: LB-1 is unlikely to contain a $70 M_{\odot}$ black hole”, arXiv:1912.04185, MNRASL, 493, 22.
32. Hafen, Z., Faucher-Giguère, C.-A., Anglès-Alcàzar, D., Stern, J., Kereš, D., Esmerian, C., Wetzel, A., **El-Badry, K.**, Chan, T.-K., Murray, N., 2019, “The fates of the circumgalactic medium in the FIRE simulations”, arXiv:1910.01123, MNRAS, 494, 3581.
31. Tian, H.-J., **El-Badry, K.**, Rix, H.-W., Gould, A., 2019, “The separation distribution of ultrawide binaries across galactic populations”, arXiv:1909.04765, ApJS, 246, 4.
30. Hawkins, K., Lucey, M., Ting, Y.-S., Ji, A., Katzberg, D., Thompson, M., **El-Badry, K.**, Teske, J., Nelson, T., Carrillo, A., 2019, “Identical or fraternal twins?: The chemical homogeneity of wide binaries from *Gaia* DR2”, arXiv:1912.08895, MNRAS, 492, 1164.
29. **El-Badry, K.**, Rix, H.-W., Tian, H., Duchêne, G., Moe, M., 2019, “Discovery of an equal-mass “twin” binary population reaching 1000+ AU separations”, arXiv:1906.10128, MNRAS, 489, 5822.
28. Jahn, E. D., Sales, L. V., Wetzel, A., Boylan-Kolchin, M., Chan, T.K., **El-Badry, K.**, Lazar, A., Bullock, J. S., 2019, “Dark and luminous satellites of LMC-mass galaxies in the FIRE simulations”, MNRAS, 489, 5348.
27. Samuel, J., Wetzel, A., Tollerud, E., Garrison-Kimmel, S., Loebman, S., **El-Badry, K.**, Hopkins, P.F., Boylan-Kolchin, M., Faucher-Giguère, C.-A., Bullock, J., Benincasa, S., Bailin, J., 2019, “A profile in FIRE: resolving the radial distributions of satellite galaxies in the Local Group with simulations”, arXiv:1904.11508, MNRAS, 491, 1471
26. Garrison-Kimmel, S., Wetzel, A., Hopkins, P. F., Sanderson, R., **El-Badry, K.**, Graus, A., Chan, T.K., Feldmann, R., Boylan-Kolchin, M., Hayward, C., Bullock, J. S., Fitts, A., Samuel, J., Wheeler, C., Kereš, D., Faucher-Giguère, C.-A., 2019, “Star formation histories of dwarf galaxies in the FIRE simulations: dependence on mass and Local Group environment”, arXiv:1903.10515, MNRAS, 489, 4574.

25. **El-Badry, K.**, Ostriker, E. O., Kim, C.-G., Quataert, E., Weisz, D. R., 2019, “Evolution of supernovae-driven superbubbles with conduction and cooling”, arXiv:1902.09547, MNRAS, 490, 1961.
24. Dickey, C. M., Geha, M., Wetzel, A., **El-Badry, K.**, 2019, “AGN all the way down? AGN-like line ratios are common in the lowest-mass isolated quiescent galaxies”, arXiv:1902.01401, ApJ, 884, 180.
23. Emami, N., Siana, B., Weisz D. R., Johnson, B. D., Ma, X., **El-Badry, K.**, 2018, “A closer look at bursty star formation with $L_{H\alpha}$ and L_{UV} distributions”, arXiv:1809.06380, ApJ, 881, 71.
22. Fitts, A., Boylan-Kolchin, M., Bozek, B., Bullock, J. S., Graus, A., Robles, V., Hopkins P. F., **El-Badry, K.**, Garrison-Kimmel, S., Faucher-Giguère, C.-A., Wetzel, A., Kereš, D., 2018, “Dwarf galaxies in CDM, WDM, and SIDM: disentangling baryons and dark matter physics”, arXiv: 1811.11791, MNRAS, 490, 962.
21. Hafen, Z., Faucher-Giguère, C.-A., Anglès-Alcàzar, D., Stern, J., Kereš, D., Hummels, C., Esmerian, C., Garrison-Kimmel, S., **El-Badry, K.**, Wetzel, A., Chan, T. K., Hopkins, P. F., Murray, N., 2018, “The origins of the circumgalactic medium in the FIRE simulations”, arXiv:1811.11753, MNRAS, 488, 1.
20. Hertenstein, J., Jones T., Wang, X., Wetzel, A., **El-Badry, K.**, Hoag, A., Treu, T., Bradač, M., Morishita, T., 2018, “The OSIRIS lens-amplified survey (OLAS) I: dynamical effects of stellar feedback in low mass galaxies at $z \sim 2$ ”, arXiv:1811.11768, ApJ, 880, 54.
19. **El-Badry, K.**, 2019, “The geometric challenge of testing gravity with wide binaries”, arXiv:1810.13397, MNRAS, 482, 5018.
18. **El-Badry, K.** and Rix, H.-W., 2019, “The wide binary fraction of solar-type stars: emergence of metallicity dependence at $a < 200$ AU”, arXiv:1809.06860, MNRAS, 482, 139.
17. **El-Badry, K.** and Rix, H.-W., 2018, “Imprints of white dwarf recoil in the separation distribution of Gaia wide binaries”, arXiv:1807.06011, MNRAS, 480, 4884.
16. Garrison-Kimmel, S., Hopkins, P. F., Wetzel, A., Bullock, J., Boylan-Kolchin, M., Kereš, D., Faucher-Giguère, C.-A., **El-Badry, K.**, Lamberts, A., Quataert, E., Sanderson R. E., 2018, “The Local Group on FIRE: Dwarf galaxy populations across a suite of hydrodynamic simulations”, arXiv:1806.04143, MNRAS, 487, 1380.
15. Debattista, V. P., Gonzalez O. A., Sanderson R. E., **El-Badry, K.**, Garrison-Kimmel, S., Wetzel, A., Faucher-Giguère, C.-A., Hopkins, P. F., 2018, “Formation, vertex deviation and age of the Milky Way’s bulge: input from a cosmological simulation with a late-forming bar”, arXiv:1805.12199, MNRAS, 485, 5073.
14. **El-Badry, K.**, Rix, H.-W., Weisz, D. R. 2018, “An empirical measurement of the initial-final mass relation with Gaia white dwarfs”, arXiv:1805.05849, ApJL, 860, 17.
13. **El-Badry, K.**, Quataert, E., Weisz, D. R., Choksi, N., Boylan-Kolchin, M. 2019, “The formation and hierarchical assembly of globular cluster populations”, arXiv:1805.03652, MNRAS, 482, 4528.
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