

KAREEM EL-BADRY

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RESEARCH INTERESTS

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

EDUCATION

Ph.D., Astrophysics, University of California, Berkeley	2021
Thesis: <i>Binary stars across the Milky Way: Probes of star formation and evolution</i>	
M.A., Astrophysics, University of California, Berkeley	2018
B.S., Astronomy & Physics, <i>summa cum laude</i> , Yale University	2016

RESEARCH POSITIONS

Assistant Professor, California Institute of Technology	2023–
Adjunct Scientist, MPA, Heidelberg	2023–
Junior Fellow, Harvard Society of Fellows	2021 – 2023
ITC Fellow, Harvard-Smithsonian Center for Astrophysics	2021 – 2023
Postdoctoral Fellow, recurring summer appointment, MPA, Heidelberg	2021 – 2023
Graduate Student, University of California, Berkeley	2016 – 2021
Kavli Summer Research Fellow, CCA, NYC	2018
Summer Visiting Researcher, MPA, Heidelberg	2017 – 2020
Summer Undergraduate Research Fellow, Caltech	2015
Undergraduate Research Assistant, Yale	2015 – 2016
Dean's Summer Research Fellow, Yale	2014

HONORS & AWARDS

Alfred P. Sloan Research Fellow	2025
New Horizons Solvay Lecturer in Physics	2025
IAU Ph.D. Prize, Stars and Stellar Physics division	2022
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

GRANTS

Sloan Fellowship , physics, Alfred P. Sloan Foundation, PI, \$75,000	2025-2027
Scialog Grant , RCSA, CO-PI, \$66,000 to Caltech	2025-2027
SA-LSST-2024-114c: <i>IMBH in the LMC? A hypervelocity star survey with LSST</i>	
Scialog Grant , RCSA and Heising-Simons Foundation, CO-PI, \$66,000 to Caltech	2025-2027
SA-LSST-2024-084a: <i>White dwarf companions as brown dwarf chronometers</i>	
JWST General Observer Grant , NASA/STScI, PI, Total: \$79,486	2025-2027

JWST-GO-04979: <i>Uncovering the cold donors of AM CVn binaries</i>	
HST General Observer Grant , NASA/STScI, PI, Total: \$88,306	2024-2026
HST-GO-17441: <i>UV spectroscopy of runaways from thermonuclear supernovae</i>	
Astronomy and Astrophysics Research Grant , NSF, PI, Total: \$475,345	2023-2026
NSF-AST-2307232: <i>Dormant black holes and neutron stars in stellar binaries</i>	
HST General Observer Grant , NASA/STScI, PI, Total: \$30,000	2023-2025
HST-GO-17202: <i>Does MWC 656 host a black hole or a stripped helium star?</i>	
HST General Observer Grant , NASA/STScI, PI, Total: \$48,171	2023-2025
HST-GO-17200: <i>A census of massive binaries and LBVs in the Whirlpool Galaxy</i>	
HST General Observer Grant , NASA/STScI, CO-I, subaward: \$23,181	2023-2025
HST-GO-17216: <i>Establishing a 1% anchor for the Population II Distance Ladder with HST</i>	

AWARDED TELESCOPE TIME (SUMMARY)

HST	19 orbits (PI) + 86 orbits (CO-I)
JWST	11 hours (PI) + 71 hours (CO-I)
Keck 10m	17.5 nights (PI) + 26 nights (CO-I)
Magellan 6.5m	9 nights (PI) + 4 nights (CO-I)
VLT 8.2m	46 hours (PI) + 40 hours (CO-I)
LBT 2 × 8.4m	3 nights (PI) + 3 nights (CO-I)
Gemini 8.1m	23 hours (PI)
Palomar Hale 200 inch	5 nights (PI) + 29 nights (CO-I)
MPG/ESO La Silla 2.2m	55 nights (PI) + 50 nights (CO-I)
Tillinghast 1.5m FLWO	30 nights (PI) + 10 nights (CO-I)
Las Cumbres Observatory 2×1 m	1.5 nights (PI)
Lick Shane 3m	26 nights (PI)
Lick APF 2.4m	15 nights (CO-I)
Nordic Optical Telescope 2.6m	12 nights (CO-I)
NTT 3.6m	3 nights (CO-I)
McDonald 2.7m Harlan J. Smith Telescope	5 nights (CO-I)
Very Large Array	4 hours (DDT; CO-I)
Green Bank Telescope	12 hours (CO-I)
MeerKAT	4 hours (DDT; CO-I)
Chandra	20ks (DDT; PI) + 20ks (DDT; CO-I)

OBSERVING EXPERIENCE

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
Keck ESI – 7 nights	2015, 2016, 2021-2023
Keck LRIS – 3 nights	2021-2023
Keck HIRES – 1 night	2022
Palomar Hale telescope, DBSP – 3 nights	2021-2023
Palomar Hale telescope, Wide-Field IR Camera – 1 night	2015
WIYN, Hydra Multi-Fiber Spectrograph – 2 nights	2014
Arecibo, L-Band HI – 2 nights	2013, 2014

JOURNAL REFEREE

A&A, A&AL, ApJ, ApJL, MNRAS, MNRASL, SCPMA, Nature, Nature Astronomy, OJAp	38 papers; 2017 –
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COLLABORATION MEMBERSHIPS

<i>Gaia</i> Data Processing and Analysis Consortium (CU4: non-single stars)	2024 –
Sloan Digital Sky Survey (binaries & compact objects working groups)	2021 –

STUDENT MENTORING

Soumyadeep Bhattacharjee (Caltech PhD student)	2024 –
Cheyenne Shariat (Caltech PhD student)	2024 –
Domani Sharkey (Caltech undergrad)	2024 –
Lisa Blomberg (Caltech PhD student)	2023 –
Antonio Rodriguez (Caltech PhD student)	2022 –
Natsuko Yamaguchi (Caltech PhD student)	2022 –
Pranav Nagarajan (Caltech PhD student)	2020 –
Maude Gull (Berkeley PhD student)	2022 –
Johanna Müller-Horn (MPIA PhD student)	2023 –
Rhys Seeburger (MPIA PhD student)	2021 –
Evan Portnoi (Caltech undergrad)	2023 – 2024
Umrhan Koca (Caltech undergrad)	2023 – 2024
Jesse Han (Harvard PhD student)	2022 – 2023
Vedant Chandra (Harvard PhD student)	2021 – 2023
Silvia Almada (MPIA masters student)	2020 – 2022
Nick Choksi (Berkeley undergrad; now Berkeley PhD student)	2018 – 2019

TEACHING EXPERIENCE

Instructor, Ay 124, <i>Structure and Evolution of Galaxies</i> , Caltech	WI2025
Instructor, Ay 03, <i>Automating Discovery in the Universe</i> , Caltech	SP2024
Instructor, Ay 123, <i>Stellar Structure and Evolution</i> , Caltech	WI2024, FA2024
Graduate Student Instructor, Astro 128, <i>Astronomy Data Lab</i> , University of California, Berkeley	2019, 2020, 2021
Course Designer, Astro 128, <i>Astronomy Data Lab</i> , University of California, Berkeley	2018, 2019, 2020
Co-Instructor, Astro 375, <i>Graduate Pedagogy</i> , University of California, Berkeley	2019, 2020
Sole Instructor, <i>Stellar Physics</i> , Hyeonpung High School, Daegu, South Korea	2019
Graduate Student Instructor, Astro 160, <i>Stellar Physics</i> , University of California, Berkeley	2018
Graduate Student Instructor, Astro 7A, <i>Introduction to Astronomy</i> , University of California, Berkeley	2017
Graduate Student Instructor, Astro C12, <i>The Planets</i> , University of California, Berkeley	2017
Tutor & Grader, Math 120, <i>Multivariable Calculus</i> , Yale	2013 – 2016
Tutor, Math 111, <i>College Algebra</i> , Umpqua Community College	2013

TALKS (SINCE 2017)

CfA colloquium, Center for Astrophysics — Harvard & Smithsonian, Cambridge, MA	2025
Astronomy colloquium, Columbia University, New York City, NY	2025
Talk, 10 years to LISA meeting, Jet Propulsion Laboratory, Pasadena, CA	2025
Astrophysics colloquium, Princeton University, Princeton, NJ	2025
Astrophysics seminar, Carnegie Mellon University, Pittsburgh, PA	2025
Astronomy colloquium, Indiana University, Bloomington, IN	2025
Astronomy colloquium, University of Texas, Austin, TX	2024
Review talk, Multimessenger binary mergers meeting, Aspen, CO	2024
Review talk, Lorentz center workshop on stripped stars, Leiden, Netherlands	2024
Talk, EUROWD24, Barcelona, Spain	2024
Talk, SDSS-V collaboration meeting, Las Cruces, NM	2024
Astronomy colloquium, University of Washington, Seattle, WA	2024
Talk, 20 Years of the ITC conference, Cambridge, MA	2024
IAS Astrophysics Seminar, Princeton, NJ	2024
Caltech Astronomy Colloquium, Pasadena, CA	2024
UCSC Astronomy Colloquium, Santa Cruz, CA	2023
Sydney Institute for Astronomy seminar, Sydney, AU	2023
Astrophysics colloquium, Carnegie Observatories, Pasadena, CA	2023
Review talk, Massive Triples, Binaries and Mergers, Leuven, Belgium	2023
Review talk, Lorentz center workshop on stellar black holes, Leiden, Netherlands	2023

Astrophysical sciences division colloquium, NASA/Goddard	2023
Astrophysics colloquium, Boston University	2023
Astrophysics colloquium, Cornell University	2023
Astrophysics colloquium, University of Pennsylvania	2023
Astrophysics colloquium, University of Michigan	2022
Talk, KITP white dwarf conference, Santa Barbara, CA	2022
Astrophysics colloquium, Dunlap Institute, University of Toronto	2022
Astrophysics colloquium, Yale University	2022
Talk, ZTF theory network meeting, CA	2022
Talk, EUROWD22, Tübingen, Germany	2022
Galaxy coffee, Max Planck Institute for Astronomy, Heidelberg, Germany	2022
Astrophysics colloquium, Shanghai Astronomical Observatory	2022
Astrophysics colloquium, University of California, Los Angeles	2022
IAU working group on active B stars seminar	2022
Albert Einstein Institute seminar, Potsdam, Germany	2022
UCSD/SDSU joint colloquium, San Diego	2021
Harvard Society of Fellows lunch talk, Harvard University	2021
Stellar Astrophysics Center seminar, Aarhus University, Aarhus, Denmark	2021
Astrophysics colloquium, Massachusetts Institute of Technology	2021
Institute of Theory and Computation colloquium, Harvard University	2021
Königstuhl colloquium, Max Planck Institute for Astronomy, Heidelberg, Germany	2021
Astrophysics colloquium, CIERA center, Northwestern University	2021
Astronomy seminar, University of Warwick, UK	2021
Lunch talk, University of California, Berkeley	2021
Astronomy colloquium, University of California, Berkeley	2021
Astronomy colloquium, California Institute of Technology	2021
Astronomy colloquium, University of Chicago	2021
Physics colloquium, University of Utah	2021
Lunch talk, University of California, Berkeley	2020
Tea talk, California Institute of Technology	2020
CIERA seminar, Northwestern University	2020
Summer astrophysics colloquium, Princeton University	2020
Galaxy coffee, Max Planck Institute for Astronomy, Heidelberg, Germany	2020
Lunch talk, University of California, Berkeley	2020
Astronomy seminar, Center for Computational Astrophysics, NYC	2020
Talk, ZTF theory meeting	2020
Astronomy seminar, University of Chicago	2019
Tea talk, Kavli Institute for Particle Astrophysics and Cosmology, Stanford University	2019
Lunch talk, University of California, Berkeley	2019
Astronomy seminar, Boston University	2019
Galaxies and cosmology seminar, Center for Astrophysics, Harvard University	2019
Tea talk, California Institute of Technology	2019
Invited talk, The Milky Way 2019: LAMOST and other Leading Survey meeting, Yichang, China	2019
Astronomy seminar, Charles University, Prague, Czech Republic	2019
Contributed talk, Universe of Binaries meeting, Telč, Czech Republic	2019
Contributed talk, CosmoDwarfs meeting, Durham, UK	2019
Galaxy coffee, Max Planck Institute for Astronomy, Heidelberg, Germany	2019
Lunch talk, University of California, Berkeley	2019
FLASH seminar, UC Santa Cruz	2019
Cosmology seminar, UC Davis	2019
Invited talk, Lorentz Center workshop on globular clusters, Leiden, Netherlands	2019
Invited talk, Near/Far workshop, Napa, CA	2018
Lunch talk, University of California, Berkeley	2018
Grad student+postdoc seminar, University of California, Berkeley	2018
CCAPP Prize colloquium, Ohio State University	2018
Invited talk, Galactic angular momentum focus group, IAU, Vienna, Austria	2018
Contributed talk, Kavli Summer Program in Astrophysics, Center for Computational Astrophysics, NYC	2018
Lunch talk, Center for Computational Astrophysics, NYC	2018
Galaxy coffee, Max Planck Institute for Astronomy, Heidelberg, Germany	2018

Galaxy lunch, Yale University	2018
Grad student+postdoc seminar, University of California, Berkeley	2018
Lunch talk, University of California, Berkeley	2018
Invited talk, Near/Far workshop, Napa, CA	2017
Lunch talk, University of California, Berkeley	2017
SFB seminar, ARI, Heidelberg, Germany	2017
Galaxy coffee, Max Planck Institute for Astronomy, Heidelberg, Germany	2017
Contributed poster, Galaxy-Halo Connection Workshop, KITP	2017
Grad student+postdoc seminar, University of California, Berkeley	2017
Lunch talk, University of California, Berkeley	2017
GalForm seminar, University of California, Berkeley	2017

REFEREED PUBLICATIONS (148 TOTAL; 36 FIRST-AUTHOR)

h-index: 47 (all papers), 27 (first-author papers)

citations: 6500+ (all papers), 2700+ (first-author papers)

*: student papers for which I was the primary advisor

148. **El-Badry, K.**, 2025, “How to use *Gaia* parallaxes for stars with poor astrometric fits”, arXiv:2504.11528, OJAp, submitted.
147. Belloni, D., Schreiber, M. R., **El-Badry, K.**, 2025, “Resolution of a paradox: SDSS J1257+5428 can be explained as a descendant of a cataclysmic variable with an evolved donor”, arXiv:2503.16204, A&A, in press.
146. Bhattacharjee, S., Reindl, N., Bond, H. E., Werner, K., Zeimann, G. R., Jones, D., Chornay, N., Mackensen, N., Kulkarni, S. R., Caiazzo, I., van Roestel, J., Rodriguez, A. C., **El-Badry, K.**, Prince, T. A., Rusholme, B., Laher, R. R., Smith, R., 2025, “Variability of Central Stars of Planetary Nebulae with the Zwicky Transient Facility. II. Long-Timescale Variables including Wide Binary and Late Thermal Pulse Candidates”, arXiv:2502.18651, PASP, submitted.
145. Matsuno, T., Kemp, A., Tanikawa, A., Shariat, S. E., **El-Badry, K.**, Dodd, E., Helmi, A., Koch-Hansen, A. J., Yamaguchi, N., Yan, H., 2025, “Unevolved Li-rich stars at low metallicity: a possible formation pathway through novae”, arXiv:2502.18552, A&A, submitted.
144. Bhattacharjee, S., Vanderbosch, Z. P., Hollands, M. A., Tremblay, P. E., Xu, S., Guidry, J. A., Hermes, J. J., Caiazzo, I., Rodriguez, A. C., **El-Badry, K.**, van Roestel, J., Roulston, B. R., Reed, R., Rusholme, B., Groom, S. L., Smith, R., Toloza, O., 2025, “A ZTF search for circumstellar debris transits in white dwarfs: six new candidates, one with gas disk emission, identified in a novel metric space”, arXiv:2502.05502, PASP, submitted.
143. * Nagarajan, P., **El-Badry, K.**, Chawla, C., Di Carlo, U., Breivik, K., Rodriguez, C. L., Agrawal, P., Delfavero, V., Chatterjee, S., 2025, “Realistic predictions for Gaia black hole discoveries: comparison of isolated binary and dynamical formation models”, arXiv:2502.03527, PASP, in press.
142. Han, J., **El-Badry, K.**, Lucchini, S., Hernquist, L., Brown, W., Garavito Camargo, N., Conroy, C., Sari, R., 2025, “Hypervelocity stars trace a supermassive black hole in the Large Magellanic Cloud”, arXiv:2502.00102, ApJ, 982, 188.
141. Seeburger, R., Rix, H.-W., **El-Badry, K.**, Miller-Horn, J., Dimoff, A., Henneco, J., Villaseor, J., 2025, The physical properties of post mass-transfer binaries, A&A, submitted.
140. * Shariat, C., **El-Badry, K.**, Naoz, S., Rodriguez, A. C., van Roestel, J., 2025, “Cataclysmic variables in triples: formation models and new discoveries”, arXiv:2501.14025, PASP, submitted.
139. Cunningham, T., Caiazzo, I., Sienkiewicz, G., Wheatley, P. J., Gnsicke, B. T., **El-Badry, K.**, Arcodia, R., Charbonneau, D., Connor, L., De, K., Hakala, P., Kenyon, S. J., Maheshwari, S. K., Rodriguez, A. C., van Roestel, J., Tremblay, P. E., 2025, “Discovery of two new polars evolved past the period bounce”, arXiv:2503.12675, MNRAS, submitted.
138. * Rodriguez, A. C., **El-Badry, K.**, Hakala, P., Rodriguez-Gil, P., Bao, T., Galiullin, I., Kurlander, J. A., Law, C. J., Pelisoli, I., Schreiber, M. R., Burdge, K., Caiazzo, I., van Roestel, J., Szkody, P., Drake, A. J., Buckley, D. A. H., Potter, S. B., Gaensicke, B., Mori, K., Bellm, E. C., Kulkarni, S. R., Prince, T. A., Graham, M., Kasliwal, M., Rose, S., Sharma, Y., Ahumda, T., Anand, S., Viitanen, A., Wold, A., Chen, T. X., Riddle, R., Smith, R.,

- 2025, “A link between white dwarf pulsars and polars: multiwavelength observations of the 9.36-minute period variable Gaia22ayj”, arXiv:2501.01490, PASP, in press.
137. Green, M. J., Ziv, Y., Rix, H.-W., Maoz, D., Hamoudy, I., Mazeh, T., Faigler, S., Lam, M. C., **El-Badry, K.**, Hum, G., Munday, J., Yarker, P., 2024, “An upper limit on the frequency of short-period black hole companions to Sun-like stars”, arXiv:2412.02082, A&A, submitted.
 136. Chickles, E. T., Burdge, K. B., Chakraborty, J., Dhillon, V. S., Draghis, P., Hughes, S. A., Munday, J., Rappaport, S. A., Tonry, J., Bauer, E., Brown, A. J., Castro, N., Chakrabarty, D., Dyer, M., **El-Badry, K.**, Frebel, A., Furesz, G., Garbutt, J., Green, M. J., Householder, A., Jarvis, D., Kara, E., Kennedy, M. R., Kerry, P., Kulkarni, S. R., Littlefair, S. P., McCormac, J., Mo, G., Ng, M., Parsons, S., Pelisoli, I., Pike, E., Prince, T. A., Ricker, G. R., van Roestel, J., Sahman, D., Shen, K. J., Simcoe, R. A., Vanderburg, A., Wong, T. L. S., 2024, “A gravitational wave detectable candidate Type Ia supernova progenitor”, arXiv:2411.19916, ApJ, submitted.
 135. Shariat, C., Naoz, S., **El-Badry, K.**, Rocha, K. A., Kalogera, V., Stephan, A. P., Burdge, K. B., Angelo, I., 2024, “Triple evolution pathways to black hole low-mass X-ray binaries: Insights from V404 Cygni”, arXiv:2411.15644, ApJ, in press.
 134. * Nagarajan, P., **El-Badry, K.**, 2024, “Mixed origins: strong natal kicks for some black holes and none for others”, arXiv:2411.16847, PASP, in press.
 133. Aros-Bunster, C., Schreiber, M. R., Toloza, O., Hernandez, M. S., Belloni, D., **El-Badry, K.**, Vanderbosch, Z., Lagos-Vilches, F., Gänsicke, B. T., Koester, D., 2024, “The third known triple white dwarf: the close double white dwarf SDSS J125733.63+542850.5 hosts a white dwarf tertiary”, A&A, in press.
 132. Wu, Y., Hadden, S., Dewberry, J., **El-Badry, K.**, Matzner, C. D., 2024, “Eccentricities of close stellar binaries”, arXiv:2411.09905, ApJL, submitted.
 131. Li, M. L., Ho, A. Y. Q., Ryan, G., Perley, D. A., Lamb, G. P., Nayana, A. J., Andreoni, I., Anupama, G. C., Bellm, E. C., Berger, E., Bloom, J. S., Burns, E., Caiazzo, I., Chandra, P., Coughlin, M. W., **El-Badry, K.**, Graham, M. J., Kasliwal, M., Keating, G. K., Kulkarni, S. R., Kumar, H., Masci, F. J., Perley, R. A., Purdum, J., Roa, R., Rodriguez, A. C., Rusholme, B., Sarin, N., Sollerman, J., Srinivasaragavan, G. P., Swain, V., Vanderbosch, Z., 2024, “Identification of the fast transient AT 2023lcr and modeling of optical afterglows without associated detected gamma-ray bursts”, arXiv:2411.07973, ApJ, in press.
 130. Lam, C. Y., **El-Badry, K.**, Simon, J. D., 2024, “A Fast, Analytic Empirical Model of the *Gaia* Data Release 3 Astrometric Orbit Catalog Selection Function”, arXiv:2411.00654, ApJ, submitted.
 129. Galarza, J. Y., Lorenzo-Oliveira, D., Ferreira, T., Reggiani, H., Behmard, A., Simon, J. D., Martioli, E., Lopez-Valdivia, R., de Almeida, L., Jofre, E., **El-Badry, K.**, 2024, “HIP 8522: A puzzling young solar twin with the lowest detected lithium”, arXiv:2410.17590, ApJ, 893, 70.
 128. Gull, M., Weisz, D. R., **El-Badry, K.**, Henneco, J., Savino, A., Durbin, M., Choi, Y., Cohen, R., Cole, A. A., Correnti, M., Dalcanton, J. J., Gilber, K. M., Goldman, S. R., Guhathakurta, P., McQuinn, K. B. W., Newman, M. J. B., Skillman, E. D., Williams, B. F., 2024, “A low metallicity massive contact binary star system candidate in WLM identified by Hubble and James Webb space telescope imaging”, arXiv:2410.16393, ApJ, in press.
 127. * Yamaguchi, N. and **El-Badry, K.**, 2024, “A search for self-lensing binaries with TESS and constraints on their occurrence rate”, arXiv:2410.13939, PASP, 136, 4202.
 126. * Müller-Horn, J., **El-Badry, K.**, Rix, H.-W., Shenar, T., Seeburger, R., Villasenor, J., Bodensteiner, J., Latham, D. W., Bieryla, A., Buchhave, L. A., Isaacson, H., Howard, A. W., 2024, “Be star in the making: the stripped-star binary HIP 15429”, A&A, submitted, arXiv:2504.06973.
 125. Bhattacharjee, S., Kulkarni, S. R., Kong, A. K. H., Tam M. S., Bond H. E., **El-Badry, K.**, Caiazzo, I., Graham, M. J., Rodriguez, A. C., Zeimann, G. R., Fremling, C., Drake, J. A., Werner, K., Rodriguez, H., Prince, T. A., Laher, R. R., Chen, T. X., Riddle, R., 2024, “Variability of Central Stars of Planetary Nebulae with the Zwicky Transient Facility. I. Methods, Short-Timescale Variables, Binary Candidates, and the Unusual Nucleus of WeSb 1”, arXiv:2410.03589, PASP, submitted.
 124. **El-Badry, K.**, Lam, C., Holl, B., Halbwachs, J. L., Rix, H.-W., Mazeh, T., Shahaf, S., 2024, “A generative model for *Gaia* astrometric orbit catalogs: selection functions for binary stars, giant planets, and compact object companions”, arXiv:2411.00088, OJAp, 7, 100.

123. * Rodriguez, A. C., **El-Badry, K.**, Suleimanov, V., Pala, A. F., Kulkarni, S. R., Gaensicke, B., Mori, K., Rich, M., Sarkar, A., Bao, T., Lopes de Oliveira, R., Ramsay, G., Szkody, P., Graham, M., Prince, T. A., Caiazzo, I., Vanderbosch, Z. P., van Roestel, J., Das, K. K., Qin, Y.-J., Kasliwal, M. M., Wold, A., Groom, S. L., Reiley, D., Riddle, R., 2024, “Cataclysmic Variables and AM CVn binaries in SRG/eROSITA + Gaia: Volume limited samples, X-ray luminosity functions, and space densities”, arXiv:2408.16053, PASP, 137, 4201.
122. * Blomberg, L., **El-Badry, K.**, Breivik, K., Caiazzo, I., Nagarajan, P., Rodriguez, A., van Roestel, J., Vanderbosch, Z. P., Yamaguchi, N., 2024, “The companion mass distribution of post common envelope hot subdwarf binaries: evidence for boosted and disrupted magnetic braking?”, arXiv:2408.15334, PASP, 136, 4201.
121. van Roestel, J., Rodriguez, A. C., Szkody, P., Brown, A. J., Caiazzo, I., Drake, A., **El-Badry, K.**, Prince, T., Rich, R. M. R., Neill, J. D., Vanderbosch, Z., Bellm, E. C., Dekany, R., Feinstein, F., Graham, M., Groom, S. L., Helou, G., Kulkarni, S. R., du Laz, T., Mahabal, A., Sharma, Y., Sollerman, J., Wold, A., 2024, “Cyclotron emitting magnetic white dwarfs in post common envelope binaries discovered with the Zwicky Transient Facility”, arXiv:2412.15153, A&A, in press.
120. Werner, K., **El-Badry, K.**, Gaensicke, B., Shen, K. J., 2024, “Ultraviolet spectroscopy of the supernova Ia hypervelocity runaway white dwarf J0927-6335”, arXiv:2408.08397, A&A, 689, 6.
119. * Nagarajan, P., **El-Badry, K.**, 2024, “Validation of *Gaia* DR3 orbital and acceleration solutions with hierarchical triples”, arXiv:2407.16760, PASP, 136, 094203.
118. Shariat, C., Naoz, S., **El-Badry, K.**, Rodriguez, A. C., Hansen, B. M. S., Angelo, I., Stephan, A., 2024, “Once a triple, not always a triple: the evolution of hierarchical triples that yield merged inner binaries”, arXiv:2407.06257, ApJ, 978, 47.
117. Bhat, A., Bauer, E. B., Pakmor, R., Shen, K. J., Caiazzo, I., Rajamuthukumar, A. S., **El-Badry, K.**, Kerzen-dorf, W. E., 2024, “Supernova shocks cannot explain the inflated state of hypervelocity runaways from white dwarf binaries”, arXiv:2407.03424, A&A, 693, 114.
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