Erica Hammerstein

updated September 2023

Department of Astronomy
University of Maryland
4296 Stadium Drive
College Park, MD 20742

Email: ekhammer@astro.umd.edu
Homepage: ekhammer.github.io

RESEARCH INTERESTS

Time domain astronomy; Sky surveys; Multi-wavelength discovery, classification, and characterization of astrophysical transients; Population studies of tidal disruption events and their host galaxies; Accretion and jet physics

EDUCATION

Ph.D., Astronomy, University of Maryland, College Park — Expected Spring 2024

Thesis: *Population Studies of Tidal Disruption Events and their Hosts: Understanding Host Galaxy Preferences & the Origin of the UV/Optical Emission*
Advisors: Brad Cenko and Sylvain Veilleux

M.Sc., Astronomy, University of Maryland, College Park — 2020

Advisor: Suvi Gezari

B.Sc., Astronomy, University of Michigan, Ann Arbor — 2018

PROPOSALS (**as PI***)

DeVeny/LMI, Lowell Discovery Telescope	**2022B***: 5 nights, **2023A***: 5 nights, **2023B***: 6 nights
SED machine (SEDM), P60	**2021 – 2023***: 70 hours
KCWI, Keck-II telescope	2021B (PI: Gezari): 1 night
XRT/UVOT, *Swift*	2021 – present: 10 ToO requests, 32ks approved

OBSERVING EXPERIENCE

Keck-II telescope, Keck Observatory — 1 night

Keck Cosmic Web Imager (KCWI)

Lowell Discovery Telescope (LDT), Lowell Observatory — 30+ nights

DeVeny optical spectrograph

Large Monolithic Imager (LMI)

2.4-m Hiltner Telescope, MDM Observatory — 3 nights

Ohio State Multi-Object Spectrograph (OSMOS)

SELECTED TALKS

Invited Seminar	Galread, Princeton University	2023
Contributed Talk	DMV Astrophysics Graduate Student Conference	2023
Invited Seminar	Data Analysis Seminar, George Washington University	2023
Contributed Talk	241st AAS Meeting, Seattle, Washington	2023
Contributed Talk	Lowell Discovery Telescope Partners' meeting, virtual	2022
Invited Talk	Workshop on Supermassive Black Holes, Cornell University	2022
Contributed Talks	ZTF Team meetings in Chicago, Paris, and virtual	2020 – 2022
Invited Seminar	CIERA Observational Astronomy Lunch, Northwestern	2022
Contributed Talk	240th AAS Meeting, Pasadena, California	2022
Invited Seminar	CGCA Seminar, University of Wisconsin – Milwaukee	2022

LEADERSHIP & PROFESSIONAL SERVICE

UMD CMNS Dean's Graduate Advisory Council	2022 – present
Astronomy Graduate Council Representative	2021 – present
Department of Astronomy FAMILE Hiring Committee	2022 – 2023
Astronomy Graduate Council Vice President	2021 – 2023
Department of Astronomy Chair Review Committee	2021 – 2022
Gemini Fast Turnaround Proposal Reviewer	2021
Journal Referee, ApJ Letters	

PRESS COVERAGE

AAS Nova highlighting my study of 30 TDEs published in ApJ	2023/01

TEACHING, MENTORING, & OUTREACH

UMD Space Science Outreach Cooperative Founding Member	2023 – present
Skype a Scientist Volunteer	2019 – present
GRAD-MAP Winter Workshop Research Mentor	2019, 2021
GRAD-MAP Python bootcamp TA	2018
GROWTH Summer School TA	2021
TA for ASTR101	Fall 2018, Spring 2019

PUBLICATIONS

- Total publications (including submitted) / **as first author**: 20 / **5 (including 1 in press)**
- Citations: >670 / **>90**
- h-index: 12 / **3**
- 24/10/1 TNS Classification Reports/AstroNotes/Discovery Reports, 4 GCN Circulars, 3 ATels

First Author Publications

[5] Hammerstein E., Cenko S. B., Gezari S., et al. 2023 arXiv e-prints, arXiv:2307.15705. (accepted to ApJ)

Integral Field Spectroscopy of 13 Tidal Disruption Event Hosts from the ZTF Survey

[4] Hammerstein E., van Velzen S., Gezari S., et al. 2023 The Astrophysical Journal, 942, 9.

The Final Season Reimagined: 30 Tidal Disruption Events from the ZTF-I Survey

[3] Hammerstein E., Gezari S., van Velzen S., et al. 2021 The Astrophysical Journal, 908, L20.

Tidal Disruption Event Hosts Are Green and Centrally Concentrated: Signatures of a Post-merger System

[2] Hammerstein E., Gültekin K., King A. 2019 The Astrophysical Journal, 875, 82.

Probing the Jet Turnover Frequency Dependence on Black Hole Mass and Mass Accretion Rate

[1] Hammerstein E. K., Cackett E. M., Reynolds M. T., et al. 2018 Monthly Notices of the Royal Astronomical Society, 478, 4317.

Constraining the inclination of the low-mass X-ray binary Cen X-4

Co-Author Publications

[15] Ward C., Gezari S., Nugent P., et al. 2023 arXiv e-prints, arXiv:2309.02516.

Panic at the ISCO: the visible accretion disks powering optical variability in ZTF AGN

[14] Ghosh R., Laha S., Meyer E., et al. 2023 The Astrophysical Journal, 955, 3.

A Reemerging Bright Soft X-Ray State of the Changing-look Active Galactic Nucleus 1ES 1927+654: A Multiwavelength View

[13] Guolo M., Gezari S., Yao Y., et al. 2023 arXiv e-prints, arXiv:2308.13019.

A systematic analysis of the X-ray emission in optically selected tidal disruption events: observational evidence for the unification of the optically and X-ray selected populations

[12] Mummery A., van Velzen S., Nathan E., et al. 2023 arXiv e-prints, arXiv:2308.08255.

Fundamental scaling relationships revealed in the optical light curves of tidal disruption events

[11] O'Connor B., Troja E., Ryan G., et al. 2023 Science Advances, 9, eadi1405.

A structured jet explains the extreme GRB 221009A

[10] Srinivasaragavan G. P., O'Connor B., Cenko S. B., et al. 2023 The Astrophysical Journal, 949, L39.

A Sensitive Search for Supernova Emission Associated with the Extremely Energetic and Nearby GRB 221009A

[9] Yao Y., Ravi V., Gezari S., et al. 2023 arXiv e-prints, arXiv:2303.06523.

Tidal Disruption Event Demographics with the Zwicky Transient Facility: Volumetric Rates, Luminosity Function, and Implications for the Local Black Hole Mass Function

[8] Andreoni I., Coughlin M. W., Perley D. A., et al. 2022 Nature, 612, 430.

A very luminous jet from the disruption of a star by a massive black hole

[7] Yao Y., Lu W., Guolo M., et al. 2022 The Astrophysical Journal, 937, 8.

The Tidal Disruption Event AT2021ehb: Evidence of Relativistic Disk Reflection, and Rapid Evolution of the Disk-Corona System

[6] Goodwin A. J., van Velzen S., Miller-Jones J. C. A., et al. 2022 Monthly Notices of the Royal Astronomical Society, 511, 5328.

AT2019azh: an unusually long-lived, radio-bright thermal tidal disruption event

[5] Frederick S., Gezari S., Graham M. J., et al. 2021 The Astrophysical Journal, 920, 56.

A Family Tree of Optical Transients from Narrow-line Seyfert 1 Galaxies

[4] Ahumada T., Singer L. P., Anand S., et al. 2021 Nature Astronomy, 5, 917.
Discovery and confirmation of the shortest gamma-ray burst from a collapsar

[3] Ward C., Gezari S., Frederick S., et al. 2021 The Astrophysical Journal, 913, 102.
AGNs on the Move: A Search for Off-nuclear AGNs from Recoiling Supermassive Black Holes and Ongoing Galaxy Mergers with the Zwicky Transient Facility

[2] Stein R., van Velzen S., Kowalski M., et al. 2021 Nature Astronomy, 5, 510.
A tidal disruption event coincident with a high-energy neutrino

[1] van Velzen S., Gezari S., **Hammerstein E.**, et al. 2021 The Astrophysical Journal, 908, 4.
Seventeen Tidal Disruption Events from the First Half of ZTF Survey Observations: Entering a New Era of Population Studies