JACK M. M. NEUSTADT

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EDUCATION

The Ohio State University — Columbus, OH
Ph.D. in Astronomy — expected June 2024
Research Interests: AGN variability, accretion disks, TDEs, changing-look AGN, SNe

Dartmouth College — Hanover, NH
B.A. in Physics, Minors: Astronomy, Japanese — June 2017
Phi Beta Kappa, *Magna Cum Laude*

PUBLICATIONS

Summary: 22 total, 7 first-author; 544+ citations, h-index: 11

First-author

7. Neustadt, J. M. M., Kochanek, C. S., Montano, J., et al. 2023, "AGN STORM 2. VI. Mapping Temperature Fluctuations in the Accretion Disk of Mrk 817", *submitted to ApJ*, arXiv:2310.01497
6. Neustadt, J. M. M., Kochanek, C. S., & Rizzo Smith, M. 2023, "Constraints on pre-SN outbursts from the progenitor of SN 2023ixf using the Large Binocular Telescope", *accepted to MNRAS*, arXiv:2306.06162
5. Neustadt, J. M. M., Hinkle, J. T., Kochanek, C. S., et al. 2023, "Multiple flares in the changing-look AGN NGC 5273", *MNRAS*, 521, 3810
4. Neustadt, J. M. M., & Kochanek, C. S. 2022, "Using AGN light curves to map accretion disc temperature fluctuations", *MNRAS*, 513, 1046
3. Neustadt, J. M. M., Kochanek, C. S., Stanek, K. Z., et al. 2021, "The search for failed supernovae with the Large Binocular Telescope: a new candidate and the failed SN fraction with 11 yr of data", *MNRAS*, 508, 516
2. Neustadt, J. M. M., Holoien, T. W.-S., Kochanek, C. S., et al. 2020, "To TDE or not to TDE: the luminous transient ASASSN-18jd with TDE-like and AGN-like qualities", *MNRAS*, 494, 2538
1. Neustadt, J. M. M., Fesen, R. A., & Black, C. S. 2017, "Detection of optical emission associated with the Galactic SNR G64.5+0.9", *MNRAS*, 469, 516

Contributing author (significant contributions)

11. Kochanek, C. S., Neustadt, J. M. M., & Stanek, K. Z. 2023, "The search for failed supernovae with the Large BinocularTelescope: The Mid-IR Counterpart to N6946-BH1", *submitted to ApJ*, arXiv:2310.01514
10. Rizzo Smith, M., Kochanek, C. S., & Neustadt, J. M. M. 2023, "The late time optical evolution of twelve core-collapse supernovae: detection of normal stellar winds", *MNRAS*, 523, 1474
9. Holoien, T. W.-S., Neustadt, J. M. M., Vallely, P. J., et al. 2022, "Investigating the Nature of the Luminous Ambiguous Nuclear Transient ASASSN-17jz", *ApJ*, 933, 196
8. Hinkle, J. T., Holoien, T. W.-S., Shappee, B. J., Neustadt, J. M. M., et al. 2022, "The Curious Case of ASASSN-20hx: A Slowly Evolving, UV- and X-Ray-Luminous, Ambiguous Nuclear Transient", *ApJ*, 930, 12
7. Tucker, M. A., Shappee, B. J., Hinkle, J. T., Neustadt, J. M. M., et al. 2021, "An AMUSING look at the host of the periodic nuclear transient ASASSN-14ko reveals a second AGN", *MNRAS*, 506, 6014
6. Andrews, J. E., Jencson, J. E., Van Dyk, S. D., Smith, N., Neustadt, J. M. M., et al. 2021, "The Blue Supergiant Progenitor of the Supernova Imposter AT 2019krl", *ApJ*, 917, 63
5. Hinkle, J. T., Holoien, T. W.-S., Auchettl, K., Shappee, B. J., Neustadt, J. M. M., et al. 2021, "Discovery and follow-up of ASASSN-19dj: an X-ray and UV luminous TDE in an extreme post-starburst galaxy", *MNRAS*, 500, 1673
4. Fesen, R. A., Neustadt, J. M. M., How, T. G., & Black, C. S. 2019, "Detection of extensive optical emission from the extremely radio faint Galactic supernova remnant G182.4+4.3", *MNRAS*, 486, 4701
3. How, T. G., Fesen, R. A., Neustadt, J. M. M., Black, C. S., & Outters, N. 2018, "Optical emission associated with the Galactic supernova remnant G179.0+2.6", *MNRAS*, 478, 1987
2. Fesen, R. A., Neustadt, J. M. M., Black, C. S., & Milisavljevic, D. 2018, "A distance estimate to the Cygnus Loop based on the distances to two stars located within the remnant", *MNRAS*, 475, 3996
1. Fesen, R. A., Neustadt, J. M. M., Black, C. S., & Koeppel, A. H. D. 2015, "Discovery of an Apparent High Latitude Galactic Supernova Remnant", *ApJ*, 812, 37

Contributing author (collaborations)

4. Homayouni, Y., Kriss, G. A., De Rosa, G., et al. 2023, "AGN STORM 2: V. Anomalous Behavior of the CIV Light Curve in Mrk 817", *submitted to ApJ*, arXiv:2308.00742
3. Payne, A. V., Shappee, B. J., Hinkle, J. T., et al. 2021, "ASASSN-14ko is a Periodic Nuclear Transient in ESO 253-G003", *ApJ*, 910, 125
2. Holoien, T. W.-S., Vallely, P. J., Auchettl, K., et al. 2019, "Discovery and Early Evolution of ASASSN-19bt, the First TDE Detected by TESS", *ApJ*, 883, 111
1. Graur, O., Rodney, S. A., Maoz, D., et al. 2014, "Type-Ia Supernova Rates to Redshift 2.4 from CLASH: The Cluster Lensing And Supernova Survey with Hubble", *ApJ*, 783, 28

INVITED TALKS

2. "Looking beyond the lamppost: a new method of understanding AGN continuum variability," MAT Seminars, MIT (2023, Sep.)
1. "Using AGN lightcurves to map accretion disc temperature fluctuations," AGN Seminar, University of Kansas (2021, Apr.)

CONTRIBUTED TALKS

3. Neustadt et al. 2023, "Looking beyond the lamppost: a new method of understanding AGN continuum variability," The Restless Nature of AGN: 10 years later (2023, Jun)
2. Neustadt & Kochanek 2022, "Looking under the lamppost: a new model of AGN continuum variability," AAS 241, 111.08 (2023, Jan)
1. Neustadt, J. M. et al. 2021, "The search for failed supernovae with the Large Binocular Telescope: the failed SN fraction and new candidates with 11 yr of data ," AAS 237, 409.03 (2021, Jan)

CONFERENCE POSTERS

5. Neustadt et al. 2023, "Multiple flares in the changing-look AGN NGC 5273," eXtreme Black Holes (2023, Mar)
4. Neustadt & Kochanek 2022, "Using AGN lightcurves to map accretion disc temperature fluctuations," NASA Physics of the Cosmos (PCOS) Time Domain And Multi-Messenger (TDAMM) Initiative Workshop (2022, Aug)
3. Neustadt & Kochanek 2022, "Using AGN lightcurves to map accretion disc temperature fluctuations," PoSTER 2022, 607 (2022, May)
2. Neustadt, J. M. 2020, "To TDE or not to TDE: The luminous transient ASASSN-18jd with TDE-like and AGN-like qualities," AAS 235, 304.28 (2020, Jan)
1. Neustadt, J. et al. 2017, "Optical Observations of Galactic Supernova Remnant G64.5+0.9", AAS 229, 148.06 (2017, Jan)

ACADEMIC HONORS & AWARDS

- Allan H. Markowitz Award in Observational Astronomy (OSU) — August 2023
  "For excellence in observational astronomy"
- International Travel Grant (AAS) — June 2023
- Extended Dean's Distinguished University Fellowship (OSU) — 2018–21, 2023–24
- 2^{nd} place in Mathematical & Physical Sciences - Hayes Graduate Research Forum (OSU) — April 2021
- Dorrit Hoffleit Undergraduate Research Scholarship (Yale University) — Summer 2017
- High Honors in Physics (Dartmouth) — Spring 2017
- NASA Space Grant (Dartmouth) — Spring 2015, Winter & Spring 2017
- Denis G. Sullivan Fund for Undergraduate Research (Dartmouth) — Spring 2016
- James O. Freedman Presidential Scholar (Dartmouth) — Fall 2015 & Winter 2016

MENTORING EXPERIENCE

- **Polaris Mentoring Program**
  Mentor to OSU undergraduates majoring in Physics/Astronomy — January 2019 – ongoing
  Previous mentees:
  - Noah Downing (OSU SURP Student 2023) — 2022–23
  - Nicole Fedor (OSU SURP Student 2023) — 2021–22
  - Mary Rickel (Green Bank Observatory REU Student 2022) — 2020–21
  - Aditi Fulsundar (OSU Physics Graduate Student 2023) — 2019–20
- **Ohio Supercomputer Center Summer Institute**
  Assistant instructor w/ Prof. Adam Leroy — June 2019

LEADERSHIP EXPERIENCE

- **Polaris Mentoring Program - Leadership Committee**
  Created and edited curriculum for Polaris Mentoring Program (PHYSICS 2050) — August 2022 – ongoing

AWARDED TELESCOPE TIME

2. Co-I: "Confirming the Formation of a Black Hole," JWST, PI: C. S. Kochanek — 1.48 hr, cycle 2
1. Co-I: "Confirming the Formation of Black Holes," HST, PI: C. S. Kochanek — 2 orbits, cycle 30

Target of Opportunity (ToO) observations

- Neil Gehrels Swift Observatory — 120 ksec, combined
- NICER Observatory — 20 ksec, combined

OBSERVING EXPERIENCE

- **Large Binocular Telescope** — Mount Graham International Observatory, AZ
  41 nights, using LBC, MODS, and LUCI
- **McGraw-Hill 1.3m Telescope** — MDM Observatory, Kitt Peak, AZ
  30+ nights, using direct imaging
- **Hiltner 2.4m Telescope** — MDM Observatory, Kitt Peak, AZ
  5 nights, using direct imaging and OSMOS
- **Radcliffe 1.9m Telescope** — SAAO, Sutherland, SA
  5 nights, using SHOC

REFEREE EXPERIENCE

- *Nature Astronomy*
- *Monthly Notices of the Royal Astronomical Society* (*MNRAS*)
- Canada France Hawaii Telescope - Canadian Time Allocation Committee