Rebecca Kyer

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Education

Michigan State University — **East Lansing, MI**
Ph.D. Candidate, Astrophysics and Astronomy — *Nov 2024 – present*
M.S., Astrophysics and Astronomy — *Aug 2022 – Nov 2024*

University of Washington — **Seattle, WA**
B.S., Physics and Astronomy — *Jun 2021*
Astronomy Departmental Honors

Publications

Refereed

5. "Investigating four new eclipsing binary millisecond pulsars discovered in the image plane." Petrou, F., Hurley-Walker, N., McSweeney, S. et al (incl. **Kyer, R.**), submitted to PASA

4. "Multiwavelength Evidence for Two New Candidate Transitional Millisecond Pulsars in the Sub-luminous Disk State: 4FGL J0639.1–8009 and 4FGL J1824.2+1231." **Kyer, R.**, Roy, S., Strader, J., et al. 2025, ApJ, 983, 112

3. "A survey for radio emission from white dwarfs in the VLA Sky Survey." Pelisoli, I., Chomiuk, L., Strader, J., et al. (incl. **Kyer, R.**) 2024, MNRAS, 531, 1805

2. "Monitoring the X-ray variability of bright X-ray sources in M33." **Kyer, R.**, Albrecht, S., Williams, Benjamin F., et al. 2024, ApJ, 961, 168

1. "Revisiting the classics: on the evolutionary origin of the 'Fe II' and 'He/N' spectral classes of novae." Aydi, E., Chomiuk, L., Strader, J. et al. (incl. **Kyer, R.**) 2024, MNRAS, 527, 9303

Non-refereed

"Unlocking the Rapid X-ray Variability of Transitional Millisecond Pulsars." **Kyer, R.**, Ng, M., Coti Zelati, F. et al. 2025, GO Science Case for the proposed NASA AXIS Probe, in prep

"Catching Spiders with AXIS." Coti Zelati, F., An, H., Baglio, M. C. et al. (incl. **Kyer, R.**) 2025, GO Science Case for the proposed NASA AXIS Probe, in prep

Transient Name Server Classification Report No. 2024-2571, classification of SN 2024pxg as a SN II. Bostroem, K. A., **Kyer, R.**, Strader, J. et al. 2024

Various classification reports in The Astronomer's Telegram (No. 16583, 16440, 16294)

Telescope Time

XMM-Newton AO-24 proposal ID 096163, 57 ksec, Scientific PI — *2025*
Swift Target of Opportunity ID 21032, 8.5 ksec, PI — *Aug 2024*
Swift Target of Opportunity ID 20572, 3.8 ksec, PI — *June 2024*
150+ hours remote observing with the 4.1-m SOAR telescope — *2023–present*

Research Presentations

AXIS Community Science Meeting Talk (Annapolis, MD) *May 2025*
Int'l Symposium of Science with the SOAR Telescope Talk (East Lansing, MI) *May 2025*
ESAC XMM-Newton Science Workshop Poster (Madrid, Spain) *June 2024*
Compact Objects in Michigan and Ontario Talk (Dearborn, MI) *May 2024*

Research Advising Experience

Andrew Harms (MSU), co-advised with Ryan Urquhart *May 2025–present*
Subhroja Roy (MSU), Bachelor's Senior Thesis *May 2024–May 2025*

Technical Skills

Optical photometry and single slit spectroscopy acquisition, reduction and analysis; X-ray reduction and analysis; certified Green Bank Telescope remote observer; synthesis of large multiwavelength archival and survey datasets.
Software: Python, IRAF, SAOImage DS9, CIAO, xspec, pimms

Outreach Activities

Letters to a Pre-Scientist Penpal *Oct 2024–May 2025*
Astronomy on Tap Speaker (Lansing, MI) *Nov 2023, Apr 2025*
Campus Observatory Public Night Volunteer (East Lansing, MI) *Aug 2022–present*

Professional Service

NASA AXIS CO/SNR Working Group Member *Dec 2024–present*
P-A Research Experiences for Drew Scholars Junior Director *Apr 2024–present*
Faculty Search Committee Graduate Student Representative *Feb 2024*
Stellar Mentorship Program Coordinator and Peer Mentor *Aug 2023–present*
Astro Coffee Journal Club Organizer *Jun 2023–present*

Teaching Experience

Teaching Assistant AST 208: Planets and Telescopes (30 students; MSU) *Jan–May 2024*
Teaching Assistant ISP 205L: Visions of the Universe (400 students; MSU) *Aug 2022–Dec 2023*
Instructor GEN ST 199: Astronomy First-year Interest Group (30 students; UW) *Sep–Dec 2020*

Awards and Honors

Honorable Mention, NSF Graduate Research Fellowship *Apr 2024*
Graduate Teaching Assistant Award, MSU Physics and Astronomy *Apr 2024, Apr 2023*
Harlo Mervyn Mork Excellence in Teaching Award, MSU College of Natural Science *Nov 2023*