Dr. James M DerKacy

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Education

PhD - Physics, University of Oklahoma, Norman 2022
MS - Physics, University of Oklahoma, Norman 2018
BA - Physics, Political Science, *Cum Laude*, North Central College 2015

Research Topics & Interests

Supernovae, Radiative Transfer, Spectroscopy, Ultraviolet, Infrared, Theory, Observational Astronomy

Collaboration Memberships

- **Co-PI** – Mid-InfraRed SuperNovA Collaboration (MIRSNAC)
- *Roman* Supernova Project Infrastructure Team
- *Roman* Science Collaboration
- Precision Observations of Infant Supernova Explosions (POISE)
- Enhanced Public ESO Spectroscopic Survey of Transient Objects (ePESSTO+)

Research Experience

July 2024 – Present
Post-Doctoral Researcher
Space Telescope Science Institute
Advisors: Dr. Lou Strolger, Dr. Russell Ryan
Projects: Roman Telescope infrastructure development - slitless spectroscopy of supernovae, Supernova spectroscopy (UV through MIR) with JWST and HST

Sept 2022 – July 2024
Postdoctoral Associate
Virginia Polytechnic Institute and State University
Advisor: Dr. Chris Ashall
Projects: NIR/MIR supernovae spectral observations and analysis with JWST, UV studies of SNe Ia with HST, Infant supernovae optical+NIR observations and analysis

Aug 2015 – July 2022
Graduate Research Assistant
University of Oklahoma
Advisor: Dr. Eddie Baron
Thesis: Understanding Type Ia Supernova Diversity with `PHOENIX`
Projects: UVOIR SN radiative transfer simulations with `PHOENIX`, SNe Ia diversity studies, Infant supernovae optical+NIR observations and analysis

June 2014 - Dec 2014
DOE SULI Intern
High Energy Physics, Argonne National Lab
Advisor: Dr. Steve Kuhlmann
Projects: Simulations and development of silicon photonic atmospheric OH filters, SNe Ia light curve fitting and analysis

Grants & Financial Awards

Summary: PI'd projects supported by $\$\mathbf{822,436}$

2024
- JWST - **PI**: Cycle 3 GO, *The Full Picture: Determining the Ultra-Late Time MIR Flux Redistribution in SN 2021aefx*, $\$\mathbf{226,389}$
- JWST - **PI**: Cycle 3 GO, *Examining the Heart of Type Ia Supernova 2021aefx with Ultra-Late Time Spectra*, $\$\mathbf{218,839}$
- JWST - **Co-PI**: Cycle 2 DDT, *Observing Molecule and Dust Formation in the Nearby SN 2024ggi*, $\$\mathbf{50,000}$

2023
- HST - **PI**: Cycle 31 AR, *The UV Future is Now: Tapping Hubble's UV Spectral Archive to Drive Current and Future Type Ia Supernova Science*, $\$\mathbf{114,156}$
- JWST - **PI**: Cycle 2 GO, *Examining the Heart of Type Ia Supernova 2021aefx with Ultra-Late Time Spectra*, $\$\mathbf{234,452}$
- JWST - **Co-PI**: Cycle 1 DDT, *Dust Our Luck - Measuring Molecule and Dust Formation in M101's Hydrogen Rich SN 2023ixf*, $\$\mathbf{50,000}$
- NASA - **PI**: NExSCI Keck 2023B, *NIR Observations of the JWST Supernova 2022acko*, $\$\mathbf{13,750}$
- NASA - **PI**: NExSCI Keck 2023A, *Combined NIR/MIR Nebular Phase Spectra of Type Ia Supernovae*, $\$\mathbf{14,850}$

2022
- STScI Travel Grant - JWST First Science Results Conference, $\$\mathbf{645}$

Talks & Presentations

Invited Talks and Presentations

2025
- *Supernovae and Their Local Environments with HST+JWST*, Transients in the Archipelago Workshop (University of Turku), August 2025

2024
- *Supernova Physics in the JWST Era and Beyond*, Cooks Branch Supernova Workshop (Texas A&M University), April 2024

2023
- *Type Ia Supernova Physics in the JWST Era*, Stony Brook University Astronomy Seminar, April 2023
- *Type Ia Supernova Physics in the JWST Era*, Brookhaven National Laboratory Particle Physics Seminar, April 2023

2022
- *Ultraviolet Spectra in Type Ia Supernovae*, Virginia Tech Astronomical Sciences Seminar, November 2022

2021
- *Ultraviolet Line Identification and Spectral Formation Near Max-light in Type Ia Supernova 2011fe*, University of Kansas Astronomy and Space Physics Seminar, October 2021

Contributed Talks and Presentations

2025
- *Type Ia Supernova Physics from Nebular-phase JWST Observations in the MIR*, One Hundred Years of Supernova Science (Stockholm University), August 2025
- *Type Ia Supernova Physics in the JWST Era*, 2025 HotSci at JHU/STScI, June 2025
- *Type Ia Supernova Physics from Nebular-phase JWST Observations in the MIR*, Transients from Space (STScI Workshop), March 2025
- *Nebular-phase JWST Spectra of Type Ia Supernovae Reveal a Common Explosion Mechanism*, 245th AAS Meeting, January 2025

2024
- *Line Structure in JWST IR Spectra of Type II Supernovae*, CSP/POISE Collaboration Workshop (Florida State University), November 2024
- *The First MIRI/MRS Spectra of Type Ia Supernovae Reveal a Dominant Explosion Mechanism*, Rise_Time 2024 (Purdue University), August 2024

2023
- *The First MIRI/MRS Spectra of Type Ia Supernovae Reveal a Dominant Explosion Mechanism*, SuperVirtual 2023, November 2023

2022
- *SN 2021fxy: Mid-Ultraviolet Flux Suppression is a Common Feature of Type Ia Supernovae* (Poster), SuperVirtual Conference, November 2022
- *SN 2021fxy: A "Cousin" of SN 2017erp with a Strong Ultraviolet Resemblance*, 240th AAS Meeting, June 2022
- *SN 2021fxy: A "Cousin" of SN 2017erp with a Strong Ultraviolet Resemblance*, Cooks Branch Supernova Workshop (Texas A&M University), March 2022

2021
- *SN 2021fxy: An Unreddened Cousin of SN 2017erp?* (Poster), SuperVirtual Conference, November 2021
- *SN 2021fxy: A "Shallow-Silicon" Type Ia Supernova Masquerading As A "Core-Normal"*, Apache Point Observatory Science Symposium, July 2021
- *Probing Spectral Formation of Type Ia Supernovae using `PHOENIX`*, 237th AAS Meeting, January 2021

2020
- *Ultraviolet Line Identification and Spectral Formation Near Max-light in Type Ia Supernova 2011fe*, CSP Collaboration Workshop, September 2020
- *Ultraviolet Line Identifications in Near Max Light Spectra of Type Ia Supernova 2011fe* (Poster), 235th AAS Meeting, January 2020

2018
- *Models of Interacting Supernovae: Understanding the Physics and Probing the Circumstellar Environment* (Poster), MidAmerican Regional Astrophysics Conference, April 2018

2015
- *OH Line Suppression Research for Future Near-Infrared Camera Development* (Poster), Rall Symposium for Undergraduate Research, North Central College, May 2015

2014
- *OH Line Suppression Research for Future Near-Infrared Camera Development*, 24th Annual Argonne Undergraduate Research Symposium, Argonne National Lab, November 2014

Awarded Telescope Time

P.I. and Co-P.I. Programs

Roman Cycle 1
- **Co-P.I.**, *Improving SN Ia Standardization with a First Systematic Study of Spectral Time Series with Roman*, RST-Analysis-19055

JWST Cycle 4
- **Co-P.I.** - 11.6 hours, *Late Time Spectroscopy of Type Ia Supernovae: Determining the Explosion Mechanism and Elemental Production*, JWST-GO-9261

JWST Cycle 3
- **P.I.** - 18.6 hours, JWST/NIRSpec+MIRI, *Examining the Heart of Type Ia Supernova 2021aefx with Ultra-Late Time Spectra*, JWST-GO-6582
- **P.I.** - 15.4 hours, *The Full Picture: Determining the Ultra-Late Time MIR Flux Redistribution in SN 2021aefx*, JWST-GO-6023
- **CO-P.I.** - 9.0 hours, *SN 2024vjm, Probing Evolution, Molecule, and Dust Formation in the Nearest Type Iax Supernova*, JWST-DD-9231
- **Co-P.I.** - 9.3 hours, *Late Time Spectroscopy of Type Ia Supernovae: Determining the Explosion Mechanism and Elemental Production*, JWST-GO-5057
- **Co-P.I.** - 4.4 hours, JWST/NIRSpec+MIRI, *Observing Molecule and Dust Formation in the Nearby SN 2024ggi*, JWST-DD-6716

HST Cycle 31	• **P.I** - HST Archival Research, *The UV Future is Now: Tapping Hubble's UV Spectral Archive to Drive Current and Future Type Ia Supernova Science*, HST-AR-17555
JWST Cycle 2	• **P.I.** - 2.15 hours, JWST/NIRSpec+MIRI, *Examining the Heart of Type Ia Supernova 2021aefx with Ultra-Late Time Spectra*, JWST-GO-3726 • **Co-P.I.** - 1.9 hours, JWST/NIRSpec+MIRI, *Observing Molecule and Dust Formation in the Nearby SN 2024ggi*, JWST-DD-6677 • **Co-P.I.** - 7.78 hours, JWST/NIRSpec+MIRI, *Dust Our Luck - Measuring Molecule and Dust Formation in M101's Hydrogen-rich SN 2023ixf*, JWST-DD-4575
JWST Cycle 1	• **Co-P.I.** - 7.78 hours, JWST/NIRSpec+MIRI, *Dust Our Luck - Measuring Molecule and Dust Formation in M101's Hydrogen-rich SN 2023ixf*, JWST-DD-4522
WMKO/NASA NExScI	• **P.I.** - 2 half-nights, Keck-II/NIRES, *NIR Observations of the JWST Supernova 2022acko*, 2023B • **P.I.** - 2 half-nights, Keck-II/NIRES, *Combined NIR/MIR Nebular Phase Spectra of Type Ia Supernovae*, 2023A
Apache Point Observatory	• **P.I.** - 34 half-nights, ARC 3.5-m/DIS/KOSMOS/TripleSpec, *Spectroscopic Follow-up of POISE Objects*, 2020Q1 - 2023Q2 • **P.I.** - 17 half-nights, ARC 3.5-m/DIS, *Nebular Phase Spectra for a Well-defined Sample of Nearby Supernovae*, 2017Q3 - 2019Q4

Co-I Programs

HST Programs	• *Phoenix from the Ashes: Searching for Surviving Companions to SN 2023bee with early excess*, Cycles 33+34+35, 3 orbits, HST/WFC3, HST-GO-18018 • *Elevating the Scientific Output of JWST by using HST to Examine the Heart of Type Ia Supernova 2021aefx*, Cycles 31+32, 18 orbits, HST/WFC3, HST-GO-17429 and HST-GO-17837
JWST Programs	• *Catching Eos by the Tail*, Cycle 5, 29.4 hours, JWST/NIRCam+MIRI, JWST-AR-12264 • *Cleaning Out the Archives: A Sweeping JWST Search for Dusty Supernovae*, Archival Research, JWST-AR-12264 • *SN Eos: A Multiply-Imaged, 30x Magnified SN Near the Epoch of Reionization*, Cycle 4 DDT, 10.1 hours, JWST/NIRCam+NIRSpec, JWST-DD-9493 • *A Luminous, Red Transient at $z = 3$: An Extreme Test Bed for Supernova Evolution*, Cycle 3 DDT, 8.0 hours, JWST/NIRCam+NIRSpec, JWST-DD-9372 • *SN 2024aecx: A Gateway to Understanding Massive Star Deaths, Cosmic Dust, and Binary Systems*, Cycle 3+4 DDT, 32.5 hours, JWST/NIRSpec+MIRI, JWST-DD-9233 and JWST-DD-9258 • *Pioneering Supernova Dust Studies with JWST: Detection of Dust Precursors in SN 2024ahv*, Cycles 4+5, 27.2 hours, JWST/NIRSpec+MIRI, JWST-GO-9105 and JWST-GO-12586 • *Overlooked Discoveries: An Archival Exploration of Dusty Supernovae from Cycles 2 & 3*, Archival Research, JWST-AR-8883 • *Filling the Gap: A JWST Survey Program to Track Dust Growth in Supernovae*, Cycle 4, JWST/MIRI, JWST-SURVEY-8878 • *Are Supernovae Dust Builders or Wreckers? Let's Settle This!*, Cycles 4+5+6, 108 hours, JWST/NIRSpec+MIRI, JWST-GO-8105 • *JWST Multi-Cycle Deep Transient Survey in GOODS-S*, Cycles 4+5+6, 128.7 hours, JWST/NIRCam+NIRSpec, JWST-GO-8060 and JWST-GO-12577 • *SN 2024vjm, Probing Evolution, Molecule, and Dust Formation in the nearest Type Iax Supernova*, Cycle 3 DDT, 9.0 hours, JWST/NIRSpec+MIRI, JWST-DD-9231 • *Unraveling cosmic dust origins: JWST revelations from legacy observations of SN 2023dbc*, Cycle 3+4, 24.9 hours, JWST-GO-6213 and JWST-GO-9264

JWST Programs (cont.)	• *Building the Legacy of Supernova 2023ixf: How Does Molecule Formation Lead to Dust?*, Cycle 3+4+5. 15.9 hours, JWST-GO-5290, JWST-GO-9262, and JWST-GO-12582 • *Probing Early Dust Formation in the Universe via Stripped-Envelope Supernovae*, Cycle 2+3, 16.58 hours, JWST/NIRSpec+MIRI, JWST-GO-4217 and JWST-GO-6583 • *Near- and Mid-IR Observations to Probe Dust Formation in the Remarkably Nearby Stripped-Envelope Supernova 2023dbc*, Cycle 1+2 DDT, 6.2 hours, JWST/NIRSpec+MIRI, JWST-DD-4436 and JWST-DD-4520 • *Dust, Mass Loss, and Explosions of Massive Stars in the MIR*, Cycle 1, 22.5 hours, JWST/NIRSpec+MIRI, JWST-GO-2122 • *MIR Spectroscopy of Type Ia Supernovae: The Key to Unlocking their Explosions and Element Production*, Cycle 1, 21.2 hours, JWST/MIRI, JWST-GO-2114
Roman Programs	• *Type Ia Supernova Cosmology with the first two years of Roman Data*, Cycle 1, RST-Analysis-19092, • *Implementing a High-Redshift Supernova Program with Roman's WFS RISE Sample*, Cycle 1, RST-Analysis-19021 • *Strongly Lensed Supernova Cosmology with the Roman HLTDS*, Cycle 1, RST-Analysis-19038 • *A Spatially-Resolved Look at the Relationships between Star-Formation and AGN*, Cycle 1, RST-Analysis-19098 • *RELISH-SNe: The Roman Extragalactic LIght-echo Survey of Historic Supernovae*, Cycle 1, RST-Analysis-19102 • *Revisiting the Type Ia Supernova Mass Step with Roman*, Cycle 1, RST-Analysis-19106

Co-investigator on numerous other successful observing proposals with time awarded at Las Campanas Observatory (Swope, DuPont, and Magellan telescopes), Gemini telescopes, and Las Cumbres Global Telescope Network.

Supervised Students & Outcomes

Co-Supervised Graduate Students	• Cameron Pfeffer, Virginia Tech, June 2023 - July 2024 • Behnaz Khaghani, Virginia Tech, May 2023 - July 2024 • Cassie Stevens, Virginia Tech, Sept. 2022 - July 2024
Undergraduates	• Derek Budd, Virginia Tech, Sept 2022 - May 2023; Graduated • Zach Yarbrough, University of Oklahoma, Feb 2021 - May 2022; Graduate Student, LSU • Sara Paugh, University of Oklahoma, May 2021 - May 2022; Graduate Student, Miss St.

Teaching Experience

Virginia Polytechnic Institute and State University

Guest Lecturer	PHYS 1055 - Introduction to Astronomy

University of Oklahoma

Spring 2021	ASTR 5453 - Extragalactic Astronomy & Cosmology, Grader ASTR 5900 - Numerical Methods, Grader
Fall 2020	ASTR 3103 - Stars, Grader
Spring 2017	PHYS 2524 - Gen. Physics for Life Sciences, Graduate TA
Fall 2016	ASTR 1514 - General Astronomy, Laboratory Instructor
Summer 2016	PHYS 2514 - Gen. Physics for Engineers, Graduate TA
Spring 2016	ASTR 1514 - General Astronomy, Laboratory Instructor

Fall 2015 | ASTR 1514 - General Astronomy, Laboratory Instructor

North Central College

Winter 2013 | PHY 142 - Physics II, Laboratory TA

Fall 2012 | PHY 141 - Physics I, Laboratory TA

Scientific and Department Service

Invited Reviewer

Space Telescope Science Institute — JWST Directors Discretionary Review

Virginia Tech Astro Journal Club

Role: Organizer, Oct 2022 - Jul 2024

Organize weekly journal club discussions for astronomers of recent, high impact, and noteworthy works cultivated from new publications and arXiv postings.

Summer REU Mentor, University of Oklahoma

Summer 2021

Co-advised undergraduate REU student Sara Paugh on her work with SN 2021fxy. Responsibilities included assisting Sara in learning several analysis codes, such as `SYNOW` and `MISFITS`.

Graduate Physics Student Interdependence (GPSI), University of Oklahoma

Roles: President, 2019 - 2020, Vice President, 2017 - 2019

GPSI is the OU Physics & Astronomy department's graduate student advocacy group. Its goals are to promote the success of graduate students within the department, increase the department sense of community, and facilitate communication between the graduate students and faculty.

Community Outreach

Lunar Sooners, University of Oklahoma

Roles: Engineer, 2016 - 2017, Member 2015 - 2022

Lunar Sooners is the graduate student-led outreach arm of OU Astronomy. Its mission is to share the joy of astronomy with the greater Oklahoma community; with a focus on outreach to under-represented communities through public star parties, interactive demonstrations, portable planetarium shows, and other outreach events.

References

- Dr. Louis Strolger, Space Telescope Science Institute, strolger.stsci.edu
- Dr. Eddie Baron, Planetary Science Institute, ebaron@psi.edu
- Dr. Peter J. Brown, Texas A&M University, pbrown@physics.tamu.edu

Refereed Publications

Summary: 5 First Author Papers, 8 Significant Contribution Papers†, 55 Papers Overall, ADS Library

2026

1. **DerKacy, J. M.**, et al., 2026, *JWST Observations of SN 2023ixf I: Completing the Early Multi-Wavelength Picture with Plateau-phase Spectroscopy*, ApJ, 997, 179, doi:10.3847/1538-4357/ae1f87.
2. †Baron, E., **DerKacy, J. M.**, et al., 2026, *Panchromatic JWST Observations and Models of the Dim Type Iax Supernova 2024vjm at 200 Days*, ApJL, submitted.
3. Griggio, M et al. **(inc. DerKacy, J. M.)**, 2026, *Flux-cube Reconstruction from Slitless Spectroscopy*, ApJ, accepted, arXiv:2606.09974.
4. Fox, O. and Rest, A. et al. **(inc. DerKacy, J. M.)**, 2026, *'Wide-Area' JWST Discoveries from the First Two Years of COSMOS-Web*, ApJ, 1002, 162, doi:10.3847/1538-4357/ae5bbf.
5. Coulter, D. and Larison, C. et al. **(inc. DerKacy, J. M.)**, 2026, *A Spectroscopically Confirmed, Strongly Lensed, Metal-poor Type II supernova at $z = 5.13$*, Science, submitted, arXiv:2601.04156.
6. Mera, T. et al. **(inc. DerKacy, J. M.)**, 2026, *JWST Observations of SN 2024ggi II: NIRSpec Spectroscopy and CO Modeling at 285 and 385 Days Past the Explosion*, ApJ, 997, 330, doi:10.3847/1538-4357/ae317e.
7. Bose, S. et al. **(inc. DerKacy, J. M.)**, 2026, *The Type Ia Supernova 2021hem: A 2003fg-like Event in an Apparently Hostless Environment*, A&A, 706, A252, doi:10.1051/0004-6361/202558053.
8. Kumar, S. et al. (**inc. DerKacy, James M**), 2026, *The Search for Stable Nickel: Investigating the Origins of Type Ia Supernovae with Late-time NIR Spectroscopy from the Carnegie Supernova Project-II*, ApJ, 1000, 178, doi:10.3847/1538-4357/ae42bf.
9. Padilla Gonzalez, E. et al. **(inc. DerKacy, J. M.)**, 2026, *Revisiting the Mass Step: Environmental Dependence of Type Ia Supernovae in Low-Metallicity Host Galaxies*, ApJ, 1001, 95, doi:10.3847/1538-4357/ae41bf.
10. Siebert, M. et al. **(inc. DerKacy, J. M.)**, 2026, *SN 2025ogs: A Spectroscopically-Normal Type Ia Supernova at $z = 2$ as a Benchmark for Redshift Evolution*, ApJL, 1002, L3, doi:10.3847/2041-8213/ae5a37.
11. Stritzinger, M. D. et al. **(inc. DerKacy, J. M.)**, 2026, *The Broad-lined Type Ic Supernova 2020lao Reveals an Energetic Explosion with No Central-engine Signatures*, A&A, 708, A305, doi:10.1051/0004-6361/202558378.
12. Cai, Y.-Z. et al. **(inc. DerKacy, J. M.)**, 2026, *SN 2019vxm: A Luminous and Long-lived Type IIn Supernova with Early Flash-ionisation Features*, A&A, submitted.
13. Kopsacheili, M. et al. **(inc. DerKacy, J. M.)**, 2026, *The Type Ia Supernovae 2023vjh: A Peculiar 1991bg-like SN with Unusually Faint Light Curves*, A&A, submitted.
14. Mendez Llorca, A. et al. **(inc. DerKacy, J. M.)**, 2026, *Flashing with Colours: Photometric Indicators of Early Interaction in Type II Supernovae*, A&A, submitted.
15. Pierel, J. et al. **(inc. DerKacy, J. M.)**, 2026, *A New Era for Supernova Science with the James Webb Space Telescope*, EPJP, submitted.
16. Shiber, S. et al. **(inc. DerKacy, J. M.)**, 2026, *The Production of Electron-Capture Elements in Thermonuclear Supernovae: Theory vs. Observations*, PhPl, submitted.

2025

17. †Baron, E., Ashall, C., **DerKacy, J. M.**, et al., 2025, *JWST Observations of SN 2024ggi I: Interpretation and Model Comparison of the Type II Supernova 2024ggi at 55 days Past Explosion*, ApJ, 994, 249 doi:10.3847/1538-4357/ae0e15.
18. †Medler, K., Ashall, C., Hoeflich, P., Baron, E., **DerKacy, J. M.**, et al., 2025, *JWST Observations of SN 2023ixf II: The Panchromatic Evolution Between 250 and 720 Days After the Explosion*, ApJ, 993, 191 doi:10.3847/1538-4357/ae0736.

2025

19. †Medler, K., Ashall, C., Shahbandeh, M., **DerKacy, J. M.**, et al., 2025, *The Hawaii Infrared Supernova Study (HISS): Spectroscopic Data Release 1*, ApJS, 281, 28, doi:10.3847/1538-4365/ae092c.
20. Park, S. H. et al. **(inc. DerKacy, J. M.)**, 2025, *Near-Infrared Spectroscopy and Detection of Carbon Monoxide in the Type II Supernova SN 2023ixf*, A&A, 703, 227, doi:10.1051/0004-6361/202555244.
21. Clayton, G. et al. (**inc. DerKacy, J. M**), 2025, *Very Late-Time JWST and Keck Spectra of the Oxygen-Rich Supernova 1995N*, ApJ, 991, 133, doi:10.3847/1538-4357/adfc72.
22. Shahbandeh, M., et al. **(inc. DerKacy, James M)**, 2024, *JWST/MIRI Observations of Newly Formed Dust in the Cold, Dense Shell of the Type IIn SN 2005ip*, ApJ, 985, 262, doi:10.3847/1538-4357/adce77.
23. O'Hora, J. et al. (**inc. DerKacy, J.**), 2025, *Using Nebular Near-IR Spectroscopy to Measure Asymmetric Chemical Distributions in 2003fg-like Thermonuclear Supernovae*, ApJ, 984, 34 doi:10.3847/1538-4357/adc37c.
24. Hoeflich, P., et al. **(inc. DerKacy, J.)**, 2025, *Numerical and Physical Challenges to Nebular Spectroscopy in Thermonuclear Supernovae*, J. Phys.: Conf. Ser. 2997 doi:10.1088/1742-6596/2997/1/012017

2024

25. **DerKacy, J. M.**, et al. 2024, *JWST MIRI/MRS Observations and Spectral Models of the Underluminous Type Ia Supernova 2022xkq*, ApJ, 961, 187, doi:10.3847/1538-4357/adob7b.
26. †Ashall, C., Hoeflich, P., Baron, E., ... **DerKacy, J. M.**, et al., 2024, *A JWST Medium Resolution MIRI Spectrum and Models of the Type Ia Supernova 2021aefx at* $+415$ *d*, ApJ, 975, 203, doi:10.3847/1538-4357/ad6608.
27. †Shahbandeh, M., Ashall, C., Hoeflich, P., ... **DerKacy, J. M.** et al., 2024 *JWST NIRSpec+MIRI Observations of SN 2022acko: A Nearby Type IIP Supernova*, ApJL, submitted, arXiv:2401.14474.
28. Burrow, A., et al. **(inc. DerKacy, J. M.)**, 2024, *Extrapolation of Type Ia Supernova Spectra into the Near-Infrared Using PCA*, ApJ, 967, 55, doi:10.3847/1538-4357/ad3c45.
29. Dwomoh, A. M., et al. **(inc. DerKacy, James M.)**, 2024, *Evaluating the Consistency of Cosmological Distances Using Supernova Siblings in the Near-Infrared*, ApJ, 965, 90, doi:10.3847/1538-4357/ad1ff5.
30. Hoogendam, W., et al. **(inc. DerKacy, J.)**, 2024, *Discovery and Follow-up of ASASSN-23bd (AT 2023clx): The Lowest Redshift and Least Luminous Tidal Disruption Event To Date*, MNRAS, 530, 4501, doi:10.1093/mnras/stae1121.
31. Pearson, J., et al. **(inc. DerKacy, J. M.)**, 2024, *Strong Carbon Features and a Red Early Color in the Underluminous Type Ia SN 2022xkq*, ApJ, 960, 29, doi:10.3847/1538-4357/ad0153.
32. Siebert, M., et al. **(inc. DerKacy, J. M.)**, 2024, *Ground-based and JWST Observations of SN 2022pul. I. Unusual Signatures of Carbon, Oxygen, and Circumstellar Interaction in a Peculiar Type Ia Supernova*, ApJ, 960, 88, doi:10.3847/1538-4357/ad0975.
33. Kwok, L., et al. **(inc. DerKacy, J. M.)**, 2023, *Ground-based and JWST Observations of SN 2022pul: II. Evidence from Nebular Spectroscopy for a Violent Merger in a Peculiar Type-Ia Supernova*, ApJ, 966, 135, doi:10.3847/1538-4357/ad2cod.

2023

34. **DerKacy, J. M.**, et al. 2023, *SN 2021fxy: Mid-Ultraviolet Flux Suppression is a Common Feature of Type Ia Supernovae*, MNRAS, 522, 3481, doi:10.1093/mnras/stad1171.
35. **DerKacy, J. M.**, et al., 2023, *JWST Low-Resolution MIRI Spectral Observations of SN 2021aefx: High-density Burning in a Type Ia Supernova*, ApJL, 945, L2 doi:10.3847/2041-8213/acb8a8.
36. †Yarbrough, Z., Baron, E., **DerKacy, J. M.**, et al., 2023, *Direct Analysis of the Broad-Line SN 2019ein: Connection with the Core-Normal SN 2011fe*, MNRAS, 521, 3873, doi:10.1093/mnras/stad758.
37. Mayker Chen, N., et al. **(inc. DerKacy, James M.)**, 2023 *Serendipitous Nebular-phase JWST Imaging of SN Ia 2021aefx: Testing the Confinement of 56-Co Decay Energy*, ApJL, 944, L28, doi:10.3847/2041-8213/acb6d8.

2023

38. Bostroem, K. A., et al. **(inc. DerKacy, J. M.)**, 2023, *SN 2022acko: The First Early Far-ultraviolet Spectra of a Type IIP Supernova*, ApJL, 953, L18, doi:10.3847/2041-8213/ace31c.
39. Kwok, L., et al. **(inc. DerKacy, J. M.)**, 2023, *A JWST Near- and Mid-Infrared Nebular Spectrum of the Type Ia Supernova 2021aefx*, ApJL, 944, L3, doi:10.3847/2041-8213/acb4ec.
40. Ertini, K., et al. **(inc. DerKacy, J. M.)**, 2023, *SN 2021gno: A Calcium-rich Transient with Double-peaked Light Curves*, MNRAS, 526, 279, doi:10.1093/mnras/stad2705.
41. Desai, D.D, et al. **(inc. DerKacy, J. M.)**, 2023, *Fast and Not-so-Furious: A Case Study of the Fast and Faint Type IIb SN 2021bxu (ATLAS21dov)*, MNRAS, 524, 767, doi:10.1093/mnras/stad1932.
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