

Qinan Wang

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EDUCATION

- **Johns Hopkins University** Baltimore, MD
PhD in Physics and Astronomy Sep 2017 - Aug 2023
- **University of Hong Kong** HKSAR, China
BSc in Mathematics/Physics (First Honor) Sep 2012 - June 2016

SKILLS SUMMARY

- **Program Languages:** Python, SQL
- **Data Reduction:** *TESS*, HST STIS/COS, APO 3.5m DIS/KOSMOS/ARCTIC, ATLAS

EXPERIENCE

- **Massachusetts Institute of Technology / Weizmann Institute of Science** Cambridge, MD
TESS-ULTRASAT joint postdoc fellow Sep 2024 -
- **Johns Hopkins University** Baltimore, MD
Postdoc Research Fellow - Dr. Armin Rest Sep 2023 - Sep 2024
 - Development of *SynDiff* for optimal *TESS* data reduction.
 - Re-training SALT3 model in UV with HST STIS spectra.
- **University of Hong Kong** HKSAR, China
Research Assistant - Prof. Meng Su Aug 2016 - June 2017
 - Influence of instrumental contamination in CMB lensing reconstruction.
- **University of California, Berkeley** Berkeley, CA
Research Assistant - Dr John Tomsick June 2015 - Aug 2015
 - Identification of X-ray counterparts of *INTEGRAL* sources in *Chandra*

HONORS AND AWARDS

- Rosita King Ho Scholarships, 2015
- Li Po Kwai Scholarships, 2014
- Alan John Ellis Prizes in Mathematics, 2013

GRANT & TELESCOPE TIME AND OBSERVATION EXPERIENCE

Accepted programs as Principle Investigator:

- *Neil Gehrels Swift Observatory*, ToO program in Cycle 20, 50 triggers (75ks), \$40,000. 2024
- >20 half-nights with the 3.5m ARC telescope at Apache Point Observatory, including 11 triggered ToO. 2019 - Now

Accepted programs and Observation experience as Co-Is:

- Blanco 4-meter Telescope at CTIO, 5 nights. 2022 - Now
- *Hubble Space Telescope*, 7 proposals. 2019 - Now
- *James Webb Space Telescope*, 9 proposals. 2022 - Now

MENTORING AND TEACHING EXPERIENCE

- Sofia Rest, JHU undergraduate student, 2021 - now
- Kyle Dalrymple, JHU undergraduate student, 2022 - now
- Sophie von Coelln, high school/undergraduate student, 2022 - now

INVITED TALKS

- Monday Afternoon Talk, Massachusetts Institute of Technology April 2024
- Talk at the TESS Mission Update Meeting, Massachusetts Institute of Technology June 2023
- Remote talk, Tsinghua University May 2023
- TESS Science Talk, Massachusetts Institute of Technology Feb 2023

CONTRIBUTED TALKS AND PRESENTATIONS

- Transients Down Under conference, Swinburne University of Technology Jan 2024
- Talk at CIERA Observers Group Meetings, Northwestern University Nov 2023
- Contributed seminar, Carnegie Mellon University Nov 2023
- SuperNova EXplosions (SNEX) Conference, Technion Aug 2023
- Talk at POISE meeting, Space Telescope Science Institute Aug 2023
- HotSci Talk series, Space Telescope Science Institute Aug 2023
- The Transient and Variable Universe conference, University of Illinois Urbana-Champaign June 2023
- Poster presentation at AAS 241th, Seattle Jan 2023
- Boom! A Workshop on Explosive Transients with LSST, University of Illinois Urbana-Champaign July 2022
- Contributed seminar, University of Melbourne June 2022
- Poster presentation at SuperVirtual, online Nov 2021
- Astrocoffee, Johns Hopkins University Oct 2021
- CAS Wine and Cheese Seminars, Johns Hopkins University Oct 2020

OPEN-SOURCE SOFTWARES

- *TESS* EXtragalactic Alert System (TEXAS). Github
- TESSREDUCE. Github
- YSE-PZ. Github
- ATCLEAN. Github

PROFESSIONAL SERVICES

- Organizer of the Extragalactic Transient parallel session at the *TESS* Science Conference III, 2024
- Peer-reviewer for ApJL, 2023-present
- Panelist for NASA funding programs, 2022

PUBLICATIONS

First-author publications:

1. **Qinan Wang**, Anika Goel, Luc Dessart et al., submitted to MNRAS, [arXiv:2305.05015]:
A Low-Mass Helium Star Progenitor Model for the Type Ibn SN 2020nxt
2. **Qinan Wang**, Armin Rest, Georgios Dimitriadis et al., ApJ 962, no. 2 (2024): 17, [arXiv:2305.03779]:
Flight of the Bumblebee: the Early Excess Flux of Type Ia Supernova 2023bee revealed by *TESS*, *Swift* and Young Supernova Experiment Observations
3. **Qinan Wang**, Patrick Armstrong, Yossef Zenati et al., ApJL 943, no. 2 (2023): L15 [arXiv:2211.03811]:
Revealing the Progenitor of SN 2021zby through Analysis of the *TESS* Shock-cooling Light Curve

4. **Qinan Wang**, Armin Rest, Yossef Zenati et al., ApJ 923, no. 2 (2021): 167 [arXiv:2108.13607]:
SN 2018agk: A Prototypical Type Ia Supernova with a Smooth Power-law Rise in Kepler (K2)

Co-author publications:

1. Pierel, J. D. R., A. B. Newman, S. Dhawan, M. Gu, B. A. Joshi, T. Li, S. Schuldt, **et al.** submitted to ApJL, [arXiv:2404.02139]:
Lensed Type Ia Supernova” Encore” at $z=2$: The First Instance of Two Multiply-Imaged Supernovae in the Same Host Galaxy
2. Szanna Zsíros, Tamás Szalai, Ilse De Looze, Arkaprabha Sarangi, Melissa Shahbandeh, Ori D. Fox, Tea Temim **et al.** submitted to MNRAS, [arXiv:2310.03448]:
Serendipitous detection of the dusty Type IIL SN 1980K with JWST/MIRI
3. S. Tinyanont, R. J. Foley, K. Taggart, K. W. Davis, N. LeBaron, J. E. Andrews, M. J. Bustamante-Rosell **et al.** submitted to PASP, [arXiv:2309.07102]:
Keck Infrared Transient Survey I: Survey Description and Data Release 1
4. K. W. Davis, K. Taggart, S. Tinyanont, R. J. Foley, V. A. Villar, L. Izzo, C. R. Angus **et al.** MNRAS 523, no. 2 (2023): 2530-2550, [arXiv:2211.05134]:
SN 2022ann: a Type Icn supernova from a dwarf galaxy that reveals helium in its circumstellar environment
5. Melissa Shahbandeh, Arkaprabha Sarangi, Tea Temim, Tamas Szalai, Ori D. Fox, Samaporn Tinyanont, Eli Dwek **et al.** MNRAS 523, no. 4 (2023): 6048-6060, [arXiv:2301.10778]:
JWST observations of dust reservoirs in type IIP supernovae 2004et and 2017eaw
6. Hugh Roxburgh, Ryan Ridden-Harper, Zachary G. Lane, Armin Rest, Lancia Hubley, Rebekah Hounsell, **Qinan Wang** et al., submitted to ApJ [arXiv:2307.11294]:
A Comprehensive Investigation of Gamma-Ray Burst Afterglows Detected by *TESS*
7. D. A. Coulter, D. O. Jones, P. McGill, R. J. Foley, P. D. Aleo, M. J. Bustamante-Rosell, D. Chatterjee **et al.** PASP 135, no. 1048 (2023): 064501 [arXiv:2303.02154]:
YSE-PZ: A Transient Survey Management Platform that Empowers the Human-in-the-loop
8. Jacob E. Jencson, Jeniveve Pearson, Emma R. Beasor, Ryan M. Lau, Jennifer E. Andrews, K. Azalee Bostroem, Yize Dong **et al.** ApJL 952, no. 2 (2023): L30 [arXiv:2306.08678]:
A Luminous Red Supergiant and Dusty Long-period Variable Progenitor for SN 2023ixf
9. W. V. Jacobson-Galan, L. Dessart, R. Margutti, R. Chornock, R. J. Foley, C. D. Kilpatrick, D. O. Jones **et al.** accepted by ApJL, [arXiv:2306.04721]:
SN 2023ixf in Messier 101: Photo-ionization of Dense, Close-in Circumstellar Material in a Nearby Type II Supernova
10. P. D. Aleo, K. Malanchev, S. Sharief, D. O. Jones, G. Narayan, R. J. Foley, V. A. Villar **et al.** ApJS 266, no. 1 (2023): 9 [arXiv:2211.07128]:
The Young Supernova Experiment Data Release 1 (YSE DR1): Light Curves and Photometric Classification of 1975 Supernovae
11. M. D. Fulton, S. J. Smartt, L. Rhodes, M. E. Huber, V. A. Villar, T. Moore, S. Srivastav **et al.** ApJL 946, no. 1 (2023): L22 [arXiv:2301.11170]:
The optical light curve of GRB 221009A: the afterglow and the emerging supernova
12. Andreoni, Igor, Michael W. Coughlin, Daniel A. Perley, Yuhan Yao, Wenbin Lu, S. Bradley Cenko, Harsh Kumar **et al.** Nature 612, no. 7940 (2022): 430-434. [arXiv:2211.16530]:
A very luminous jet from the disruption of a star by a massive black hole
13. J. D. R. Pierel, D. O. Jones, W. D. Kenworthy, M. Dai, R. Kessler, C. Ashall, A. Do **et al.** ApJ 939, no. 1 (2022): 11 [arXiv:2209.05594]:
SALT3-NIR: Taking the Open-source Type Ia Supernova Model to Longer Wavelengths for Next-generation Cosmological Measurements

14. Yossef Zenati, **Qinan Wang**, Alexey Bobrick et al. Submitted to ApJ [arXiv:2207.07146]:
Evidence for Extended Hydrogen-Poor CSM in the Three-Peaked Light Curve of Stripped Envelope Ib Supernova
15. W. V. Jacobson-Galán, Padma Venkatraman, Raffaella Margutti, David Khatami, Giacomo Terreran, Ryan J. Foley, Rodrigo Angulo et al. ApJ 932, no. 1 (2022): 58 [arXiv:2203.03785]:
The Circumstellar Environments of Double-peaked, Calcium-strong Transients 2021gno and 2021inl
16. Samaporn Tinyanont, Ryan Ridden-Harper, R. J. Foley, Viktoriya Morozova, C. D. Kilpatrick, Georgios Dimitriadis, Lindsay DeMarchi et al. MNRAS 512, no. 2 (2022): 2777-2797 [arXiv:2110.10742]:
Progenitor and close-in circumstellar medium of type II supernova 2020fqv from high-cadence photometry and ultra-rapid UV spectroscopy
17. Ori D. Fox, Schuyler D. Van Dyk, Benjamin F. Williams, Maria Drout, Emmanouil Zapartas, Nathan Smith, Dan Milisavljevic et al. ApJL 929, no. 1 (2022):L15 [arXiv:2203.01357]:
The Candidate Progenitor Companion Star of the Type Ib/c SN 2013ge
18. W. V. Jacobson-Galán, Luc Dessart, D. O. Jones, Raffaella Margutti, D. L. Coppejans, Georgios Dimitriadis, Ryan J. Foley et al. ApJ 924, no. 1 (2022):15 [arXiv:2109.12136]:
Final Moments. I. Precursor Emission, Envelope Inflation, and Enhanced Mass Loss Preceding the Luminous Type II Supernova 2020tlf
19. Ryan Ridden-Harper, Armin Rest, Rebekah Hounsell, Tomás E Müller-Bravo, **Qinan Wang**, Villar, V. A.. arXiv preprint [arXiv:2111.15006]:
TESSreduce: transient focused *TESS* data reduction pipeline
20. D. O. Jones, R. J. Foley, G. Narayan, Jens Hjorth, M. E. Huber, P. D. Aleo, K. D. Alexander et al. ApJ 908(2), 143 (2021) [arXiv:2010.09724]:
The Young Supernova Experiment: survey goals, overview, and operations
21. Jeffrey Iuliano, Joseph Eimer, Lucas Parker, Gary Rhoades, Aamir Ali, John W. Appel, Charles Bennett et al. Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy IX, vol. 10708, pp. 259-277. SPIE, 2018. [arXiv:1807.04167]:
The cosmology large angular scale surveyor receiver design.
22. Kathleen Harrington, Joseph Eimer, David T. Chuss, Matthew Petroff, Joseph Cleary, Martin DeGeorge, Theodore W. Grunberg et al. Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy IX, vol. 10708, pp. 369-390. SPIE, 2018. [arXiv:1807.03807]:
Variable-delay polarization modulators for the CLASS telescopes.
23. Sumit Dahal, Aamir Ali, John W. Appel, Thomas Essinger-Hileman, Charles Bennett, Michael Brewer, Ricardo Bustos et al. Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy IX, vol. 10708, pp. 230-245. SPIE, 2018. [arXiv:1807.03927]:
Design and characterization of the cosmology large angular scale surveyor (CLASS) 93 GHz focal plane.
24. H. F. Chau, Cardythy Wong, **Qinan Wang**, Tieqiao Huang. arXiv preprint [arXiv:1608.08329]:
Qudit-Based Measurement-Device-Independent Quantum Key Distribution Using Linear Optics
25. H. F. Chau, **Qinan Wang**, Cardythy Wong. PRA 95, no. 2 (2017): 022311. [arXiv:1603.02370]:
Experimentally feasible quantum-key-distribution scheme using qubit-like qudits and its comparison with existing qubit-and qudit-based protocols
26. John A. Tomsick, Roman Krivonos, **Qinan Wang** et al., ApJ 816, no. 1 (2015): 38 [arXiv:1512.00044]:
Chandra observations of eight sources discovered by *INTEGRAL*