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
Cambridge, MA, USA/Rehovot, Israel
TESS-ULTRASAT joint postdoc fellow
Sep 2024 -

Johns Hopkins University
Baltimore, MD, USA
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, USA
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:

- *Hubble Space Telescope*, GO program in Cycke 33-35, 9 orbits. — 2025 - 2028
- Magellan telescopes at the Las Campanas Observatory, 2 nights. — 2025 - 2026
- *Neil Gehrels Swift Observatory*, ToO program in Cycle 20, 50 triggers (75ks), $40k. — 2024
- The 3.5m ARC telescope at Apache Point Observatory, >20 half-nights, including 11 triggered ToO. — 2019 - 2024

Accepted programs and Observation experience as Co-Is:

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

MENTORING AND TEACHING EXPERIENCE

- Wendy Sun, MIT UROP, — 2025
- Mark Inffiah, MIT UROP, — 2025
- Sofia Rest, JHU undergraduate student, — 2021 - 2024
- Kyle Dalrymple, JHU undergraduate student, — 2022 - 2023
- Sophie von Coelln, high school/undergraduate student, — 2022 - 2025

Invited Talks

- Transients From Space, Space Telescope Science Institute   Mar 2025
- Monday Afternoon Talk, MIT   April 2024
- Talk at the TESS Mission Update Meeting, MIT   June 2023
- Remote talk, Tsinghua University   May 2023
- TESS Science Talk, MIT   Feb 2023

Selected Talks and Presentations

- The 1st Science Meeting of the ET2.0 space mission, remote   Aug 2025
- The Cosmic Lighthouse conference, Cambridge, UK   June 2025
- Talk at AAS 245th, National Harbor   Jan 2025
- The Progenitors of Supernovae and their Explosions conference, Dali, China   Aug 2024
- The TESS Science Conference III, MIT   July 2024
- Transients Down Under conference, Swinburne University of Technology   Jan 2024
- Talk at AAS 243th, New Orleans   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
- HotSci Talk series, Space Telescope Science Institute   Aug 2023
- The Transient and Variable Universe conference, UIUC   June 2023
- Boom! A Workshop on Explosive Transients with LSST, UIUC   July 2022
- Contributed seminar, University of Melbourne   June 2022

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 NOIRLab programs, 2023
- Panelist for NASA funding programs, 2022

Publications

First-author publications:

1. **Qinan Wang**, Anika Goel, Luc Dessart et al., MNRAS 530, no.2 (2024): 3906-3923, [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. Hayes, Erin E., Suhail Dhawan, Kaisey S. Mandel, David O. Jones, Ryan J. Foley, Stephen Thorp, Matthew Grayling **et al**. MNRAS (2025): staf1056, [arXiv:2506.04309]:

   Characterising the Standardisation Properties of Type Ia Supernovae in the z band with Hierarchical Bayesian Modelling

2. Clayton, Geoffrey C., R. Wesson, Ori D. Fox, Melissa Shahbandeh, Alexei V. Filippenko, Bryony Nickson, Michael Engesser **et al**. [arXiv:2505.01574]

   Very Late-Time JWST and Keck Spectra of the Oxygen-Rich Supernova 1995N

3. Tinyanont, Samaporn, Ori D. Fox, Melissa Shahbandeh, Tea Temim, Robert Williams, Kittipong Wangnok, Armin Rest **et al**. ApJ 985, no. 2 (2025): 198. [arXiv:2504.14009]

   Large Cold Dust Reservoir Revealed in Transitional SN Ib 2014C by James Webb Space Telescope Mid-Infrared Spectroscopy

4. Szalai, Tamás, Szanna Zsíros, Jacob Jencson, Ori D. Fox, Melissa Shahbandeh, Arkaprabha Sarangi, Tea Temim **et al**. A&A 697 (2025): A132. [arXiv:2503.12950]

   JWST/MIRI detects the dusty SN1993J about 30 years after explosion

5. Gagliano, A., V. A. Villar, T. Matsumoto, D. O. Jones, C. L. Ransome, A. E. Nugent, D. Hiramatsu **et al**. [arXiv:2502.19469]

   Evidence for an Instability-Induced Binary Merger in the Double-Peaked, Helium-Rich Type IIn Supernova 2023zkd

6. Roxburgh, Hugh, Ryan Ridden-Harper, Andrew Moore, Clarinda Montilla, Brayden Leicester, Zachary G. Lane, James Freeburn **et al**. [arXiv:2502.16905]

   TESSELLATE: Piecing Together the Variable Sky With TESS

7. Moriya, Takashi J., David A. Coulter, Christa DeCoursey, Justin DR Pierel, Kevin Hainline, Matthew R. Siebert, Armin Rest **et al**. PASJ (2025): psaf052, [arXiv:2501.08969]:

   Properties of high-redshift Type II supernovae discovered by the JADES transient survey

8. Coulter, D. A., J. D. R. Pierel, C. DeCoursey, T. J. Moriya, M. R. Siebert, B. A. Joshi, M. Engesser **et al**. submitted to ApJ, [arXiv:2501.05513]:

   Discovery of a likely Type II SN at $z=$ 3.6 with JWST

9. Shahbandeh, Melissa, Ori D. Fox, Tea Temim, Eli Dwek, Arkaprabha Sarangi, Nathan Smith, Luc Dessart **et al**. ApJ 985, no. 2 (2025): 262. [arXiv:2410.09142]:

   JWST/MIRI Observations of Newly Formed Dust in the Cold, Dense Shell of the Type IIn SN 2005ip

10. Sebastian Gomez, Matt Nicholl, Edo Berger, Peter K. Blanchard, V. Ashley Villar, Sofia Rest, Griffin Hosseinzadeh **et al**. MNRAS 535, no. 1 (2024): 471-515,, [arXiv:2407.07946]:

    The Type I Superluminous Supernova Catalog I: Light Curve Properties, Models, and Catalog Description

11. J. D. R. Pierel, M. Engesser, D. A. Coulter, C. Decoursey, M. R. Siebert, A. Rest, E. Egami **et al**. ApJL 971, no. 2 (2024): L32, [arXiv:2406.05089]:

    Discovery of An Apparent Red, High-Velocity Type Ia Supernova at z= 2.9 with JWST

12. M. R. Siebert, C. Decoursey, D. A. Coulter, M. Engesser, J. D. R. Pierel, A. Rest, E. Egami et al. **et al**. ApJ 972, no. 1 (2024): L13. [arXiv:2406.05076]:

    Discovery of a Relativistic Stripped Envelope Type Ic-BL Supernova at z= 2.83 with JWST

13. Christa DeCoursey, Eiichi Egami, Justin DR Pierel, Fengwu Sun, Armin Rest, David A. Coulter, Michael Engesser **et al**. ApJ 979, no. 2 (2025): 250, [arXiv:2406.05060]:

    The JADES Transient Survey: Discovery and Classification of Supernovae in the JADES Deep Field

14. S. Rest, A. Rest, C. D. Kilpatrick, J. E. Jencson, S. von Coelln, L. Strolger, S. Smartt **et al**. ApJ 979, no. 2 (2025): 114, [arXiv:2405.03747]:

    ATClean: A Novel Method for Detecting Low-Luminosity Transients and Application to Pre-explosion Counterparts from SN 2023ixf

15. J. D. R. Pierel, A. B. Newman, S. Dhawan, M. Gu, B. A. Joshi, T. Li, S. Schuldt, **et al**. ApJL 967, no. 2 (2024): L37, [arXiv:2404.02139]:

    Lensed Type Ia Supernova "Encore" at z= 2: The First Instance of Two Multiply-Imaged Supernovae in the Same Host Galaxy

16. Szanna Zsíros, Tamás Szalai, Ilse De Looze, Arkaprabha Sarangi, Melissa Shahbandeh, Ori D. Fox, Tea Temim **et al**. MNRAS 529, no. 1 (2024): 155-168, [arXiv:2310.03448]:

    Serendipitous detection of the dusty Type IIL SN 1980K with JWST/MIRI

17. S. Tinyanont, R. J. Foley, K. Taggart, K. W. Davis, N. LeBaron, J. E. Andrews, M. J. Bustamante-Rosell **et al**. PASP 136, no. 1 (2024): 014201, [arXiv:2309.07102]:

    Keck Infrared Transient Survey I: Survey Description and Data Release 1

18. 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

19. 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

20. Hugh Roxburgh, Ryan Ridden-Harper, Zachary G. Lane, Armin Rest, Lancia Hubley, Rebekah Hounsell, **Qinan Wang** et al., ApJ 963, no. 2 (2024): 89 [arXiv:2307.11294]:

    A Comprehensive Investigation of Gamma-Ray Burst Afterglows Detected by *TESS*

21. 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

22. 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

23. 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

24. 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

25. 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

26. 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

27. 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

28. 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

29. 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

30. 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

31. 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

32. 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

33. 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

34. 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

35. 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.

36. 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.

37. 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.

38. 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

39. 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

40. 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*