



Lead/Corresponding Author Publications

6) Nebular Phase Evolution of SN 2023ixf (I): From Circumstellar Infrared Echo to the Onset of in-situ Dust Formation in a Type II Supernova [[arXiv:2603.14137](https://arxiv.org/abs/2603.14137), Mar 2026]

Avinash Singh, S. Goto, A. Sarangi, J. Johansson, C. Fransson, S. Barmenloo, J. Sollerman, R. S. Teja, K. Maeda, T. Hamada, N. Sarin, M. Yamanaka, T. Nakaoka, K. S. Kawabata, S. Schulze, A. Jerkstrand, S. Rose, D. K. Sahu, A. Gangopadhyay, G. C. Anupama, T. Ahumada, S. Anand, A. Bochenek, S. J. Brennan, X. Chen, S. Covarrubias, K. K. Das, X. Du, M. Dubey, N. Dukiya, N. Earley, X. Er, L. Ferrari, C. Fremling, G. Folatelli, W. V. Jacobson-Galán, L. Galbany, K.-R. Hinds, R. Imazawa, V. Karambelkar, B. Kumar, M. Li, X. Liu, X. Liu, K. Misra, T. Nagayama, Y. Pan, D. A. Perley, Y.-J. Qin, Y. Sano, J. Wise, Y.-P. Yang, X. Zou, J. Adler, E. C. Bellm, M. W. Coughlin, M. Graham, M. M. Kasliwal, J. Purdum, B. Rusholme, A. Sasli, N. Sravan

5) Unravelling the asphericities in the explosion and multi-faceted circumstellar matter of SN 2023ixf [[The Astrophysical Journal](#), **975**, 132, Oct 2024]

Avinash Singh, Rishabh Singh Teja, Takashi J. Moriya, Keiichi Maeda, Koji S Kawabata, Masaomi Tanaka, Ryo Imazawa, Tatsuya Nakaoka, Anjasha Gangopadhyay, Masayuki Yamanaka, Vishwajeet Swain, D.K. Sahu, G.C. Anupama, Brajesh Kumar, Ramya M. Anche, Yasuo Sano, A. Raj, V. K. Agnihotri, Varun Bhalerao, D. Bisht, M. S. Bisht, K. Belwal, S. K. Chakrabarti, Mitsugu Fujii, Takahiro Nagayama, Katsura Matsumoto, Taisei Hamada, Miho Kawabata, Amit Kumar, Ravi Kumar, Brian K. Malkan, Paul Smith, Yuta Sakagami, Kenta Taguchi, Nozomu Tominaga, Arata Watanabe

4) Far-Ultraviolet to Near-Infrared Observations of SN 2023ixf: A high energy explosion engulfed in complex circumstellar material [[The Astrophysical Journal Letters](#), **954**, L12, Aug 2023]

Rishabh Singh Teja, **Avinash Singh**, Judhajeet Basu, G.C. Anupama, D.K. Sahu, Anirban Dutta, Vishwajeet Swain, Tatsuya Nakaoka, Utkarsh Pathak, Varun Bhalerao, Sudhanshu Barway, Harsh Kumar, Nayana A.J., Ryo Imazawa, Brajesh Kumar, Koji S Kawabata

3) SN 2018hna: 1987A-like supernova with a signature of shock breakout [[The Astrophysical Journal Letters](#), **882**, L15, Sep 2019]

Avinash Singh, D.K. Sahu, G.C. Anupama, B. Kumar, H. Kumar, M. Yamanaka, P. Baklanov, N. Tominaga, S.I. Blinnikov, K. Maeda, A. Dutta, V. Bhalerao, R.M. Anche, S. Barway, H. Akitaya, T. Nakaoka, M. Kawabata, K.S. Kawabata, M. Sasada, K. Takagi, H. Maehara, K. Isogai, M. Kino, K. Taguchi, T. Nagao

2) Observational signatures of circumstellar interaction and ^{56}Ni -mixing in the Type II Supernova 2016gfy [[The Astrophysical Journal](#), **882**, 68, Sep 2019]

Avinash Singh, B. Kumar, T.J. Moriya, D.K. Sahu, G.C. Anupama, P.J. Brown, J.E. Andrews, N. Smith

1) ASASSN-14dq: A fast-declining type II-P Supernova in a low-luminosity host galaxy [[Monthly Notices of The Royal Astronomical Society](#), **480**, 2475, Oct 2018]

Avinash Singh, S. Srivastav, B. Kumar, G.C. Anupama, D.K. Sahu

2nd-Author Publications

6) Progenitor and explosion properties of SN 2023ixf estimated based on a light-curve model grid of Type II supernovae [[The Publications of the Astronomical Society of Japan](#), **76**, 1050, Aug 2024]

Takashi J. Moriya and **Avinash Singh**

5) SN 2018gj: A Short-plateau Type II Supernova with Persistent Blue-shifted H-alpha Emission [[The Astrophysical Journal](#), **954**, 155, Sep 2023]

Rishabh Singh Teja, **Avinash Singh**, D.K. Sahu, G.C. Anupama, Brajesh Kumar, Tatsuya Nakaoka, Koji S Kawabata, Masayuki Yamana, Takey Ali, Miho Kawabata

4) SN 2020jfo: A short plateau Type II supernova from a low mass progenitor [[The Astrophysical Journal](#), 930, 34, May 2022]

Rishabh Singh Teja, **Avinash Singh**, D.K. Sahu, G.C. Anupama, Brajesh Kumar, Nayana A.J

3) Optical monitoring of the Type Ib Supernova SN 2017iro [[The Astrophysical Journal](#), 927, 61, Mar 2022]

Brajesh Kumar, **Avinash Singh**, D.K. Sahu, G.C. Anupama

2) SN 2017hpa: A carbon-rich type Ia supernova [[Monthly Notices of the Royal Astronomical Society](#), 503, 896, Feb 2021]

Anirban Dutta, **Avinash Singh**, G.C. Anupama, D.K. Sahu, Brajesh Kumar

1) ASASSN-16fp (SN 2016coi): A transitional supernova between Type Ic and broad-lined Ic [[Monthly Notices of The Royal Astronomical Society](#), 473, 3776, Jan 2018]

Brajesh Kumar, **Avinash Singh**, S. Srivastav, D.K. Sahu, G.C. Anupama

Co-Author Publications

42) SN 2023xgo: Helium-rich Type Icn or Carbon-Flash Type Ibn supernova? [[MNRAS](#), 547, 1, Apr 2026]

A. Gangopadhyay, J. Sollerman, K. Tsalapatas, K. Maeda, N. Dukiya, S. Schulze, C. Fransson, N. Sarin, P. J. Pessi, M. Singh, J. Wise, T. Nakaoka, **Avinash Singh**, R. Dastidar, M. Kawabata, Y.-J. Qin, K. K. Das, D. Perley, C. Fremling, K. Taguchi, K.-R. Hinds, R. Lunnan, R. S. Teja, M. Dubey, B. Ailawadhi, S. Banerjee, K. S. Kawabata, K. Misra, D. K. Sahu, S. J. Brennan, M. M. Kasliwal, A. Y. C. Q. Ho, A. Bochenek, B. Rusholme, R. R. Laher, R. Smith, J. Purdum, N. Sravan

41) LIGO/Virgo/KAGRA Neutron Star Merger Candidate S250206dm: Zwicky Transient Facility Observations [[PASP](#), 138, 034101, Mar 2026]

T. Ahumada, S. Anand, M. Bulla, V. Gupta, M. Kasliwal, R. Stein, V. Karambelkar, E. C. Bellm, T. Jegou du Laz, M. W. Coughlin, I. Andreoni, S. Banerjee, A. Bochenek, K.-R. Hinds, L. Hu, A. Palmese, D. Perley, N. Pletskova, A. Salgundi, **Avinash Singh**, J. Sollerman, V. Swain, A. Wold, V. Bhalerao, S. B. Cenko, D. O. Cook, C. Copperwheat, M. Graham, D. L. Kaplan, L. P. Singer, N. Sravan, M. Busmann, J. Gassert, D. Gruen, J. Sommer, Y. Zhang, A. Amsellem, T. Cabrera, X. J. Hall, K. Kunnumkai, B. O'Connor, T. Barna, F. Fontinele Nunes, A. Toivonen, A. Sasli, F. J. Masci, T. X. Chen, R. Dekany, J. Purdum, A. Le Calloch, G. C. Anupama, S. Barway

40) SN 2021aaev: A Hydrogen-rich Superluminous Supernova with Early Flash and Long-lived Circumstellar Interaction in an Unusual Host Environment [[ApJ](#), 999, 176, Mar 2026]

Y. Hu, R. Lunnan, P. J. Pessi, A. Saldana-Lopez, A. Jerkstrand, J. Sollerman, S. Schulze, J. P. Anderson, S. J. Brennan, S. P. Cosentino, A. Gangopadhyay, A. Gkini, M. Gromadzki, M. J. Hayes, C. Inserra, T. E. Müller-Bravo, M. Nicholl, G. Pignata, **Avinash Singh**, J. L. Wise, L. Yan, J. Adler, T.-W. Chen, T. X. Chen, M. M. Kasliwal, T. Pessi, I. Salmaso, D. R. Young

39) Eruptive mass loss less than a year before the explosion of superluminous supernovae: II. A systematic search for pre-explosion eruptions with VLT/X-shooter [[A&A](#), 707, A338, Mar 2026]

A. Gkini, C. Fransson, R. Lunnan, S. Schulze, J. Sollerman, K. Tsalapatas, N. Sarin, M. Nicholl, C. Angus, U. Burgaz, S. J. Brennan, T.-W. Chen, A. Gal-Yam, A. Gangopadhyay, Y. Hu, M. M. Kasliwal, R. R. Laher, P. J. Pessi, B. Rusholme, E. Russeil, **Avinash Singh**, C. Skoglund, R. Smith, B. van Baal, S. L. West, L. Yan

38) Low-luminosity Type IIP Supernovae from the Zwicky Transient Facility Census of the Local Universe. II. Lightcurve Analysis [[PASP](#), 138, 024204, Feb 2026]

K. K. Das, M. M. Kasliwal, J. Sollerman, C. Fremling, T. J. Moriya, K.-R. Hinds, D. A. Perley, E. C. Bellm, T. X. Chen, E. P. O'Connor, M. W. Coughlin, W. V. Jacobson-Galán, A. Gangopadhyay, M. Graham, S. R. Kulkarni, J. Purdum, N. Sarin, S. Schulze, **Avinash Singh**, D. Tsuna, A. Wold

37) SN 2024aecx: A Double-peaked Rapidly Evolving Type IIb Supernova at 11 Mpc [[ApJ](#), 997, 77, Jan 2026]

X. Zou, B. Kumar, R. S. Teja, D. K. Sahu, X. Chen, **Avinash Singh**, W. Lin, X. Liu, D. Liu, H. Das, M. Singh, G. C. Anupama, Y. Pan, G. Du, H. Guo, T. Wang, X. Zhu, J. Zhang, Y. Fang, C. Liu, K. Chatterjee, Y.-P. Yang, L. Li, Q. Zhai, E. P. Lagioia, X. Du, X. Er, J. Lian, Z. Li, S. Zhong, X. Liu

36) Surrogate models for light curves and photosphere properties of Type II supernovae [*MNRAS*, 544, 2653-2663, Dec 2025]

N. Sarin, T. J. Moriya, **Avinash Singh**, A. Gangopadhyay, K.-R. Hinds, S. Schulze, C. M. B. Omand, K. K. Das

35) ZTF25abjmnps (AT2025ulz) and S250818k: A Candidate Superkilonova from a Subthreshold Subsolar Gravitational-wave Trigger [*ApJL*, 995, L59, Dec 2025]

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34) Discovery of SN 2025wny: A Strongly Gravitationally Lensed Superluminous Supernova at $z = 2.01$ [*ApJL*, 995, L17, Dec 2025]

J. Johansson, D. A. Perley, A. Goobar, J. L. Wise, Y.-J. Qin, Z. McGrath, S. Schulze, C. Lemon, A. Gangopadhyay, K. Tsalapatas, I. Andreoni, E. C. Bellm, J. S. Bloom, R. Dekany, S. Dhawan, C. Fransson, C. Fremling, M. J. Graham, S. L. Groom, D. Gruen, X. J. Hall, G. Helou, M. Kasliwal, R. R. Laher, R. Lunnan, A. A. Mahabal, A. A. Miller, E. Mörtzell, J. Nordin, J. O. Hjortlund, R. M. Rich, R. L. Riddle, **Avinash Singh**, J. Sollerman, A. Townsend, L. Yan

33) The La Silla Schmidt Southern Survey [*Publications of the Astronomical Society of the Pacific*, 137, 094204, Sep 2025]

Adam A. Miller, Natasha S. Abrams, Greg Aldering, Shreya Anand, Charlotte R. Angus, Iair Arcavi, Charles Baltay, Franz E. Bauer, Daniel Brethauer, Joshua S. Bloom, Hemanth Bommireddy, Marcio Catelan, Ryan Chornock, Peter Clark, Thomas E. Collett, Georgios Dimitriadis, Sara Faris, Francisco Forster, Anna Franckowiak, Christopher Frohmaier, Lluís Galbany, Renato B. Galleguillos, Ariel Goobar, Claudia P. Gutierrez, Saarah Hall, Erica Hammerstein, Kenneth R. Herner, Isobel M. Hook, Macy J. Huston, Joel Johansson, Charles D. Kilpatrick, Alex G. Kim, Robert A. Knop, Marek P. Kowalski, Lindsey A. Kwok, Natalie LeBaron, Kenneth W. Lin, Chang Liu, Jessica R. Lu, Wenbin Lu, Ragnhild Lunnan, Kate Maguire, Lydia Makrygianni, Raffaella Margutti, Dan Maoz, Patrik Milan Veres, Thomas Moore, A. J. Nayana, Matt Nicholl, Jakob Nordin, Giuliano Pignata, Abigail Polin, Dovi Poznanski, Jose L. Prieto, David L. Rabinowitz, Nabeel Rehemtulla, Mickael Rigault, Dan Ryczanowski, Nikhil Sarin, Steve Schulze, Ved G. Shah, Xinyue Sheng, Samuel P. R. Shilling, Brooke D. Simmons, **A. Singh**, Graham P. Smith, Mathew Smith, Jesper Sollerman, Maayane T. Soumagnac, Christopher W. Stubbs, Mark Sullivan, Aswin Suresh, Benny Trakhtenbrot, Charlotte Ward, Eli Wiston, Helen Xiong, Yuhan Yao, Peter E. Nugent

32) SN 2023vbg: A Type II_n Supernova Resembling SN 2009ip, with a Long-duration Precursor and Early-time Bump [*The Astrophysical Journal*, 990, 167, Sep 2025]

S. Goto, M. Yamanaka, T. Nagayama, K. Maeda, M. Kawabata, D. K. Sahu, **A. Singh**, A. Gangopadhyay, N. Dukiya, K. Misra, M. Dubey, B. Ailawadhi.

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30) The BTSbot-nearby Discovery of SN 2024jlf: Rapid, Autonomous Follow-up Probes Interaction in an 18.5 Mpc Type IIP Supernova [*The Astrophysical Journal*, 985, 241, Jun 2025]

N. Rehemtulla, W. V. Jacobson-Galán, **A. Singh**, A. A. Miller, C. D. Kilpatrick, K.-R. Hinds, C. Liu, S. Schulze, J. Sollerman, T. Jegou du Laz, T. Ahumada, K. Auchettl, S. J. Brennan, M. W. Coughlin, C. Fremling, A. Gangopadhyay, D. A. Perley, N. Z. Prusinski, J. Purdum, Y.-J. Qin, S. Romagnoli, J. Shi, J. L. Wise, T. X. Chen, S. L. Groom, D. O. Jones, M. M. Kasliwal, R. Smith, N. Sravan, S. R. Kulkarni.

29) Low-luminosity Type IIP Supernovae from the Zwicky Transient Facility Census of the Local Universe. I. Luminosity Function, Volumetric Rate [*Publications of the Astronomical Society of the Pacific*, 137, 044203, Apr 2025]

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S. J. Brennan, S. Barmantloo, S. Schulze, K. W. Smith, R. Hirai, J. J. Eldridge, M. Fraser, H. F. Stevance, S. J. Smartt, S. Anand, A. Aryan, T.-W. Chen, K. K. Das, A. J. Drake, C. Fransson, A. Gangopadhyay, A. Gkini, W. V. Jacobson-Galán, A. Jerkstrand, J. Johansson, M. Nicholl, G. Pignata, N. Sarin, **A. Singh**, J. Sollerman, S. Srivastav, B.F.A. van Baal, K. C. Chambers, M. W. Coughlin, H. Gao, M. J. Graham, M. E. Huber, C.-C. Lin, T. B. Lowe, E. A. Magnier, F. J. Masci, J. Purdum, A. Rest, B. Rusholme, R. Smith, I. A. Smith, J. W. Twedde, R.J. Wainscoat, T. de Boer

27) CCSNscore: A Multi-input Deep Learning Tool for Classification of Core-collapse Supernovae Using SED-machine Spectra [[Publications of the Astronomical Society of the Pacific](#), [137](#), 034507, Mar 2025]

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26) SN 2021foa: the bridge between SN IIn and Ibn [[Monthly Notices of the Royal Astronomical Society](#), [537](#), 2898–2917, Mar 2025]

Anjasha Gangopadhyay, Naveen Dukiya, Takashi J Moriya, Masaomi Tanaka, Keiichi Maeda, D. Andrew Howell, Mridweeka Singh, **Avinash Singh**, Jesper Sollerman, Koji S Kawabata, Sean J Brennan, Craig Pellegrino, Raya Dastidar, Tatsuya Nakaoka, Miho Kawabata, Kuntal Misra, Steve Schulze, Poonam Chandra, Kenta Taguchi, Devendra K Sahu, Curtis McCully, K. Azalee Bostroem, Estefania Padilla Gonzalez, Megan Newsome, Daichi Hiramatsu, Yuki Takei, Masayuki Yamanaka, Akito Tajitsu, Keisuke Isogai

25) Sample of hydrogen-rich superluminous supernovae from the Zwicky Transient Facility [[Astronomy & Astrophysics](#), [695](#), A142, Mar 2025]

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24) SN 2023tsz: a helium-interaction-driven supernova in a very low-mass galaxy [[Monthly Notices of the Royal Astronomical Society](#), [536](#), 3588–3600, Feb 2025]

B. Warwick, J. Lyman, M. Pursiainen, D. L. Coppejans, L. Galbany, G. T. Jones, T. L. Killestein, A. Kumar, S. R. Oates, K. Ackley, J. P. Anderson, A. Aryan, R. P. Breton, T.-W. Chen, P. Clark, V. S. Dhillon, M. J. Dyer, A. Gal-Yam, D. K. Galloway, C. P. Gutiérrez, M. Gromadzki, C. Inerra, F. Jiménez-Ibarra, L. Kelsey, R. Kotak, T. Kravtsov, H. Kuncarayakti, M. R. Magee, K. Matilainen, S. Mattila, T. E. Müller-Bravo, M. Nicholl, K. Noysena, L. K. Nuttall, P. O'Brien, D. O'Neill, E. Pallé, T. Pessi, T. Petrushevska, G. Pignata, D. Pollacco, F. Ragosta, G. Ramsay, A. Sahu, D. K. Sahu, **A. Singh**, J. Sollerman, E. Stanway, R. Starling, D. Steeghs, R. S. Teja, K. Ulaczyk.

23) Discovery and Detailed Study of the M31 Classical Nova AT 2023tkw: Evidence for Internal Shocks [[The Astrophysical Journal](#), [980](#), 129, Feb 2025]

J. Basu, R. Kumar, G. C. Anupama, S. Barway, P. H. Hauschildt, S. Chamoli, V. Swain, V. Bhalerao, V. R. Karambelkar, M. M. Kasliwal, K. K. Das, I. Andreoni, **A. Singh**, R. S. Teja.

22) Eruptive mass loss less than a year before the explosion of superluminous supernovae: I. The cases of SN 2020xga and SN 2022xgc [[Astronomy & Astrophysics](#), [694](#), A292, Feb 2025]

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21) SN 2021wvw: A core-collapse supernova at the sub-luminous, slower, and shorter end of Type IIPs [[The Astrophysical Journal](#), [974](#), 44, Jul 2024]

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20) The enigmatic double-peaked stripped-envelope SN 2023aew [[Astronomy & Astrophysics, 689, A182](#), Sep 2024]

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19) The unluckiest star: A spectroscopically confirmed repeated partial tidal disruption event AT 2022dbl [[The Astrophysical Journal Letters, 971, L26](#), Aug 2024]

Zheyu Lin, Ning Jiang, Tinggui Wang, Xu Kong, Dongyue Li, Han He, Yibo Wang, Jiazheng Zhu, Wentao Li, Ji-An Jiang, **Avinash Singh**, Rishabh Singh Teja, D. K. Sahu, Chichuan Jin, Keiichi Maeda, Shifeng Huang

18) Magnetars as powering sources of gamma-ray burst associated supernovae, and unsupervised clustering of cosmic explosions [[Monthly Notices of The Royal Astronomical Society, 531, 3297](#), Jul 2024]

Amit Kumar, Kaushal Sharma, Jozsef Vinkó, Danny Steeghs, Benjamin Gompertz, Joseph Lyman, Raya Dastidar, **Avinash Singh**, Kendall Ackley, Miika Pursiainen

17) Bridging between type IIb and Ib supernovae: SN IIb 2022crv with a very thin Hydrogen envelope [[The Astrophysical Journal, 957, 100](#), Sep 2023]

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