# Ning Jiang

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#### Research Interests

- Tidal disruption events.
- Intermediate-mass black holes.
- Supermassive black hole binaries.
- Evironments of SMBHs: from sub-pc to halo scale.
- Time domain survey.
- Quasar host galaxies.

### **Education**

07/2009- Ph.D. in Astrophysics, Univ. of Sci. & Tech. of China.

06/2015 - Supervisor: Prof. Tinggui Wang & Xiaobo Dong

- Dissertation: Low-mass Black Holes and Their Host Galaxies

10/2012- Research Assistant, Carnegie Observatories.

09/2014 - Supervisor: Prof. Luis C. Ho

09/2005- Bachelor of Physics, Univ. of Sci. & Tech. of China.

06/2009 - Supervisor: Prof. Tinggui Wang

- Thesis: Quasar Selection for LAMOST Survey based on SDSS-UKIDSS Optical-IR Colors

#### **Position**

04/2019-present Research Associate, Univ. of Sci. & Tech. of China.

02/2018– Associate Research Fellow, Univ. of Sci. & Tech. of China.

03/2019

07/2015- CFA Postdoc Fellow, Univ. of Sci. & Tech. of China.

01/2018 - Advisor: Prof. Huiyuan Wang

## **Honors & Awards**

- 2023 IOP Outstanding Reviewer Awards 2022.
- 2017 Top 10 Achievements in Astronomical Science and Technology in 2016 in China, The First Detection of Infrared Echoes of Tidal Disruption Events, National.
- Top 10 Research Progresses of School of Physical Sciences in 2016, Infrared Echoes of Tidal Disruption Events, USTC.
- 2014 National scholarship for graduate students, USTC, (National).
- 2014 CAS Dean scholarship, USTC, (University).

### **Service**

**Referee for** Research in Astronomy and Astrophysics (5, 2019-).

Space Science Reviews (1, 2020-).

The Astrophysical Journal (2, 2021-).

The Astrophysical Journal Letters (2, 2022-).

Chinese Science Bulletin (1, 2022-).

Progress in astronomy (1, 2023-).

#### Correspondence Reviewer

National Natural Science Foundation of China (NSFC, 2021-).

Committee Member Time Allocation Committee (TAC) for Telescope Access Program (2023A).

# **Press Release or Highlights**

- 2023.07 Phys.org, New tidal disruption event discovered by Chinese astronomers.
- 2023.03 Phys.org, SN 2017egm is a helium-rich superluminous supernova, study finds.
- 2022.02 Science, Crash of the titans: imminent merger of giant black holes predicted.
- 2020.06 Phys.org, Mid-infrared flare detected in a nearby active galaxy.
- 2020.01.30 AAS Nova Journals Digest, An Ongoing Mid-infrared Outburst in the White Dwarf 0145+234: Catching in Action the Tidal Disruption of an Exoasteroid?.
- 2019.05.02 AAS Nova Journals Digest, Rapid "Turn-on" of Type-1 AGN in a Quiescent Early-type Galaxy SDSS1115+0544.
  - 2018.11 Phys.org, Galaxy NGC 3319 may host an active intermediate-mass black hole, study finds.
  - 2017.07 Nature News, Clues emerge in mystery of flickering quasars.
  - 2017.05 AAS Nova Highlights, Echoes from a Dying Star.
  - 2016.09 NASA/JPL, Studies Find Echoes of Black Holes Eating Stars.

# **Publications**

ADS Library for an overview: 64 refereed (10 as 1st author, 11 as 2nd author, 11 as 3rd author, 7 as 4th author, 25 as others), 1 invited and 1 non-refereed (RNAAS) publications. Total citations >1000, h-index=20 (as of 2023 August).

# Major refereed publications (as 1st or corresponding author\*, with >300 citations)

- 22. Huang, S.-F.\*, **Jiang, N.\***, Lin, Z.-Y., Zhu, J.-Z., Wang, T.-G., 2023, "AT2018dyk Revisited: a Tidal Disruption Event Candidate with Prominent Infrared Echo and Delayed X-ray Emission in a LINER Galaxy", MNRAS accepted (arxiv:2308.09867).
- 21. **Jiang, N.\***, Zhou, Z.-Y., Zhu, J.-Z., Wang, Y.-B., Wang, T.-G., 2023, "Two Candidate Obscured Tidal Disruption Events Coincident with High-energy Neutrinos", ApJL, 953, L12.
- 20. Zhu, J.-Z.\*, **Jiang, N.\***, Wang, T.-G., 2023, "AT 2023clx: the Faintest and Closest Optical Tidal Disruption Event Discovered in Nearby Star-forming Galaxy NGC 3799", ApJL, 952, L35.
- 19. Zhu, J.-Z., **Jiang, N.\***, Dong, S.-B.\*, 2023, "SN 2017egm: A Helium-rich Superluminous Supernova with Multiple Bumps in the Light Curves", ApJ, 949, 23.
- 18. Lin, Z.-Y.\*, **Jiang, N.\***, Kong, X.\*, 2022, "The Luminosity Function of Tidal Disruption Flares for the ZTF-I Survey", ApJL, 939, L33.

- 17. Dou, L.-M.\*, **Jiang, N.\***, Wang, T.-G.\*, 2022, "X-ray view of a merging supermassive black hole binary candidate SDSSJ1430+2303: results from the first ∼200 days observations", A&A, 665, L3.
- Lin, Z.-Y.\*, Jiang, N.\*, Kong, X.\*, 2022, "The prospects of finding tidal disruption events with 2.5-m Wide-Field Survey Telescope based on mock observations", MNRAS, 513, 2422.
- 15. Zhang, W.-J., Shu, X.-W.\*, Sheng, Z.-F.\*, Sun, L.-M., **Jiang, N.\***, et al. 2022, "Discovery of late-time X-ray flare and anomalous emission line enhancement after the nuclear optical outburst in a narrow-line Seyfert 1 Galaxy", A&A, 660, 119.
- 14. Wang, Y.-B.\*, **Jiang, N.\***, Wang, T.-G.\*, et al. 2022, "Discovery of ATLAS17jrp as an Optical-, X-Ray-, and Infrared-bright Tidal Disruption Event in a Star-forming Galaxy", ApJL, 930, L4.
- 13. Wang, Y.-B.\*, **Jiang, N.\***, Wang, T.-G.\*, et al. 2022, "Mid-InfraRed Outbursts in Nearby Galaxies (MIRONG). II. Optical Spectroscopic Follow-up", ApJS, 258, 21.
- 12. **Jiang, N.\***, Wang, T.-G.\*, Hu, X.-Y.\*, et al. 2021, "Infrared Echoes of Optical Tidal Disruption Events:  $\sim 1\%$  Dust-covering Factor or Less at Subparsec Scale", ApJ, 911, 31.
- Jiang, N.\*, Wang, T.-G.\*, Dou, L.-M.\*, et al. 2021, "Mid-InfraRed Outbursts in Nearby Galaxies (MIRONG).I. Sample Selection and Characterization", ApJS, 252, 32.
- He, Z.-C.\*, Jiang, N.\*, Wang, T.-G.\*, et al. 2021, "An Extraordinary Response of Iron Emission to the Central Outburst in a Tidal Disruption Event Candidate", ApJL, 907, L29.
- 9. Sun, L.-M.\*, **Jiang, N.\***, et al. 2020, "A Mid-infrared Flare in the Active Galaxy MCG-02-04-026: Dust Echo of a Nuclear Transient Event", ApJ, 898, 129.
- 8. **Jiang, N.\***, Wang, T.-G., Mou, G.-B., et al. 2019, "Infrared Echo and Late-stage Rebrightening of Nuclear Transient Ps1-10adi: Exploring the Torus with Tidal Disruption Events in Active Galactic Nuclei", ApJ, 871, 15.
- 7. **Jiang, N.\***, Wang, T.-G.\*, Zhou, H.-Y.\*, et al. 2018, "Discovery of An Active Intermediate-Mass Black Hole Candidate in the Barred Bulgeless Galaxy NGC 3319", ApJ, 869, 49.
- 6. **Jiang, N.\***, Wang, T.-G.\*, Yan, L.\*, et al. 2017, "Mid-infrared flare of TDE candidate PS16dtm: dust echo and implications for the spectral evolution", ApJ, 850, 63.
- 5. **Jiang, N.\***, Wang, H.-Y.\*, Mo, H.-J.\*, et al. 2016, "Differences in Halo-Scale Environments between Type 1 and Type 2 AGNs at Low Redshift", ApJ, 832, 111.
- 4. **Jiang, N.\***, Dou, L.-M., Wang, T.-G., et al. 2016, "The WISE Detection of an Infrared Echo in Tidal Disruption Event ASASSN-14li", ApJL, 828, L14.
- 3. Lian, J.-H.\*, Kong, X.\*, **Jiang, N.\***, et al. 2015, "Surface brightness profiles of blue compact dwarf galaxies in the GOODS-N and GOODS-S field", MNRAS, 451, 130.
- 2. **Jiang, N.\***, Ho, L.C., Dong, X.-B., et al. 2013, "UM 625 Revisited: Multiwavelength Study of a Seyfert 1 Galaxy with a Low-mass Black Hole", ApJ, 770, 3.
- 1. **Jiang, N.\***, Zhou, H.-Y., Ho, L. C., et al. 2012, "Rapid Infrared Variability of Three Radio-loud Narrow-line Seyfert 1 Galaxies: A View from the Wide-field Infrared Survey Explorer", ApJL, 759, L3.

#### Invited or non-refereed first-author publications

- 2. **Jiang, N.\*** 2018, "Intraday Mid-infrared Variability of CTA 102 During Its 2016 Giant Outburst", RNAAS, 2, 134, non-refereed.
- 1. **Jiang, N.\***, Wang, T.-G., Dou, L.-M. 2018, "Tidal disruption events and their echoes", Physics, 47(5):303-309, invited, Chinese.

# Refereed publications with significant contributions (as 2nd, 3rd, 4th author)

- 18. Liao, N.-H., Sheng, Z.-F., **Jiang, N.**, et al. 2022, "GB6 J2113+1121: A Multiwavelength Flaring  $\gamma$ -Ray Blazar Temporally and Spatially Coincident with the Neutrino Event IceCube-191001A", ApJL, 932, L25.
- 17. Mou, G.-B., Dou, L.-M., **Jiang, N.**, et al. 2021, "Years Delayed X-ray Afterglows of TDEs Originated from Wind-Torus Interactions", ApJ, 908, 197.
- 16. Shu, X.-W., Zhang, W.-J., L, S., **Jiang, N.**, et al. 2020, "X-ray flares from the stellar tidal disruption by a candidate supermassive black hole binary", Nature Communications, 11, 5876.
- 15. Dai, B.-B., Shu, X.-W., **Jiang, N.**, et al. 2020, "Compact radio emission from nearby galaxies with mid-infrared nuclear outbursts", ApJL, 896, L27.
- 14. P. H. T. Tam, P. S. Pal, Y. D. Cui, **N. Jiang**, et al. 2020, "Multi-wavelength observations of the BL Lac object Fermi J1544-0649: one year after its awakening?", Journal of High Energy Astrophysics, 26, 45.
- Sheng, Z.-F., Wang, T.-G., Jiang, N., et al. 2020, "Initial results from a systematic search for changing-look active galactic nuclei selected via mid-infrared variability", ApJ, 889, 46.
- 12. Wang, T.-G.\*, **Jiang, N.**, et al. 2019, "An On-going Mid-infrared Outburst in the White Dwarf 0145+234: Catching in Action of Tidal Disruption of an Exoasteroid?", ApJL, 886, 5.
- 11. Liao, N.-H., Dou, L.-M., **Jiang, N.**, et al. 2019, "Multi-wavelength Variability Properties of CGRaBS J0733+0456: Identifying a Distant gamma-ray blazar at z=3.01", ApJL, 879, L9.
- 10. Yan, L., Wang, T.-G., **Jiang, N.**, et al. 2019, "Rapid "Turn-on" of Type-1 AGN in a Quiescent Early-type Galaxy SDSS1115+0544", ApJ, 874, 44.
- 9. Wang, T.-G., Yan, L., Dou, L.-M., **Jiang, N.**, et al. 2018, "Long-Term Decline of the Mid-Infrared Emission of Normal Galaxies: Dust Echo of Tidal Disruption Flare?", MNRAS, 477, 2943.
- 8. Shu, X.-W., Wang, S., Dou, L.-M., **Jiang, N.**, et al. 2018, "A Long Decay of X-Ray Flux and Spectral Evolution in the Supersoft Active Galactic Nucleus GSN 069", ApJL, 857, L16.
- 7. Sheng, Z.-F., Wang, T.-G., **Jiang, N.**, et al. 2017, "Mid-infrared Variability of Changing-look AGNs", ApJL, 846, L7.
- 6. Dou, L.-M., Wang, T.-G., Yan, L., **Jiang, N.**, et al. 2017, "Discovery of a Mid-infrared Echo from the TDE candidate in the nucleus of ULIRG F01004-2237", ApJL, 841, L8.
- Liu, W.-J., Qian, L., Dong, X.-B., Jiang, N., et al. 2017, "A Ringed Dwarf LINER 1 Galaxy Hosting an Intermediate-mass Black Hole with Large-scale Rotation-like Hα Emission", ApJ, 837, 109.

- 4. Shu, X.-W., Wang, T.-G., **Jiang, N.**, et al. 2017, "Central Engine and Host Galaxy of RXJ 1301.9+2747: A Multi-wavelength view of a Low-mass Black Hole Active Galactic Nuclei with Ultrasoft X-ray Emission", ApJ, 837, 3.
- 3. Dou, L.-M., Wang, T.-G., **Jiang, N.**, et al. 2016, "Long Fading Mid-Infrared Emission in Transient Coronal Line Emitters: Dust Echo of Tidal Disruption Flare", ApJ, 832, 188.
- 2. Liu, W.-J., Zhou, H.-Y., **Jiang, N.**, et al. 2016, "SDSS J163459.82+204936.0: A Ringed Infrared-luminous Quasar with Outflows in Both Absorption and Emission Lines", ApJ, 822, 64.
- 1. Jiang, P., Zhou, H.-Y., Pan, X., **Jiang, N.**, et al. 2016, "Strong Ly $\alpha$  Emission in the Proximate Damped Ly $\alpha$  Absorption Trough toward the Quasar SDSS J095253.83+011422.0", ApJ, 821, 1.

# Selected Approved Proposals & Grants (as PI)

- **LCOGT 35 hour**, Continuous Daily Optical Monitoring of a SMBH Binary Candidate at its Last Inspiraling Stage, TAP/NAOC2023A-0102, Pl.
- **GEMINI/GMOS 4.5 hour**, Spectroscopic Monitoring of a SMBH Binary Candidate at its Last Inspiraling Stage, GN-2023A-Q-110, PI.
- **LCOGT 20 hour**, Further Daily Optical Monitoring of an unprecedented SMBH Binary at its Last Inspiraling Stage, TAP/NAOC2022B-002, Pl.
- **XMM-Newton 5**×**100ks**, *ToO*, ObsID: 0910190101, 0910190701, 0910190901, 0910191101, 0910191301, PI(proposer).
- **HST 5 orbits**, Exploring the Nature of the Recurring Flare in ULIRG F01004-2237 with UV spectroscopic Diagnosis, Cycle 30, DDT (16943), Pl.
- **LCOGT 14 hour**, Optical Monitoring of an unprecedented SMBH Binary Candidate at its Last Inspiraling Stage, 2022A-003, DDT, PI.
- **Chandra 60ks**, *Probing the X-rays from an unprecedented SMBH Binary at the Last Inspiraling Stage*, cycle 23, DDT, PI.
- **XMM-Newton 75ks**, *ToO*, ObsID: 0893810201, PI(proposer).
- 2021 XMM-Newton 50ks, ToO, ObsID: 0893810401, PI(proposer).
- 2021- **Swift** >**200ks**, ToO 16602, 16645, 16674, 16681, 16700, 16754, 16780, 16909, 17050, 17188, 17383, 17575, 17688, 18061, 18138, 18143, 18166, 18391, PL
- **LCOGT/66 hour**, Prompt Optical Monitoring of Mid-infrared Outburst in Nearby Galaxies, 2021A, Pl.
- National Natural Science Foundation of China (12073025), Probing the pc-scale environment of supermassive black holes by infrared echoes, 2021.01-2024.12, PI, ¥610,000.
- **P200/DBSP 1 night**, Toward a Sample of Dusty TDEs without Missing Energy Selected by Ultra-luminous MIR Flares, 2020B, Pl.
- **P200/CWI 1 night**, *P200/CWI Observations of NGC 3319 and NGC 4178: Clues to the SMBH Seeds in Barred Bulgeless Galaxies*, 2020A, PI.
- **P200/DBSP 2 nights**, Toward a Sample of Bona Fide Turn-on AGNs Selected by Mid-infrared Light Curves: Spectral Follow-up, 2019B, Pl.
- **CFHT/WIRCam 9.6 hours**, *NIR Imaging of Nearby Galaxies with MIR flares II:* Further Monitoring and Completing the Sample, 2019A, PI.
- **CFHT/WIRCam 6.2 hours**, *NIR Imaging of Nearby Galaxies with recent MIR flares:* Characterizing Light curve and (sub)-pc Scale Dust, 2018B, Pl.

National Natural Science Foundation of China (11603021), Large scale environments of AGNs, 2017.01-2019.12, PI, ¥220,000.

# Talks (Selected, Recent)

- 2023/07 "Infrared and Optical Study of Transient Accretion onto Supermassive Black Holes", Workshop on MultiWavelength Study of Quasars and Active Galactic Nuclei, Lijiang.
- 2023/03 "The Opportunities and Challenges of Studying Tidal Disruption Events with 2.5-meter Wide Field Survey Telescope (WFST)", NAOC and Caltech Bilateral Workshop on Transient Science and Follow-up Observations, online.
- 2022/09 "Discovery and follow-ups of an unprecedented SMBH Binary candidate approaching final merger", *The 2nd Donglu Astrophysics Forum*, Yunnan University, Kunming (online).
- 2022/08 "EM Counterparts for GW sources in Active Galactic Nuclei in the Era of Time-domain Astronomy", TianQin Astro Workshop, Sun Yat-sen University, Zhuhai (online).
- 2022/06 "Discovery and Follow-ups of a SMBH binary candidate predicted to merge within three years", The 60th Anniversary of X-Ray Astronomy: X-ray Astronomy in the Time-domain & Multi-messenger Era, Beijing (online).
- 2021/12 "Unveiling the dynamic IR sky: A Journey from Missing Tidal Disruption Events", 2021 TAP workshop, Beijing (online).
- 2021/12 "Recent progresses on tidal disruption events and other transient accretion onto SMBHs"(invited talk), Chinese Astronomical Society Annual Meeting, Nanchong (online).
- 2021/06 "Infrared echoes of Tidal Disruption Events", KIAA colloquium, Peking University.
- 2021/04 "Mid-Infrared Outburst in Nearby Galaxies (MIRONG): missing TDEs?", Workshop on tidal disruption events, Hangzhou.
- 2020/10 "Infrared echoes of Tidal Disruption Events", XMU colloquium, Xiamen University.
- 2019/11 "Exploring the Dusty Torus by the Infrared Echo of Outburst in AGNs", X-Ray High-Energy Astrophysical Phenomena and Physical Processes, Shexian.
- 2019/09 "Pc-scale dust aroud SMBHs revealed by IR echoes of Tidal Disruption Events", Mapping Central Regions of Active Galactic Nuclei, Guilin.