

Name:Lang CUI



Professional:

Research Professor

Doctoral Supervisor

Head of Nanshan Station & Galaxy and Cosmology Group

Xinjiang Astronomical Observatory, CAS

Education:

2005-2010 University of Chinese Academy of Sciences Ph.D.

2001-2005 Xinjiang University B.S.

Contact:

E-mail: cuilang@xao.ac.cn

Postal Address: 150 Science 1-Street, Urumqi, Xinjiang 830011, China

Research Interests:

- (Dual) Active Galactic Nuclei and Galaxy Evolution
- VLBI astrophysics and astrometry
- Multi-band connections of Blazar activities
- Disk-corona-jet coupling in BHXBs
- Radio detection of dark matter

Selected Publications:

1. ‘Proper Motion and Natal Kick in the Galactic Black Hole X-Ray Binary AT2019wey’, **Cui, Lang***; Jiang, Pengfei; An, Tao, et al., ApJ, 983(2), 147, 2025
2. ‘Multifrequency Very Long Baseline Interferometry Study of Emission and Absorption in the Two-sided Jets of NGC 3998’, Yan, Xi; **Cui, Lang***; Ho, Luis C., ApJ, 983(2), 169, 2025
3. ‘Tracking the Jet-like Corona of Black Hole Swift J1727.8-1613 during a Flare State through Type-C Quasiperiodic Oscillations’, Liao, Jie; Chang, Ning; **Cui, Lang***, et al., ApJ, 986(1), 3, 2025
4. ‘The Orbital Period of the Long-period and Colliding-wind Binary WR 146 from Radio Interferometry of the Shock Cone’, Wen, Shiming; Zhang, Bo; Xu,

- Shuangjing; Sun, Yan; Mai, Xiaofeng; Zhang, Jingdong; **Cui, Lang***, et al., *AJ*, 983(2), 169, 2025
5. ‘Intrinsic Pulse Widths of FRB 20121102A and Calculation of Broadening from Propagation and Instrumental Effects’, Wei, Jia-Peng; Huang, Yong-Feng; **Cui, Lang**, et al., *ApJ*, 980(1), 114, 2025
 6. ‘Very Long Baseline Array Observations of Parsec-scale Radio Emission in Dual Active Galactic Nuclei’, W.-C. Xu, **L. Cui***, X. Liu, et al., *ApJ*, 969, 36, 2024
 7. ‘Tests of the Kerr Hypothesis with MAXI J1803-298 Using Different RELXILL_NK Flavors’, J. Liao, M. Ghasemi-Nodehi, **L. Cui***, et al., *ApJ*, 967, 35, 2024
 8. ‘VLBI detection of the AE Aqr twin_LAMOST J024048.51+195226.9’, P.-F. Jiang, **L. Cui***, X. Liu, et al., *MNRAS*, 528, L112, 2024
 9. ‘Constraining Annihilating Dark Matter Using the Multifrequency Radio Flux Profiles of the M33 Galaxy’, M. H. Chan*, C. M. Lee, **L. Cui***, et al., *ApJ*, 962, 141, 2024
 10. ‘VLBI astrometry on the white dwarf pulsar AR Scorpii’, P.-F. Jiang, **L. Cui***, J. Yang, et al., *MNRAS*, 520, 2942, 2023
 11. ‘Precessing jet nozzle connecting to a spinning black hole in M87’, Y. Cui, K. Hada, T. Kawashima, et al. (**L. Cui** included), *Nature*, 621, 711, 2023
 12. ‘Wavelet based tone mapping (TM) enhancement to a detection system for faint and compact sources in HDR and large FOV radio scenes’, H. Shan, **L. Cui**, X.Y. Hong, X. Liu, N. Chang, *Astronomy and Computing*, 42, 100684, 2023
 13. ‘The Qitai radio telescope’, Na Wang, Qian Xu, Jun Ma, et al. (**L. Cui** included), *Science China Physics, Mechanics & Astronomy*, 66, 8, 289512, 2023
 14. ‘Multiwavelength Temporal Variability of the Blazar PKS 1510–089’, Q. Yuan, Pankaj Kushwaha, Alok C. Gupta, et al. (**L. Cui** included), *ApJ*, 953, 47, 2023
 15. ‘Spectral analysis of a parsec-scale jet in M 87: Observational constraint on the magnetic field strengths in the jet’, Hyunwook Ro, Motoki Kino, Bong Won Sohn, et al. (**L. Cui** included), *A&A*, 673, A159, 2023
 16. ‘East Asian VLBI Network astrometry toward the extreme outer Galaxy: Kinematic distance with the proper motion of G034.84-00.95’, Nobuyuki Sakai, Bo Zhang, Shuangjing Xu, et al. (**L. Cui** included), *PASJ*, 75(1), 208, 2023
 17. ‘Intermediate-mass black holes: finding of episodic, large-scale, and powerful jet activity in a dwarf galaxy’, Jun Yang, Zsolt Paragi, Sandor Frey, Leonid I. Gurvits, Mai Liao, Xiang Liu, **Lang Cui**, Xiaolong Yang, Wen Chen, Eskil Varenis, John E. Conway, Rurong Chen, Ning Chang, *MNRAS*, 520, 5964, 2023
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Outburst in 2020’, Nibedita Kalita, Yuhai Yuan , Minfeng Gu, et al. (**L. Cui** included), *ApJ*, 943, 135, 2023

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21. ‘A long-lived compact jet in the black hole X-ray binary candidate AT2019wey’, Hong-Min Cao, Giulia Migliori, Marcello Giroletti, Sándor Frey, Jun Yang, Krisztina É. Gabányi⁶, **Lang Cui**, Tao An, Xiao-Yu Hong, Wen-Da Zhang, *A&A*, 657, A104, 2022
22. ‘Multimessenger Picture of J1048+7143’, Kun, Emma; Jaroschewski, Ilja; Ghorbanietemad, Armin, et al. (**L. Cui** included), *ApJ*, 940, 163, 2022
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28. ‘Analysing the radio flux density profile of the M31 galaxy: a possible dark matter interpretation’, M. H. Chan*, C. F. Yeung, **L. Cui***, et al., *MNRAS*, 501, 5692, 2021
29. ‘East Asian VLBI Network observations of active galactic nuclei jets: imaging with KaVA+Tianma+Nanshan’, Y.-Z. Cui, K. Hada, M. Kino, et al. (**L. Cui** included), *RAA*, 21, 205, 2021

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37. ‘VLBA 24 and 43 GHz observations of massive binary black hole candidate PKS 1155+251’, X. L. Yang, X. Liu, J. Yang, L. G. Mi, **L. Cui**, et al., *MNRAS*, 471, 1873, 2017
38. ‘NGC 5252: a pair of radio-emitting active galactic nuclei?’, X. L. Yang, J. Yang, Z. Paragi, et al. (**L. Cui** included), *MNRAS*, 464, L70, 2017
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