

XIANGHAN CUI

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EDUCATION

2023.12 – present International Centre for Radio Astronomy Research (ICRAR)/Curtin Institute of Radio Astronomy (CIRA), Curtin University, Australia

Visiting (CSC) Ph.D. student, Radio Astronomy

Mentor: Dr. Clancy James

2019.09 – present University of Chinese Academy of Sciences (UCAS)/National Astronomical Observatories (NAOC), China

PhD student, Astronomy and Astrophysics

Mentors: Prof. Di Li and Prof. Chengmin Zhang

2017.03 – 2018.06 Huazhong University of Science and Technology (HUST), China

Minor degree, School of Management, Business Administration

2015.09 – 2019.06 Wuhan University of Technology (WUT), China

Major B.S. degree, School of Natural Sciences, Department of Physics

Mentor: Associate Prof. Xinting Jia

RESEARCH INTERESTS

- Radio transient (fast radio burst): statistical and population analysis, physical mechanism
- Pulsar and neutron star: statistical and population analysis, evolution model

AWARDS

- 2023, Zhu Li Yuehua Outstanding Doctoral Scholarship, Chinese Academy of Sciences
- 2022, Scholarship of the Chinese Astronomical Society, Chinese Astronomical Society
- 2021, National Scholarship (for PhPhD students), Ministry of Education of P.R.China
- 2021, ACAMAR 7: People's Choice Poster Award, ACAMAR
- 2020, Merit Student, UCAS

EXPERIENCE

Teaching Assistant

- Graduate course at UCAS: High Energy Astrophysics and Gravitational Wave (070200M02048H), Prof. Chengmin Zhang, 2021 – 2023

Professional Service

- Referee for MNRAS, 2022

Selected Talks

- 2023.09, Interstellar Medium and Star Formation Science Forum 2023, Hubei, Wuhan
- 2023.07, Scientific Program of FAST/Future Pulsar Symposium 12 (FPS 12), Henan, Nanyang
- 2023.07, Wuhan University of Technology Department of physics, Invited Talk, Hubei, Wuhan

PUBLICATIONS

First Author Publications

1. **Cui X.H.**, Wang Z.W., Zhang C.M., Niu C.H., Li D., et al., 2023, [ApJ](#), **956**, 35.
Fast radio bursts generated by coherent curvature radiation from compressed bunches for FRB 20190520B
2. **Cui X.H.**, Zhang C.M., Li D., et al., 2022, [Ap&SS](#), **367**, 66.
Luminosity distribution of fast radio bursts from CHIME/FRB Catalog 1 by means of the updated Macquart relation
3. **Cui X.H.**, Zhang C.M., Li D., et al., 2021, [MNRAS](#), **508**, 279.
Statistical tests of young radio pulsars with/without supernova remnants: implying two origins of neutron stars
4. **Cui X.H.**, Zhang C.M., Wang S.Q., et al., 2021, [RAA](#), **21**, 211.
Statistical properties of fast radio bursts elucidate their origins: magnetars are favored over gamma-ray bursts
5. **Cui X.H.**, Zhang C.M., Wang S.Q., et al., 2021, [MNRAS](#), **500**, 3275.
Fast radio bursts: do repeaters and non-repeaters originate in statistically similar ensembles?

Main Contributor Publications

1. Zhu Y.H, Niu C.H., **Cui X.H.**, et al., 2023, [Universe](#), **9**, 251.
Do Multi-Structural One-Off FRBs Trace Similar Cosmology History with Repeaters?
2. Zhang C.M., **Cui X.H.**, Li D., et al., 2022, [Universe](#), **8**, 628.
Evolution of Spin Period and Magnetic Field of the Crab Pulsar: Decay of the Braking Index by the Particle Wind Flow Torque

Co-author Publications

1. Yang Y.Y., Zhang C.M., Li D., et al., 2023, [MNRAS](#), **521**, 4669.
Investigating the distribution of double neutron stars and unconventional component mass
2. Zhang J.W., Zhang C.M., Li D., et al., 2022, [PASP](#), **134**, 114201.
Revisiting the Magnetic Field Distribution of Normal Pulsars: Implications for the Multiple Origins for Neutron Stars
3. Zhang J.W., Zhang C.M., Li D., et al., 2021, [PRD](#), **104**, 103010.
Gaussian mixture models of the total mass distribution of stellar black holes from LIGO-Virgo GWTC-2: Implications on the origin of GW190521
4. Zhang J.W., Zhang C.M., Li D., et al., 2021, [CPB](#), **30**, 120401.
Simulation of the gravitational wave frequency distribution of neutron star-black hole mergers