YI FENG

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Education

2016-2021 **PhD. Astrophysics**

University of Chinese Academy of Sciences

2009-2013 **BSc. Physics**

Tsinghua University

GPA: 90.9/100 (overall), rank 4 93.8/100(major), rank 3

Working Experience

10/2021-present **Research Specialist**

Research Centre for Astronomical Computing, Zhejiang Lab

07/2021-09/2021 **Research Fellow**

National Astronomical Observatories, Chinese Academy of Sciences

2014-2015 **Partner**

Beijing Supernova Technology Co., Ltd.

2013 **Partner**

Shuimumicheng Co., Ltd.

Overseas Experience

11/2019-11/2020 Commonwealth Scientific and Industrial Research Organization, Australia

07/2013-05/2014 University of California, Santa Cruz, the United States

Major Collaboration

2019-present The Parkes Pulsar Timing Array (PPTA) Collaboration

2019-present The International Pulsar Timing Array (IPTA) Collaboration

2020-present FAST FRB Key Project

2023-present The Large High-Altitude Air Shower Observatory (LHAASO) Collaboration

Honors and Awards

2010/2011/2012	Scholarship of Tsinghua XUETANG Talent Program
2016	First Prize in CCF Big Data and Computational Intelligence Competition
2019	Third Prize of "Beijing Youth Outstanding Scientific and Technological Papers"
2020	National Scholarship (The highest level national scholarship, top 0.2%)
2021	Beijing Outstanding Graduate (Beijing Municipal Commission of Education, top ~3%)
2022	Beijing Excellent Doctoral Dissertation (top 0.5%)
2022	Outstanding Candidate Award of 2022 DAMO Academy Young Fellow
2023	2022's Outstanding Science and Technology Achievement Prize of the Chinese Academy of Sciences (Major Contributor)
2023	Top 10 Scientific Achievements in China of Year 2022 (the first author of one of the three representative works, no official ranking)
2023	Top 10 Science and Technology Progress News in China of Year 2022 (the first author of one of the five representative works, no official ranking)
2023	Top 10 Technology Event in Zhejiang Province of Year 2022
2023	The Most Beautiful Hangzhou People - Ten Outstanding Youths
2023	DAMO Academy Young Fellow
2023	First Prize of the Beijing Natural Science Award (rank second)
2023	Innovators under 35 Asia Pacific 2023
2024	Hangzhou Future Science and Technology City "Star Shining on the Future" Innovation Breakthrough Award
2024	2023 Outstanding Papers by Young Scientific and Technological Workers of Zhejiang Province

Referee

Journals

Nature Astronomy, ApJ, RAA

Telescope Proposals

GBT, VLA, GMRT

Selected Successful Proposals (PI)

1. FAST Probing jitter noise of millisecond pulsars using single pulses, **3h**
2. FAST Search fast radio bursts co-located with superluminous supernovae, **20h**
3. FAST (under FAST FRB Key Project) Multi-year polarimetric monitoring four repeating fast radio bursts discovered by CHIME with FAST, **50h**
4. Parkes Single pulse study of millisecond pulsars using the Parkes wideband receiver, **12h**
5. GMRT Linking persistent radio source to burst properties of repeating fast radio bursts, **12h**

6. GMRT Synergistic observations of repeating fast radio bursts with FAST and uGMRT, **18h**
7. VLA Arcsecond localization of the active repeater FRB 20231001 with VLA, **6h**
8. VLA Arcsecond localization of the active repeater FRB 20220529 with VLA, **6h**
9. VLA Synergistic observations of repeating fast radio bursts with FAST and VLA, **36h**
10. VLA Linking persistent radio source to burst properties of repeating FRBs, **36h**
11. VLA Arcsecond localization of the active repeater FRB 20190417A with VLA, **10h**
12. GBT Monitoring the active repeater FRB 20230607A, **10h**
13. GBT Polarization and spectrum study of FRB 20240114A, **4h**
14. GBT Polarization study of FRB20121102A, **16h**
15. GBT Polarization and spectrum study of FRB20220912A, **4h**
16. GBT Search the periodicity of the repeating FRB 20200120E in an M81 globular cluster, **9h**

Selected Successful Proposals (co-I)

1. Parkes Monitoring FRB 20190520B with the Parkes Ultra-Wideband Low receiver, **150h**
2. FAST The long-term monitoring of the persistent active repeater that was first discovered by FAST, **17h**
3. FAST Eclipse studies of some spider pulsars using FAST, **27h**
4. FAST A Single Pulses Study of Two Extreme Nulling Pulsars Discovered by FAST, **12h**
5. FAST Study the Complicated Single Pulses of RRAT J1913+1330 using FAST High Time Resolution Observation, **12.5h**
6. FAST Do all fast radio bursts repeat, **47.5h**
7. GMRT Localize the FRB 20231001 and potentially discover its persitent radio source (supervisor of PI), **9h**
8. GMRT Localize the FRB 20240114A and potentially discover its persitent radio source (supervisor of PI), **8h**
9. GMRT Localize FRB 20240316A and potentially discover its persitent radio source (supervisor of PI), **8h**
10. VLA Localize the FRB 20230607A and potentially discover its persitent radio source (supervisor of PI), **10.6h**
11. VLA Localization of the first pulsar associated with the oldest open cluster, **3.8h**
12. GBT Searching for radio pulsations of a strangely light neutron star, **7.5h**
13. GBT Monitoring the active repeater FRB 20190520B, **24h**
14. GBT Characterizing of the first radio pulsar associated with the oldest open cluster, **18h**
15. GBT Search the periodicity of rotation measure of the active repeater FRB 20190520B, **16h**
16. GBT An Ultra-Wideband Study of Repeating Fast Radio Bursts, **16.5h**

Grants Awarded

1. PI, Study of Repeating Fast Radio Bursts Based on FAST Polarization Measurements, National Natural Science Foundation of China, 2023-2025 (total ￥300,000)
2. Co-I (subproject leader), Astronomy big data intelligent computing and service platform, Key Research Project of Zhejiang Laboratory, 2022-2023 (total ￥20,000,000)
3. Co-I (subproject leader), High-throughput weak signal software and hardware collaborative real-time computing system, National Key R&D Program of China, 2024-2026 (total ￥34,500,000)

4. Co-I, Multimodal astronomical science data knowledge association recommendation system, National Key R&D Program of China, 2023-2025 (total ￥2,000,000)
5. Co-I (subproject leader), Demonstration of scientific application of intelligent processing based on FAST sky survey public data, Chinese Academy of Sciences, 2023-2024 (total ￥2,000,000)
6. Co-I (rank second), Astronomical Intelligent Computing Innovation Team, Leading Innovation and Entrepreneurship Team of Zhejiang Province of China, 2024-2026 (total ￥5,000,000)
7. Co-I, CSST data processing platform, Key R&D Program of Zhejiang, 2024-2025 (total ￥21,000,000)

Teaching and Outreach

Teaching

2013-2014	University of California, Santa Cruz, Teaching Assistant
2016	Wuhan, Physics Olympiad training lecturer for about 100 students (including the top scorer of College Entrance Examination in Wuhan)

Outreach

2022	Public speech, TAB Talks
2022	Public speech, Guizhou Science and Technology Festival
2023	Public speech, Science Popularization Release of Scientific and Technological Achievements
2023	Public speech, Zhejiang Province Young Scientists Festival
2024	Public speech, Wenlan College
2024	Public speech, Science Cafe
2024	Public speech, Tianyuan Public School
2024	Public speech, Hangzhou Association for Science and Technology

Supervising Experience

2021-2024	Jiaying Xu, postdoc, Co-supervised with Prof. Di Li
2023-present	Jintao Jie, postdoc, Co-supervised with Prof. Di Li
2023-present	Yuzhu Cui, postdoc, Co-supervised with Prof. Di Li
2023-present	Renzhi Su, postdoc, Co-supervised with Prof. Di Li
2024-present	Chenyuan Xu, Qiming fellow

Selected Publications (the full publication list attached)

Link to Personal ADS Publication (including 6 Nature/Science papers):

https://ui.adsabs.harvard.edu/public-libraries/nmmXvqbkQg6OWTKREzxcjQ

Total citations: 2200+, h-index: 24, as of Oct. 2024.

Publications as (co-)first/(co-)corresponding author (including 3 Nature/Science papers):

1. **Feng, Y.***, Li, D.*, Zhang, Y.-K.*, et al. 2024, "An Extremely Active Repeating Fast Radio Burst Source in a Likely Non-magneto-ionic Environment," *The Astrophysical Journal*, 974, 296

2. Yang, A. Y., **Feng, Y.***, Tsai, C.-W.*, et al. 2024, "The Variability of Persistent Radio Sources of Fast Radio Bursts," *The Astrophysical Journal*, in press
3. Xu, J., **Feng, Y.***, Li, D.*, et al. 2023, "Blinkverse: A Database of Fast Radio Bursts," *Universe*, 9, 330
4. Anna-Thomas, R.*, Connor, L., Dai, S., **Feng, Y.**, et al. 2023, "Magnetic Field Reversal in the Turbulent Environment Around a Repeating Fast Radio Burst," ***Science***, 380, 599
5. **Feng, Y.**, Jiang, J.-C., Zhou, D., et al. 2023, "A Highly Depolarized Burst from FRB 20121102A with Significantly Smaller RM as Revealed by FAST," *The Astronomer's Telegram*, 15980, 1
6. **Feng, Y.**, Zhang, Y.-K., Li, D.*, et al. 2022, "Circular Polarization in Two Active Repeating Fast Radio Bursts," *Science Bulletin*, 67, 2398 (**cover article**)
7. **Feng, Y.**, Zhang, Y.-K., Li, D., et al. 2022, "Extreme Activity at 1400 MHz from FRB 20220912A," *The Astronomer's Telegram*, 15723, 1
8. **Feng, Y.**, Li, D.*, Yang, Y.-P., et al. 2022, "Frequency-dependent Polarization of Repeating Fast Radio Bursts—Implications for Their Origin," ***Science***, 375, 1266
9. **Feng, Y.***, Hobbs, G., Li, D., et al. 2021, "A Single-pulse Study of PSR J1022+1001 Using the FAST Radio Telescope," *The Astrophysical Journal*, 908, 105
10. **Feng, Y.***, Li, D.*, Zheng, Z., et al. 2020, "Supermassive Binary Black Hole Evolution Can Be Traced by a Small SKA Pulsar Timing Array," *Physical Review D*, 102, 3014
11. **Feng, Y.***, Li, D., Li, Y.-R., et al. 2019, "Constraints on Individual Supermassive Binary Black Holes Using Observations of PSR J1909−3744," *Research in Astronomy and Astrophysics*, 19, 178
12. **Feng, Y.**, & Krumholz, M. R.* 2014, "Early Turbulent Mixing as the Origin of Chemical Homogeneity in Open Star Clusters," ***Nature***, 513, 523

Brief Summary

I have a solid foundation in physics, have secured extensive observation time on cutting-edge facilities both domestically and internationally, and have achieved comprehensive, long-lasting impactful results. For FRB, with FAST and GBT, I proposed a unified picture for the frequency evolution of repeating FRBs' polarization for the first time, laying the foundation for constructing a comprehensive evolutionary picture of FRBs; for detecting gravitational waves using pulsar timing arrays, with FAST and Parkes, I studied the short-term jitter noise of millisecond pulsars, helping to quantify performance in detecting low-frequency gravitational waves. And I completed a forward-looking calculation for gravitational wave detection in the SKA era. I have more than 80 papers published/accepted, including two papers in Science (both of which I am the first author, and one of them I am the sole first author) and four papers in Nature (sole first author for one paper). The sole first author publication in Science was selected as one of the "Top 10 Scientific Achievements in China of Year 2022".