

## RESEARCH INTERESTS

- **Gravitational wave:** Signal simulation, post-Newtonian waveform.
- **Detection:** Space- and ground-based detectors, Time-delay interferometry, Noise.
- **Binary system:** Stellar binary black hole, Massive black hole binary, Galactic binary.
- **Data processing:** Parameter estimation, Fisher matrix, Bayesian analysis.
- **Gravitation:** Modified theory of gravity, Cosmology, Dark matter.
- **Astronomy:** Electromagnetic observation, Multi-messenger observation.

Currently, my primary research focus is on the simulation of gravitational wave signals in space, assessment of detector performance, and the processing and analysis of gravitational wave data.

## EDUCATION

### Chongqing University

Chongqing, China

*Ph.D. in Physics*

Sep 2022 - Jun 2028 (*expected*)

- Advisor: Prof. Jin Li
- Research area: Gravitational wave data simulation and detector performance evaluation

### China West Normal University

Nanchong, Sichuan, China

*B.S. in Physics*

Sep 2018 - Jun 2022

- Advisors: Assoc. Prof. Di Wu and Assoc. Prof. Guo-Ping Li
- Research area: Ground-based gravitational wave detection and data processing
- Thesis (in Chinese): An Analysis of the LIGO Gravitational Waves Data Based on Newtonian Approximate Model

## EXPERIENCE

### Beijing Normal University

Beijing, China

*VISITOR*

Feb 2024 - Apr 2024

- Advisor: Prof. Zhoujian Cao
- Research area: Gravitational wave waveform simulation and moving source effect

### University of Chinese Academy of Sciences

Beijing, China

*PARTICIPANT*

Feb 2020 - Feb 2021

- Advisor: Assoc. Prof. Yong Tang
- Research area: Analysis of gravitational wave data
- Program: College Student Innovation and Practice Program

## SKILLS

**Languages:** Chinese (native), English.

**Programming:** Python, Mathematica, MATLAB.

**Data Analysis:** Experienced in handling and analyzing large datasets, including statistical analysis, data visualization, and signal processing.

**Teaching:** High School Physics Teacher Qualification Certificate.

## AWARDS & HONORS

- **Theoretical Physics Graduate Scholarship** 2024.9
- **Second Prize**, The 7th Sichuan Chongqing Astronomy Competition 2023.12
- **Graduate Academic Scholarship** (Twice) 2022 - 2023
- **Excellent Graduation Thesis** 2022.6
- **Outstanding Graduate** 2022.5
- **Haotian Astronomy Scholarship** 2020.12
- **Fist-class Scholarship** (Three times) 2020 - 2021
- **Second-class Scholarship** (Four times) 2018 - 2021
- **Third Prize**, The 5th Sichuan Chongqing Astronomy Competition 2018.11

## PUBLICATIONS

1. **Jie Wu** and Jin Li\*. Prospects of constraining on the polarizations of gravitational waves from binary black holes using space-and ground-based detectors. *Phys.Rev.D* **110**, 084057 (2024).arXiv:2407.13590.
2. **Jie Wu**, Jin Li\*, Xiaolin Liu, and Zhoujian Cao. Comparison and application of different post-Newtonian models for inspiralling stellar-mass binary black holes with space-based GW detectors. *Phys.Rev.D* **109**, 104014 (2024).arXiv:2401.03113.
3. **Jie Wu** and Jin Li\*. Subtraction of the confusion foreground and parameter uncertainty of resolvable galactic binaries on the networks of space-based gravitational-wave detectors. *Phys.Rev.D* **108**, 124047 (2023).arXiv:2307.05568.
4. **Jie Wu**, Jin Li\*, and Qing-Quan Jiang\*. Application of Newtonian approximate model to LIGO gravitational wave data processing (Suggested by editors). *Chin.Phys.B* **32**, 090401 (2023).