Shiyuan Wang

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⌨ https://github.com/shiyuanwang11

EDUCATION

Beijing Normal University   **Beijing, CHN**
MSc in Astronomy   *September 2022 - June 2025 (expected)*

– GPA: 3.8/4.0
– Core Courses: Relativistic Astrophysics, Dark Energy Theory and Related Cosmological Experiments, Observational Cosmology, radiative processes in astrophysics, Computational Astronomy

Qingdao University   **Qingdao, CHN**
BSc in Applied Physics   *September 2018 - June 2022*

– GPA: 3.57/5.0
– Core Courses: Mathematical methods for Physicists, Theoretical Mechanics, Thermodynamics and Statistical Physics, Computational physics, Probability Statistics and Linear Algebra

AWARDS & HONORS

- **Excellent TA**, Beijing Normal University, 2024
- **The First Price Scholarship**, Beijing Normal University, 2023
- **Postgraduate entrance examination star of Qingdao University**, Qingdao University, 2022

RESEARCH EXPERIENCE

Study the growth of cosmic structure with galaxy survey and fast radio bursts   *2023-present*

- Familiar with the theories of redshift-space distortions (RSD) effect, kinetic Sunyaev-Zeldovich (kSZ) effect, cosmological models, growth of cosmic structure, cross correlation, and dispersion measure (DM) of fast radio bursts (FRBs).
- Analyzed the methodology of using fast radio bursts (FRBs) to measure small-scale electron-galaxy power spectrum, which can compensate shortcomings of the RSD and kSZ methods. Succeeded in getting the growth rate with higher accuracy.
- Used Markov chain Monte Carlo (MCMC) and Fisher forecast to constrain different cosmological models, which is expected to explain the Hubble tension and S_8 tension, and to research the dark energy.

Study fundamental physics with fast radio bursts   *2024*

- Familiar with the theories of using FRBs power spectra to research the time-evolution of fine-structure constant.

Process fast radio burst data with precision localization   *2023*

- Analyzed the data from CHIME/FRB's first catalog preliminarily with Python code.

PUBLICATIONS

- Measuring the cosmic growth rate with CSST spectroscopic survey and Fast Radio Bursts. **(under review)** Shiyuan Wang, Junqing Xia*

RESEARCH INTEREST

Large-scale structure

- Analyze the data of galaxy survey such as Euclid and other survey such as in radio band, to study the evolution history of the universe, such as early Universe and reionisation epoch.
- Focus on non-standard cosmological model, especially the skew spectrum in redshift space.

Application of fast radio bursts

- The application of FRBS in cosmology including the structure of reionization, searching for dark matter or astrophysical plasma.

SKILLS

Programming	Python, LaTex, Linux, CosmoMC, Matlab
Languages	Chinese (native), English (CET-6, preparing for IELTS)