ZI-YAN YUWEN

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EDUCATION

Ph.eD. of Natural Science in Theoretical Physics *Sep 2020 - Expected Jun 2025*
Institute of Theoretical Physics, Chinese Academy of Sciences
Supervisor: Prof. Rong-Gen Cai

International Exchange *Aug 2018 - Dec 2018*
Department of Physics and Astronomy, Michigan State University

Bachelor of Science (Honors Science Program in Physics) *Sep 2016 - Jun 2020*
School of Science, Xi'an Jiaotong University

RESEARCH INTERESTS

Cosmological first-order phase transitions, primordial black holes, gravitational wave physics, pulsar timing arrays, and black hole physics.

PUBLICATIONS

- **Zi-Yan Yuwen**, Cristian Joana, Shao-Jiang Wang and Rong-Gen Cai "Bubbles kick off primordial black holes to form more binaries", arXiv:2406.05838.
- Jun-Chen Wang, **Zi-Yan Yuwen**, Yu-Shi Hao and Shao-Jiang Wang, "General bubble expansion at strong coupling", *PHYSICAL REVIEW D* 109 (2023) 9, 096012, arXiv:2311.07347. (**Corresponding Author**)
- Jun-Chen Wang, **Zi-Yan Yuwen**, Yu-Shi Hao and Shao-Jiang Wang, "General backreaction force of cosmological bubble expansion", arXiv:2310.07691. (**Corresponding Author**)
- Rong-Gen Cai, Shao-Jiang Wang and **Zi-Yan Yuwen**, "Hydrodynamic sound shell model", *PHYSICAL REVIEW D Letter* 108 (2023) 2, L021502, arXiv:2305.00074. (**Corresponding Author**)
- Li Li, Shao-Jiang Wang and **Zi-Yan Yuwen**, "Bubble expansion at strong coupling", *PHYSICAL REVIEW D* 108 (2023) 9, 096033, arXiv:2302.10042. (**Corresponding Author**)
- Shao-Jiang Wang and **Zi-Yan Yuwen**, "The energy budget of cosmological first-order phase transitions beyond the bag equation of state", *Journal of Cosmology and Astroparticle Physics* 10 (2022) 047, arXiv:2206.01148. (**Corresponding Author**)
- Shao-Jiang Wang and **Zi-Yan Yuwen**, "Hydrodynamic backreaction force of cosmological bubble expansion", *PHYSICAL REVIEW D* 107 (2023) 2, 023501, arXiv:2205.02492.

INSPIREHEP Link of the publication details: https://inspirehep.net/authors/2078475

AWARDS

- **Best Presentation Award**, CosPA 2024, CNY 1,500, *2024*
- **National Scholarship**, University of Chinese Academy of Sciences, CNY 30,000, *2023*
- Outstanding students pacesetter, University of Chinese Academy of Sciences, *2023*
- **National Scholarship**, University of Chinese Academy of Sciences, CNY 20,000, *2021*
- Outstanding students, University of Chinese Academy of Sciences, *2021*

- Outstanding graduates, Xi'an Jiaotong University, *2020*
- **Mount Everest Scholarship**, 1st class, Xi'an Jiaotong University, CNY 5,000/year, *2017-2019*

CONFERENCE & TALKS

- **The 2024 International Symposium on Cosmology and Particle Astrophysics**, Ningbo, China *Jun 2024*
  Contributed talk: Bubbles kick off primordial black holes to form more binaries
- **Annual Meeting of the Chinese Physical Society, Division of Gravitation and Relativistic Astrophysics, and the 6th Galileo-Xu Guangqi Meeting**, Hengyang, China *Apr 2024*
  Contributed talk: BubbleS kick off primordial black holes to form more binaries
- **International Mini-Workshop on Gravitational Waves in the Early Universe**, Beijing, China *Oct 2023*
- **The 2023 Shanghai Symposium on Particle Physics and Cosmology: Phase Transitions, Gravitational Waves and Colliders (SPCS2023)**, Shanghai, China *Jul 2023*
  Contributed talk: Bubble wall velocity from conservation of particle number density flux
- **The 15th International Conference on Gravitation, Astrophysics, and Cosmology (ICGAC15)**, Gyeongju, Korea *Jul 2023*
  Contributed talk: Hydrodynamic sound shell model and corresponding gravitational waves
- **The 2023 Asia-Pacific School and Workshop on Gravitation, and Cosmology**, Hangzhou, China *May 2023*
  Contributed talk: Hydrodynamic sound shell model and corresponding gravitational waves
- **Annual Meeting of the Chinese Physical Society, Division of Gravitation and Relativistic Astrophysics**, Chongqing, China *Apr 2023*
  Contributed talk: Hydrodynamic sound shell model
- **The 23rd International Conference on General Relativity and Gravitation (GR23)**, Liyang, China *Jun 2022*