

Yong Gao

CONTACT INFORMATION	K102, Kavli Institute for Astronomy and Astrophysics Peking University, Yiheyuan Rd. 5, Haidian District Beijing 100871, P. R. China	email: gaoyong.physics@pku.edu.cn personal webpage: gravyong.github.io academic records: ORCID
EDUCATION	Ph.D. candidate, Physics , Peking University, Beijing, China Thesis Advisor: Prof. Lijing Shao Thesis Title: <i>Probing Structures of Neutron Stars with Gravitational Waves</i> B.S., Physics , Dalian University of Technology, Dalian, Liaoning Province, China Degree conferred with honor. Senior Dissertation Advisors: Prof. Renxin Xu and Prof. Chong Li Dissertation Title: <i>The Electron Distributions of Strangelets in the Thomas-Fermi Model</i>	August 2018–Present July 2018
RESEARCH INTERESTS	Understanding composition and state of matter inside neutron stars (NSs). Measuring mass, radius, spin frequency, and moment of inertia via pulsar timing. Studying dynamics of freely/forced precessing magnetars and searching for free precession from timing and polarization of radio signals. Modelling gravitational waves (GWs) from systems involving NSs. Probing strong-field gravity with pulsar timing and GWs. Constructing timing models and testing gravity with pulsar timing. Analyzing timing data and doing parameter estimation. Calculating global properties of NSs and modelling GW waveforms in alternative theories of gravity.	
COMPUTER SKILLS	Proficient in C, MATHEMATICA, Python, and Matlab. Experience in Bash and HPC. Markup languages: \LaTeX , Markdown, HTML, and CSS. Code development — Contributions can be found at https://github.com/GravYong .	
HONORS AND AWARDS	Principal Scholarship , Peking University Tung Scholarship , Peking University Merit Student , Peking University The Second Prize for Oral Presentation , Physics Five Universities Vela Prize for Oral Presentation , FAST/Future Pulsar Symposium 9 National Scholarship , Peking University Excellent Teaching Assistant Award , Peking University	2022–2023 2021–2022 2021–2022 April 2021 August 2020 2019–2020 2019–2020
TEACHING EXPERIENCE	Teaching Assistant , Peking University Electrodynamics (B) General Physics I , *incl. Mechanics & Electromagnetism Theoretical Mechanics (A) , Excellent Teaching Assistant Award	Fall 2022 Fall 2021 Fall 2019

CO-ADVISED
STUDENTS**Ph.D. Student**, Peking University

Hongbo Li, co-advised with Prof. Lijing Shao and Prof. Renxin Xu **2021–Present**
Oscillations of neutron stars and gravitational-wave asteroseismology

Undergraduate Students, Peking University

Haoyang Qi, co-advised with Prof. Lijing Shao **2021–Present**
Constraints on ultralight dark matter with pulsar timing

Huimei Wang, co-advised with Prof. Lijing Shao **2020–2021**
Undergraduate dissertation: The structure of neutron stars with anisotropic pressure

Jingyuan Deng, co-advised with Prof. Lijing Shao **2020–2021**
Undergraduate dissertation: Forced precession of neutron stars

Zexin Hu, co-advised with Prof. Lijing Shao **2020–2021**
Scalarized neutron stars in massive scalar-tensor gravity

PROFESSIONAL
ACTIVITIES,
OUTREACH, AND
SERVICE**KAGRA Collaboration**

Member of Compact Binaries Coalescence (CBC) Group **2018–Present**

Member of KAGRA Future Strategy Committee (FSC) **2021–Present**

Chair of conference session/group meeting

KAGRA Future Working Group 1st Open Meeting (*online*) **November 2021**

Chair of the **KIAAGRAVITY GROUP MEETING**, **2020–2021**

Journal referee

Classical and Quantum Gravity (CQG), Research in Astronomy and Astrophysics (RAA),
 Science China Physics, Mechanics & Astronomy (SCPMA).

Popular science articles

3. **Y. Gao**, L. Shao, R.-X. Xu, (2019) **The waltz of a binary neutron star system** (*in Chinese*).
2. **Y. Gao**, (2022) **The structures of neutron stars** (*in Chinese*).
1. **Y. Gao**, L. Shao, (2022) **Does Einstein's theory of gravity hold up to the latest LIGO/VIRGO/KAGRA observations?** (*in Chinese, translated from the English version*).

INVITED TALKS

4. Yangzhou University, Department of Physics, Seminar **September 2022**
3. Peking University, School of Physics, CuiYing Graduate Student Salon **February 2021**
2. Max Planck Institute for Gravitational Physics, Colloquium (*online*) **September 2020**
1. University of Tartu, Theoretical Physics Laboratory, Colloquium (*online*) **October 2020**

CONTRIBUTED
TALKS

7. SKA Pulsar Science Symposium 2022, Xiangtan, China **August 2022**
6. FAST/Future Pulsar Symposium 11, Xiangtan, China **August 2022**
5. The 60th Anniversary of X-Ray Astronomy (*online*), Beijing, China **June 2022**
4. Ninth Meeting on CPT and Lorentz Symmetry (*online*), Bloomington, USA **May 2022**
3. FAST/Future Pulsar Symposium 10, Jinan, China **July 2021**
2. Gravitation and Relativistic Astrophysics, Chongqing, China **April 2021**
1. FAST/Future Pulsar Symposium 9, Xiamen, China **August 2020**