Yifan WANG

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PERSONAL INFORMATION

Citizenship: China
Gender: Male
Date of Birth: March 9, 1993

EXPERIENCE

The Chinese University of Hong Kong *Aug 2015 - Jul 2019 (Expected)*
Ph.D. Candidate in Department of Physics (Advisor: Tjonnie G. F. Li)

Institute of Theoretical Physics, Chinese Academy of Sciences *Jun 2014 - Aug 2014*
Visiting Student (Advisor: Q.-G. Huang)

University of Science and Technology of China *Aug 2011 - Jul 2015*
B.S. in Department of Modern Physics (Advisor: W. Zhao)

RESEARCH TOPICS:

I mainly focus on the *analysis and interpretation of gravitational wave data* inside LIGO and Virgo collaboration. Some ongoing projects are:

Data Analysis for Testing General Relativity with Gravitational Waves

· A novel method based on information theory is proposed to look for new physics by correlating multiple gravitational wave events.

Primordial Black Hole Dark Matter with Multi-Type Gravitational Wave Astronomy

· To either find or constrain the primordial black hole, a candidate for dark matter, with individual gravitational wave event and stochastic gravitational-wave background.

PUBLICATION LIST

Constraints on the Primordial Black Hole Abundance from the First Advanced LIGO Observation Run Using the Stochastic Gravitational-Wave Background
Sai Wang, Yi-Fan Wang, Qing-Guo Huang, and Tjonnie G.F. Li
Phys. Rev. Lett. 120, 191102 (2018)
(This work was reported as a research highlight by *Nature Physics*.)

Potential observations of false deviations from general relativity in gravitational wave signals from binary black holes
Peter T.H. Pang, Juan Caldern Bustillo, Yifan Wang, and Tjonnie G. F. Li
Phys. Rev. D 98, 024019 (2018)

Constraints on the sum of neutrino masses using cosmological data including the latest extended Baryon Oscillation Spectroscopic Survey DR14 quasar sample
Sai Wang, Yi-Fan Wang, Dong-Mei Xia
Chinese Physics C Vol. 42, No. 6 (2018) 065103

Impacts of dark energy on weighing neutrinos: mass hierarchies considered
Sai Wang,Yi-Fan Wang,Dong-Mei Xia and Xin Zhang
Phys. Rev. D 94, 083519 (2016)

A smoothing methods comparison for CMB E- and B- modes
Yi-Fan Wang, Kai Wang, Wen Zhao
Research in Astronomy and Astrophysics 16, 4 (2016)

Collaboration Papers that I Directly Contributed to:

Tests of General Relativity with GW170817
The LIGO Scientific Collaboration and the Virgo Collaboration

Search for sub-solar mass ultracompact binaries in Advanced LIGO's first observing run
The LIGO Scientific Collaboration and the Virgo Collaboration
to appear in Physical Review Letters

GW170817: Observation of gravitational waves from a binary neutron star inspiral
The LIGO Scientific Collaboration and the Virgo Collaboration
Phys. Rev. Lett. 119, 161101 (2017)

GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence
The LIGO Scientific Collaboration and the Virgo Collaboration
Phys. Rev. Lett. 119, 141101 (2017)

SKILLS

Programming languages:	Python, C, Mathematica, Fortran
Data analysis tools:	LIGO lalsuite, GIT, Condor
Languages:	English (fluent), Chinese (native).

MEMBERSHIP

LIGO and Virgo Collaboration *Mar 2016 - Now*

TEACHING ASSISTANT

PHYS1003A General Physics for Engineer	*Autumn 2015*
UGEB2401B Astronomy	*Spring 2016*
PHYS1003A General Physics for Engineer	*Autumn 2016*
UGEB2401B Astronomy	*Spring 2017*
PHYS1003A General Physics for Engineer	*Autumn 2017*
UGEB2401B Astronomy	*Spring 2018*
UGEB2401B Astronomy	*Autmn 2018*