He Wang

hewang@itp.ac.cn

Institute of Theoretical Physics
Chinese Academy of Sciences

55 Zhongguancun East Road,
Beijing 100190, China.
Tel.: (+86) 18811557200

CURRENT POSITION

Institute of Theoretical Physics, Chinese Academy of Sciences — 2020-Present
Haidian, Beijing
Postdoctoral Fellow

EDUCATION & RESEARCH EXPERIENCE

Beijing Normal University — 2015-2020
Haidian, Beijing
Ph.D., Theoretical Physics

- Dissertation: *Research on Data Analysis of Deep Learning in Gravitational Wave Detection*
  Advisor: Prof. Zhoujian Cao, Prof. Jianyang Zhu

- Research on influence of convolutional neural network's structure on performance of gravitational wave signal recognition.

- Research on interpretability of deep neural networks in gravitational wave detection.

- Stability analysis for analytic hairy black hole in higher dimensions with a minimally coupled scalar field.

China West Normal University — 2012-2015
Nanchong, Sichuan
M.S., Theoretical Physics

- Thesis: *Theoretical analysis on a new metric ansatz for Kaluza-Klein supergravity theory black holes*
  Advisor: Prof. Shuangqing Wu

- Perturbations and stability of static black holes in higher dimensions.

- Generalization for general rotating charged Kaluza-Klein-AdS black hole solutions by introducing one or two arbitrary constants.

Chongqing Technology and Business University — 2008-2012
Nanan, Chongqing
B.S., Applied Physics

- Program: *Intelligent Vision-based Landing System of Unmanned Aerial Vehicle (UAV).*

PRESENTATIONS

- *Deep Learning Networks & Matched-filtering Techniques.* Oral presentation delivered at the 23rd KAGRA face-to-face meeting, Toyama, Japan, August, 2019.

- *Deep Learning Networks & Gravitational Wave Signal Recognization.* Oral presentation delivered for minisymposia: "Topological data analysis and deep learning: theory and signal applications - Part 4" at the 9th International Congress on Industrial and Applied Mathematics (ICIAM), Valencia, Spain, July, 2019.

- *Perturbative Analysis of Rotating Charged Kaluza-Klein AdS Black Holes.* Oral presentation delivered at The First International Conference on the Fundamental Laws of the Universe, Chengdu, China, March 2014.

SKILLS & TECHNIQUES

Programming:

- Proficient with popular deep learning frameworks using Python:

    MXNet, PyTorch, TensorFlow.

- Red Hat Certified Systems Administrator (RHCSA)

    certification ID: 180-271-041

- GitHub：https://github.com/iphysresearch

Language:

- Chinese: Native.

- English: Fluent; IELTS test - overall 6.5 (2017.04)

PUBLICATIONS

- **He Wang**, Shi-Chao Wu, Zhou-Jian Cao, Xiao-Lin Liu, Jian-Yang Zhu, "Gravitational-wave signal recognition of LIGO data by deep learning". Phys.Rev. D101 (2020) 10, 104003, e-Print: arXiv:1909.13442 [gr-qc]

- Xi-Bin Li, Shi-Wei Yan, **He Wang**, Jian-Yang Zhu, "Warm inflation with a generalized Langevin equation scenario", e-Print: arXiv:1808.07679 [gr-qc]

- Xi-Bin Li, Yang-Yang Wang, **He Wang**, Jian-Yang Zhu, "Dynamic analysis of noncanonical warm inflation" Phys.Rev. D98 (2018) no.4, 043510, e-Print: arXiv:1804.05360 [gr-qc]

- Xi-Bin Li, **He Wang**, Jian-Yang Zhu, "Gravitational waves from warm inflation", Phys.Rev. D97 (2018) no.6, 063516, e-Print: arXiv:1803.10074 [gr-qc]

- Zhou-jian Cao, **He Wang**, Jian-Yang Zhu, "Initial study on the application of deep learning to the Gravitational Wave data analysis", Journal of Henan Normal University(Natural Science Edition), 2(2018):26-39. DOI: 10.16366/j.cnki.1000-2367.2018.02.005

- Shuang-Qing Wu, **He Wang**, "Approach of background metric expansion to a new metric ansatz for gauged and ungauged Kaluza-Klein supergravity black holes" Phys.Rev. D91 (2015) no.10, 104031, e-Print: arXiv:1503.08930 [hep-th]

REFERENCES

Zhoujian Cao, Ph.D.	Junwei Cao, Ph.D.	Zongkuan Guo, Ph.D.
Professor	Professor	Professor
Department of Astronomy	Research Institute of Information Technology	Institute of Theoretical Physics
Beijing Normal University	Tsinghua University	Chinese Academy of Sciences
zjcao@bnu.edu.cn	jcao@tsinghua.edu.cn	guozk@itp.ac.cn