Baoyi Chen

Curriculum Vitae

CONTACT INFORMATION

California Institute of Technology
1200 E. California Blvd
Pasadena, CA 91125 USA

baoyi@tapir.caltech.edu
fermionic.me
(+1)-626-200-5738

EDUCATION

Ph.D. Physics — Expected June 2020

California Institute of Technology, Pasadena, CA, USA

Dissertation Advisor: Prof. Yanbei Chen

Dissertation Title: *to be determined*

B.S. Materials Physics — June 2015

Nanjing University, Nanjing, Jiangsu, China

Thesis Title: *"Into the Magnetic Skyrmion"*

EMPLOYMENT

Graduate Research and Teaching Assistant — Fall 2015 - present

California Institute of Technology, Pasadena, CA, USA

Undergraduate Visiting Internship Student — Summer 2014

The Hong Kong University of Science and Technology, Hong Kong, China

RESEARCH INTERESTS

General relativity, black hole physics, and quantum field theory in curved spacetime. Current focus includes near-horizon black hole physics, and theoretical implications from gravitational waves.

PUBLICATIONS (ONLINE)

ORCID: 0000-0002-3927-6843

arXiv: https://arxiv.org/a/chen_b_3.html

INSPIRE-HEP: http://inspirehep.net/author/profile/Bao.Yi.Chen.2

Google Scholar: https://scholar.google.com/citations?user=hqZzQ4UAAAAJ

HONORS AND AWARDS

Samsung Scholarship — 2013

Samsung Electronics Co., Ltd.

1st prize of CUMCM, Provintial Level — 2013

Contemporary Undergraduate Mathematical Contest in Modeling 2013

Outstanding Student Award — 2012

Nanjing University

2nd prize of CUMCM, National Level — 2012

Contemporary Undergraduate Mathematical Contest in Modeling 2012

Teaching and Mentoring

Teaching Assistant, California Institute of Technology

- ❑ Ph 139, Introduction to Particle Physics — Spring 2019
- ❑ Ph 125, Quantum Mechanics — Winter 2018
- ❑ Ph 205, Relativistic Quantum Mechanics — Winter 2017
- ❑ Ph 106, Topics in Classical Physics — Fall 2017

SURF Co-Mentor, California Institute of Technology

Daining Xiao (undergraduate), University of Cambridge — Summer 2019

SURF Co-Mentor, LIGO

Shuo Xin (undergraduate), Tongji University — Summer 2019

Language and Skills

Natural Language: Native in Mandarin. Fluent in English.

Programming Language: Proficient in Mathematica, Python, Bash. Experience in C/C++, Swift.

Markup Language: Proficient in LaTeX, Markdown. Experience in HTML, CSS.

Github: https://github.com/hughug

Invited Talks

1. *Instability of exotic compact objects and its implications for GW echoes* [slides]
   Perimeter Institute, Waterloo, ON, Canada — April 2019

Contributed Talks

1. *Instability of exotic compact objects and its implications for GW echoes* [slides]
   GR 22 & Amaldi 13, Valencia, Spain — July 2019
2. *Gedanken experiments to destroy a BTZ black hole* [☞]
   APS April Meeting 2019, Denver, CO, USA — April 2019
3. *Deformations of extremal black holes in GR and from stringy interactions* [☞]
   34th Pacific Coast Gravity Meeting, Caltech — March 2018
   APS April Meeting 2018, Columbus, OH — April 2018
4. *Linear metric perturbations in near-horizon extremal Kerr* [☞]
   33rd Pacific Coast Gravity Meeting, UCSB — March 2017

Publications in preparation

1. **B. Chen**, Feng-Li Lin, Bo Ning (2019), *A new bound on quantum gravity via weak cosmic censorship*

Non-Refereed Publications

1. **B. Chen**, Yanbei Chen, Yiqiu Ma, Ka-Lok R. Lo, Ling Sun (2019), *Instability of exotic compact objects and its implications for gravitational-wave echoes*, under review by Phys. Rev. Lett , gr-qc/1902.08180

Refereed Publications

1. **B. Chen**, Feng-Li Lin, Bo Ning (2019), *Gedanken experiments to destroy a BTZ black hole*, Phys. Rev. D **100**, 044043, [gr-qc/1902.00949]
2. **B. Chen**, L. C. Stein (2018), *Deformation of extremal black holes from stringy interactions*, Phys. Rev. D **97**, 084012, [gr-qc/1802.02159]
3. **B. Chen**, L. C. Stein (2017), *Separating metric perturbations in near-horizon extremal Kerr spacetimes*, Phys. Rev. D **96**, 064017, [gr-qc/1707.05319]
4. **B. Chen**, G. Chen, Y. E. Cheung, R. Xie, Y. Xin (2015), *Top-forms of leading singularities in nonplanar multi-loop amplitudes*, Eur. Phys. J. C **78** 164, [hep-th/1507.03214]
5. **B. Chen**, G. Chen, Y. E. Cheung, Y. Li, R. Xie, Y. Xin (2014), *Nonplanar On-shell Diagrams and Leading Singularities of Scattering Amplitudes*, Eur. Phys. J. C **77** 80, [hep-th/1411.3889]

References

Yanbei Chen
Professor of Physics — yanbei@caltech.edu
California Institute of Technology, Pasadena, CA, USA — (+1)-626-395-4258

Feng-Li Lin
Professor of Physics — fengli.lin@gmail.com
National Taiwan Normal University, Taipei, Taiwan — (+886)-2-7734-6035

Leo C. Stein
Assistant Professor of Physics — lcstein@olemiss.edu
University of Mississippi, Oxford, MS, USA — (+1)-662-915-1941