

Chia-Yi Ju (朱家誼)



Chia-Yi Ju

+886-7-525-2000 ext. TBA

chiayiju_at_gmail.com

PH7003

RESEARCH INTEREST Non-Hermitian Quantum Mechanics, Quantum Information, Quantum Optics, String Theory, and Supersymmetry.

EDUCATION C.N. Yang Institute for Theoretical Physics,
Department of Physics and Astronomy,
The State University of New York at Stony Brook
(Stony Brook University), USA (2010 - 2016)

Ph.D. in Physics (2016)

Advisor: Warren Siegel

Department of Physics,
National Chung Hsing University (2003 - 2007)

B.Sc. in Physics (2007)

EXPERIENCE Assistant Professor, National Sun Yat-sen University (2022 -)
Translator, Physics Bimonthly (2018 -)
Adjunct Assistant Professor, National Chung Hsing University (2020 - 2021)
Postdoctoral Fellow, National Chung Hsing University (2016 - 2022)
Research Assistant, Stony Brook University (2012 - 2016)
Teaching Assistant, Stony Brook University (2010 - 2012)
Research Assistant, Tunghai University (2009 - 2010)
Lab Instructor, Tunghai University (2008 - 2009)
Assistant Squad Leader, Republic of China Marine Corps (2007 - 2008)
Research Assistant, National Chung Hsing University (2005 - 2006, 2007)

PUBLICATIONS • Chia-Yi Ju, Adam Miranowicz, Fabrizio Minganti, Chuan-Tsung Chan, Guang-Yin Chen, Franco Nori, “*Flattening the Curve with Einstein’s Quantum Elevator: Hermitization of Non-Hermitian Hamiltonians via the Vielbein Formalism*”, arXiv:2107.11910 [quant-ph].

• Yu-Chin Tzeng, Chia-Yi Ju, Guang-Yin Chen, Wen-Min Huang, “*Hunting for the non-Hermitian exceptional points with fidelity susceptibility*”, *Phy. Rev. Research* **3**, 013015 (2021).

- Dharmesh Jain, Chia-Yi Ju, Warren Siegel, “*Simplifying 4d $\mathcal{N} = 3$ Harmonic Superspace*”, Phys. Rev. D **102**, 066007 (2020).
- Chia-Yi Ju, Ming-Hsun Chou, Guang-Yin Chen, Yueh-Nan Chen, “*Optical quantum frequency filter based on generalized eigenstates*”, Opt Express **28**, 17868 (2020).
- Chia-Yi Ju, Adam Miranowicz, Guang-Yin Chen, Franco Nori, “*Non-Hermitian Hamiltonians and no-go theorems in quantum information*”, Phys. Rev. A **100**, 062118 (2019).
- Chia-Yi Ju, Warren Siegel, “*Gauging Unbroken Symmetries in F-theory*”, Phys. Rev. D **94**, 106004 (2016).
- Chia-Yi Ju, W. Siegel, “*Systematizing semishortening conditions*”, Phys. Rev. D **90**, 125004 (2014).
- Fei Fang Chung, Sy-Sang Liaw, Chia-Yi Ju, “*Brazil nut effect in a rectangular plate under horizontal vibration*”, Granul. Matter **11**(2), 79 (2009).
- Fei Fang Chung, Chia-Yi Ju, Sy-Sang Liaw, “*Spiral trajectory in the horizontal Brazil nut effect*”, Phys. Rev. E **77**(6), 061304 (2008).

TALKS

Conferences

- 2021 Non-Hermitian Physics (Online) ICTS, Bengaluru, India, “*The Geometry of Quantum States*”, Mar. 24, 2021.
- 2020 AMO Summer School (Invited Speaker), “*The Dynamics and Deformations of Hilbert Spaces*”, Sep. 1, 2020.
- Workshop NH2019TD | IIS-Chiba | The University of Tokyo (Invited Speaker), “*The Geometries of Quantum States and the No-Go Theorems*”, Nov 28, 2019.
- Workshop NH2019 | IIS-Chiba | The University of Tokyo (Invited Speaker), “*From Geometry of NHQM to No-Go Theorems*”, Aug 28, 2019.
- 2018 Workshop on Quantum Science and Technology, “*A Possible Quantum Filter*”, Sep 4, 2018.
- 2018 Young Researchers Forum on Quantum Information Science, “*Quantum Resonators*”, Jun 30, 2018.

Colloquiums

- National Sun Yat-sen University, “*The Geometry of Quantum States*”, May 6, 2021
- National Cheng Kung University, “*The Geometry of Quantum States*”, May 6, 2021
- National Cheng Kung University, “*A Geometrical Phase Transition*”, Mar 22, 2021
- National Cheng Kung University, “*The Dynamics and Deformations of Hilbert Spaces*”, May 11, 2020
- Tunghai University, “*The Geometry of (Non-)Hermitian Quantum Mechanics*”, Mar 13, 2020
- National Taiwan University, “*A Geometric Approach to Quantum Mechanics*”, Jun 14, 2019

- National Cheng Kung University, “*A Geometric Approach to Quantum Mechanics*”, Apr 8, 2019
- National Changhua University of Education, “*Geometric Approach to Quantum Mechanics*”, May 1, 2019
- National National Tsing Hua University, “*A Possible Quantum Filter*”, Oct 23, 2018
- National Kaohsiung Normal University, “*A Possible Quantum Filter*”, Oct 17, 2018
- National Cheng Kung University, “*A Possible Quantum Filter*”, Sep 17, 2018
- National Kaohsiung Normal University, “*To String, or Not to String – Beyond Standard Model*”, Apr 11, 2018
- National Chung Hsing University, “*To String, or Not to String – Beyond Standard Model*”, Jan 12, 2018