# Xinyu Zhang

## 1 CONTACT INFORMATION


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## 2 PERSONAL INFORMATION

- Born: July 10th, 1988, in Zhejiang, China
- Nationality: China
- Gender: Male
- Language: Chinese, English

## 3 EDUCATION

- September, 2011 - August, 2017: Ph.D at Physics and Astronomy Department, Stony Brook University, USA
  - Advisor: Nikita Nekrasov
  - Dissertation: *Exact Results in Supersymmetric Quantum Field Theory*
- September, 2007 - August, 2011: B.A. at School of Physics, Peking University, China
  - Advisor: Bo-qiang Ma

## 4 EMPLOYMENT

- September, 2020 - present: Postdoctoral Fellow at DESY, Germany
- September, 2017 - August, 2020: Postdoctoral Associate at NHETC and Department of Physics and Astronomy, Rutgers University, USA

## 5 RESEARCH INTERESTS

Quantum Field Theory, Supersymmetry, String Theory, and Mathematical Physics.

## 6 TEACHING EXPERIENCE

- Graduate course *Introduction to supersymmetry* at University of Hamburg (together with Prof. Elli Pomoni)
- Graduate Teaching Assistant at Stony Brook University

## 7 PUBLICATIONS

- $\mathcal{N} = 1$ *Curves on Generalized Coulomb Branches of Supersymmetric Gauge Theories*, T. Bourton, E. Pomoni and **X. Zhang**, Universe 8 (2022) 2, 101, arXiv: 2111.14543 [hep-th].
- *Tetrahedron instantons*, E. Pomoni, W. Yan and **X. Zhang**, Commun.Math.Phys. 393 (2022) 2, 781-838, arXiv:2106.11611 [hep-th].
- *Effective gravitational couplings of four-dimensional* $\mathcal{N} = 2$ *supersymmetric gauge theories*, J. Manschot, G. W. Moore and **X. Zhang**, JHEP 06 (2020), 150, arXiv:1912.04091 [hep-th].
- *A note on chiral trace relations from qq-characters*, S. Jeong and **X. Zhang**, JHEP 04 (2020), 026, arXiv:1910.10864 [hep-th].
- *Seiberg-Witten geometry of four-dimensional* $\mathcal{N} = 2$ *SO-USp quiver gauge theories*, **X. Zhang**, Phys. Rev. D 100 (2019) no.12, 125015, arXiv:1910.10104 [hep-th].
- *BPZ equations for higher degenerate fields and non-perturbative Dyson-Schwinger equations*, S. Jeong and **X. Zhang**, arXiv:1710.06970 [hep-th].
- *Entanglement Entropy of ABJM Theory and Entropy of Topological Black Hole*, J. Nian and **X. Zhang**, JHEP 07 (2017), 096, arXiv:1705.01896 [hep-th].
- *Partition function of* $\mathcal{N} = 2$ *supersymmetric gauge theory and two-dimensional Yang-Mills theory*, **X. Zhang**, Phys. Rev. D 96 (2017) no.2, 025008, arXiv:1609.09050 [hep-th].
- *Dynamics of two-dimensional* $\mathcal{N} = (2, 2)$ *theories with semichiral superfields I*, J. Nian and **X. Zhang**, JHEP 11 (2015), 047, arXiv:1411.4694 [hep-th].
- *The proton spin in a light-cone chiral quark model*, **X. Zhang** and B. Q. Ma, Phys. Rev. D 85 (2012), 114048, arXiv:1206.0808 [hep-ph].
- *Photon Gas Thermodynamics in Doubly Special Relativity*, **X. Zhang**, L. Shao and B. Q. Ma, Astropart. Phys. 34 (2011), 840-845, arXiv:1102.2613 [hep-th].
- *Light flavor asymmetry of nucleon sea*, H. Song, **X. Zhang** and B. Q. Ma, Eur. Phys. J. C 71 (2011), 1542, arXiv:1101.3378 [hep-ph].
- *Isospin Symmetry Breaking in the Chiral Quark Model*, H. Song, **X. Zhang** and B. Q. Ma, Phys. Rev. D 82 (2010), 113011, arXiv:1012.2163 [hep-ph].

## 8 Selected TALKS

- *Quantum Symmetries in Four-dimensional Gauge Theories* at Peking University HEP Seminar and Workshop on January 10, 2023.
- *Quantum Symmetries in Four-dimensional Gauge Theories* at Yau Center of Southeast University on December 30, 2022.
- *Quantum Symmetries in Four-dimensional Gauge Theories* at Tsinghua University on December 29, 2022.
- *Quantum Symmetries in Four-dimensional Gauge Theories* at ITP/CAS on December 21, 2022.
- *Tetrahedron instantons* at Institut Mittag-Leffler on July 26, 2022.
- *Tetrahedron instantons and M-theory lift* at XII Workshop on Geometric Correspondence of Gauge Theories on July 6, 2022.
- *Tetrahedron instantons* at Yau Center of Southeast University on February 15, 2022.
- *Tetrahedron instantons* at Theoretical Physics Division, Institute of High Energy Physics, Chinese Academy of Sciences on January 26, 2022.

- *Tetrahedron instantons* at Zhejiang University on December 18, 2021.
- *Hidden symmetry in* 4*d* $\mathcal{N} = 2$ *SCFTs* at London Integrability Journal Club on November 25, 2021.
- *Tetrahedron instantons* at SUSY 2021 on August 25, 2021.
- *Effective gravitational couplings of four-dimensional* $\mathcal{N} = 2$ *supersymmetric gauge theories* at ITP/CAS on January 7, 2020.
- *Effective gravitational couplings of four-dimensional* $\mathcal{N} = 2$ *supersymmetric gauge theories* at Peking University on January 3, 2020.