

# Qiang Gao, Ph.D.

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## Education

- 2018 – 2023    📖 **Ph.D., The University of Texas at Austin, USA** in Condensed Matter Physics.  
Thesis title: *Exotic Phases in Condensed Matter Systems: Space-time Crystals and Moiré Superlattices*.  
Supervisor: Prof. Qian Niu & Prof. Eslam Khalaf
- 2013 – 2017    📖 **B.Sc., University of Science and Technology of China, China** in Applied Physics.  
Thesis title: *On the Efficiency and its Enhancement of the Quantum-dot based light-emitting diode (QLED)*.  
Supervisor: Prof. Zhenyu Zhang

## Employment History


- 2024 – now    📖 **Postdoctoral Fellow** Harvard University, USA
- 2019 – 2023    📖 **Research Assistant** The University of Texas at Austin, USA
- 2018 – 2019    📖 **Teaching Assistant** The University of Texas at Austin, USA
- 2017 – 2018    📖 **Research Assistant** University of Science and Technology of China & Shenzhen University, China


## Publications (Total citation as of 06/30/2024: 801; H-index: 6)

- 1 Y. Li, ..., **Q. Gao**, *et al.*, “Tuning commensurability in twisted van der waals bilayers,” *Nature*, vol. 625, no. 7995, pp. 494–499, 2024.
- 2 **Q. Gao**, J. Dong, P. Ledwith, D. Parker, and E. Khalaf, “Untwisting moiré physics: Almost ideal bands and fractional chern insulators in periodically strained monolayer graphene,” *Physical Review Letters*, vol. 131, no. 9, p. 096 401, 9 2023.
- 3 **Q. Gao** and E. Khalaf, “Symmetry origin of lattice vibration modes in twisted multilayer graphene: Phasons versus moiré phonons,” *Physical Review B*, vol. 106, no. 21, p. 075 420, 7 2022.
- 4 **Q. Gao** and Q. Niu, “Semiclassical dynamics of electrons in a space-time crystal: Magnetization, polarization, and current response,” *Physical Review B*, vol. 106, no. 22, p. 224 311, 2022.
- 5 **Q. Gao**, Y. Ren, and Q. Niu, “DC current generation and power feature in strongly driven Floquet-Bloch systems,” *Physical Review Research*, vol. 4, no. 1, p. 013 216, 2022.
- 6 **Q. Gao**, Z. Lin, X. Li, and Z. Zhang, “Spontaneous surface plasmon polariton decay of band-edge excitons in quantum dots near a metal surface,” *Physical Review B*, vol. 103, no. 3, p. 035 416, 2021.
- 7 **Q. Gao** and Q. Niu, “Floquet-Bloch oscillations and intraband Zener tunneling in an oblique spacetime crystal,” *Physical Review Letters*, vol. 127, no. 3, p. 036 401, 2021.
- 8 Y. Ren, **Q. Gao**, A. MacDonald, and Q. Niu, “WKB estimate of bilayer graphene’s magic twist angles,” *Physical Review Letters*, vol. 126, no. 1, p. 016 404, 2021.
- 9 H. Shen, **Q. Gao**, Y. Zhang, *et al.*, “Visible quantum dot light-emitting diodes with simultaneous high brightness and efficiency,” *Nature Photonics*, vol. 13, no. 3, pp. 192–197, 2019, ISSN: 1749-4893.

## Contributed Talks

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03/2018     American Physical Society (APS) March Meeting, Los Angeles, CA, USA.  
Title: *Surface plasmon polariton controlled de-excitation of quantum dot (QD)*

03/2023     American Physical Society (APS) March Meeting, Las Vegas, NV, USA.  
Title: *Almost ideal Chern bands in periodically strained graphene*

## Skills

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Languages     Mandarin Chinese (native speaker), English.

Coding     MATLAB, Mathematica, Python,  $\LaTeX$ , Java

## Awards and Fellowships

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2018 – 2023     **Provost's Graduate Excellence Fellowship**, The University of Texas at Austin.

2017     **Outstanding Undergraduate Thesis**, University of Science and Technology of China.