

Hoang Anh Le

Postdoctoral Research Fellow at Center for Quantum Nanoscience

Center for Quantum Nanoscience

Institute for Basic Science (IBS) and Ewha Womans University

Seoul 03760, Republic of Korea

(Updated on 2024/09/05)

EDUCATION

2018 - 2024 Korea University, Seoul, Republic of Korea

Doctor of Philosophy in Physics (Supervisor: S.-R. Eric Yang)

Thesis title: "*Exploring topological order of zigzag graphene nanoribbons: phase diagram and crossover phases*"

2013 - 2017 Hanoi National University of Education, Vietnam

Bachelor degree in Physics (Graduated with Valedictorian honor)

WORKING EXPERIENCE

2024 - now Postdoctoral Research Fellow at Center for Quantum Nanoscience

2017 - 2018 Physics teacher at Hanoi - Amsterdam high school for the gifted, Hanoi, Vietnam

RESEARCH INTERESTS

Theory of Scanning Tunneling Microscopy - Electron Spin Resonance

Electronic properties of nanographene

Topological order

PUBLICATIONS AND PREPRINTS

1) Jose Reina-Gálvez, **Hoang-Anh Le**, Hong Thi Bui, Soo-hyon Phark, Nicolás Lorente, Christoph Wolf, *Efficient driving of a spin-qubit using single-atom magnets*, [arXiv:2408.07289](https://arxiv.org/abs/2408.07289)

2) **Hoang-Anh Le** and S.-R. Eric Yang, *Anomalous Induced Density of Supercritical Coulomb Impurities in Graphene Under Strong Magnetic Fields*, [Phys. Rev. B 110, 085156 \(2024\)](https://doi.org/10.1103/PhysRevB.110.085156)

3) **Hoang-Anh Le**, In Hwan Lee, Young Heon Kim and S.-R. Eric Yang, *Phase Diagram and Crossover Phases of Topologically Ordered Graphene Zigzag Nanoribbons Role of Localization Effects*. [J. Phys.: Condens. Matter 36 265604 \(2024\)](https://doi.org/10.1088/1367-2630/36/26/265604)

4) In Hwan Lee, **Hoang-Anh Le** and S.-R. Eric Yang, *Mutual Information and Correlations across Topological Phase Transitions in Topologically Ordered Graphene Zigzag Nanoribbons*. **Entropy 2023, 25(10), 1449**

TALKS, POSTERS AND ACTIVITIES

H-A Le, "Anomalous Induced Density of Supercritical Coulomb Impurities in Graphene Under Strong Magnetic Fields", **KPS Fall Meeting**, Yeosu, Korea, 2024/10 (Upcoming)

H-A Le, "Exploring exotic phenomena in graphene: supercritical Coulomb impurities in graphene under strong magnetic field and topological order of zigzag nanoribbons", **Annual Conference of Vietnamese Young Scientists**, Invited talk, Korea University, 2024/09

H-A Le, **29th Vietnam School of Physics**, Quy Nhon, Vietnam, 2023/08

H-A Le, "Phase Diagram and Crossover Phases of Topologically Ordered Graphene Zigzag Nanoribbons", **34th IUPAP Conference on Computational Physics**, Poster, Kobe, Japan, 2023/08

H-A Le, "Phase Diagram and Crossover Phases of Topologically Ordered Graphene Zigzag Nanoribbons", **International Conference on Strongly Correlated Electron Systems 2023 (SCES)**, Poster, Incheon, Korea, 2023/07

H-A Le, "Hands-On Tutorial on IBM Qiskit", **International Workshop on Solid-State Qubits**, Teaching Assistant, Daejeon, Korea, 2019/04

AWARDS AND SCHOLARSHIPS

2023 **Best poster award**, SCES 2023, Incheon, Korea

2018 **Full scholarship** for integrated MS-PhD program in Korea University

2017 **Valedictorian** of Hanoi National University of Education

2016, 2017 **Gold medals** of National Physics Olympic (Vietnam)

2012, 2015, 2016 **Odon Vallet Scholarship** for excellent academic records

CONTACTS

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