

Non-Hermitian Zero Modes and Selective Skin Effect

City University of New York, USA

Li Ge Email: li.ge@csi.cuny.edu

In this talk, I will discuss several non-Hermitian (NH) zero modes warranted by either NH chiral or particle-hole symmetries. They include, for example, a robust NH zero mode constructed using the left-eigenstate [1], the skin-mode in the selective NH skin effect [2], and the chiral exceptional point in the complex Rice-Mele model with orbital-angle momentum emissions [3]. Their experimental demonstrations in the optical domain will also be discussed, which utilizes a coupled nano-cavity array on a photonic crystal membrane and a laser-written waveguide array with a Floquet drive.

[1] J. D. H. Rivero, C. Fleming, B. Qi, L. Feng, and L. Ge, Phys. Rev. Lett. 131, 223801 (2023)
[2] L. Ge, Innov. Discov. 1, 4 (2024).
[3] K. Ji, R. El-Ganainy, A. Yacomotti, and L. Ge, submitted to Light Sci. App. (2025).



Short Bio:

Li Ge received his PhD degree in Physics from Yale University. He has been a professor at the City University of New University since 2013. Dr. Ge is an Optical Fellow and has played editorial role(s) at PNAS, PRB, APL, Photonics Research, and META conferences.