



量子物理学・ナノサイエンス第 71 回特別セミナー

Correspondence between winding numbers and skin modes in non-hermitian systems

- 講師** : Professor Chen Fang
Institute of Physics
Chinese Academy of Sciences, China
- 日程** : 12月10日(火) 15:00-16:00
- 場所** : 本館1階 155B 理学院セミナー室

概要

We establish exact relations between the winding of "energy" (eigenvalue of Hamiltonian) on the complex plane as momentum traverses the Brillouin zone with periodic boundary condition, and the presence of "skin modes" with open boundary condition in non-hermitian systems. We show that the nonzero winding with respect to any complex reference energy leads to the presence of skin modes, and vice versa. We also show that both the nonzero winding and the presence of skin modes share the common physical origin that is the non-vanishing current through the system.

連絡教員 物理学系 村上 修一 (内線 2747)