Introduction to topological band theory and topological wave systems

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Biography

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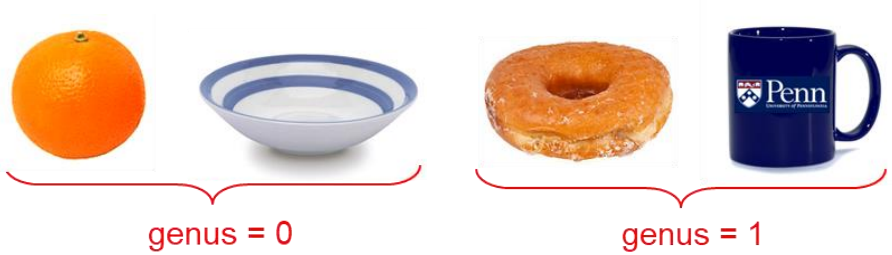
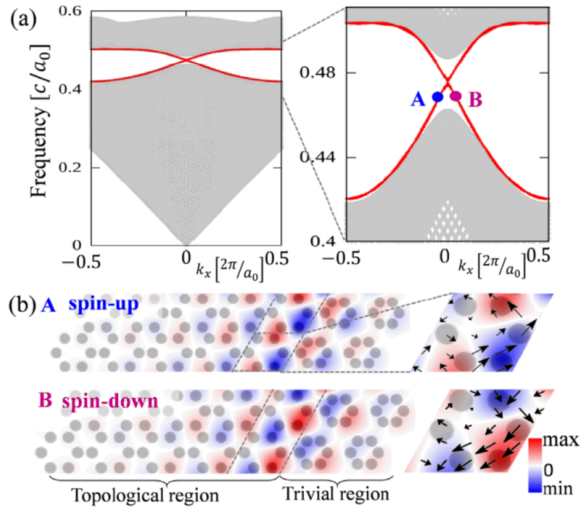
研究興趣：光子晶體、超穎材料、拓樸材料、量子力學



Abstract

In this lecture, I will try my best to introduce the following topics. I hope these contents can help you understand the literatures on topological insulators or related topics.

A. Gauss-Bonnet theorem and topological invariants
B. Magnetic monopole and charge quantization
C. Berry phase
D. Berry curvature and Chern number
E. Time reversal symmetry and Chern number
F. Su-Schrieffer-Heeger (SSH) model and topological edge state
G. Bulk-edge correspondence
H. Haldane model and chiral edge state
I. Kane-Mele model and helical edge state
J. Topological photonics
K. Topological acoustics/mechanics
L. Topological circuits
M. Zak phase and 1D photonic interface state



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