



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON APPLIED MATHEMATICS

Computational Optimization of Spectral Band-gap for Periodic Wave Operators

By

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Abstract

A Dirac point is formed by the conical intersection of two dispersion surfaces in the spectral bands of a periodic operator, and it plays a special role in the study of topological materials. In this talk, I will present a computational framework for the inverse design of Dirac points for wave operators over periodic media. The computational method is built on the spectral analysis of the differential operator for the periodic media and the use of the local density-of-state function to generate a Dirac point at the desired Bloch wave vector and frequency.

Date : 05 June 2025 (Thursday)

Time : 11:00a.m.-12:00noon

Venue : Room 4504 (Lift 25/26)

All are Welcome!