

SPEAKER:

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TITLE:

Floquet Theory for Discrete Periodic Operators

ABSTRACT:

Given a periodic graph G , a discrete periodic Schrödinger operator is the sum of a discrete Laplacian and a potential. We wish to study this operator acting on the Hilbert space of square summable functions on the vertices of G . Through Floquet theory, its spectrum can be realized as the projection of the dispersion relation, a real algebraic variety. This algebraic viewpoint enables the application of various algebro-geometric tools to the study of the spectrum. In this talk, we will introduce Floquet theory for discrete periodic operators, provide a brief overview of past work, and discuss some recent progress.