

Pablo Miranda: Asymptotic behavior of the Spectral Shift Function for a discrete Dirac type operator in \mathbb{Z}^2 .

mercredi 6 juillet 2022 17:00 (1 heure)

In this talk, we consider a Dirac type operator in the graph \mathbb{Z}^2 . This is a matrix difference operator defined on the vertices and edges of \mathbb{Z}^2 , together with a perturbation given by a potential that decays at infinity. We are interested in the spectral properties of this operator, which we will study through the analysis of the spectral shift function. Our main theorem describes the asymptotic behavior of this function near the thresholds in the spectrum.

The main novelty of this work is related to the nature of the thresholds of our model, for which the spectral shift function has not been studied before. In particular, we consider parabolic and hyperbolic thresholds as well as Dirac points.

This part of a joint work with Daniel Parra and Georgi Raikov.