

Meeting on Computational and Analytic Problems in Spectral Theory

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Abstract of Talk

THRESHOLDS IN THE SPECTRUM OF HAMILTONIAN WITH TRANSLATION INVARIANT MAGNETIC FIELDS

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The goal of this talk is to present different models with translation invariant magnetic field, such as Iwatsuka models. The associated Hamiltonians can be fibered, and the properties of the band functions can be linked to the propagation properties of quantum states submitted to such magnetic fields. If the case of states with bounded frequencies is well understood, less is known for the states with energy at a threshold corresponding to a limit of a band function. Asymptotics of the band functions for large frequencies allows to have a better description of these states, and is a necessary step for the description of the resolvent near the thresholds. I will also present in particular cases results concerning the number of eigenvalues below the essential spectrum for suitable perturbations of such operators.