

Can one hear an obstacle subject to a constant magnetic field?

vendredi 28 juin 2024 11:30 (55 minutes)

We consider the Schrödinger and Dirac operators with constant magnetic field in dimensions 2 and 3. The aim of this talk is to give an overview of the known results concerning the distribution of the spectrum of these operators when they are perturbed by an obstacle (operator outside a bounded domain). In the absence of a magnetic field, from Weyl's formulas, it is known that at least the volume of the obstacle appears in the asymptotic expansions of the Spectral Shift Function (or the Scattering Phase), but in the presence of a constant magnetic field, the spectral structure is different. Spectral asymptotics involve the logarithmic capacity of the obstacle (or its projected in the direction of the magnetic field). Some of these results are in collaboration with G. Raikov and with P. Miranda.

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