Diana Barseghyan (Ostrava University):

Eigenvalue bounds for magnetic Schrödinger operators

The aim of the talk is to derive spectral estimates into several classes of magnetic systems. They include three-dimensional unbounded regions with Dirichlet boundary. We establish two-dimensional Berezin-Li-Yau and Lieb-Thirring-typebounds in the presence of constant magnetic fields and, using them, get three-dimensional estimates for the eigenvalue moments of the corresponding magnetic Laplacians. Another model concerns with the magnetic Schrödinger operators on the two-dimensional unit disk with a radially symmetric magnetic field which explodes to infinity at the boundary. We prove a bound for the eigenvalue moments and a bound for the number of negative eigenvalues for such operators.