

# Mathematical Physics

Spectral flows along compact obstacles for magnetic  
Schrödinger operators

**Magnus Goffeng**

University of Gothenburg, Sweden

Spectral flows measures change in the spectrum along a path of self-adjoint operators. It was first studied by Atiyah-Patodi-Singer for Dirac operators, where the relative index of Dirac operators with APS boundary conditions is a spectral flow of Dirac operators on the boundary. In this talk, I will discuss the spectral flow along a change of boundary conditions for the Landau hamiltonian with a compact obstacle in even-dimensional euclidean space. The computation can be reduced to the boundary. Using a Weyl law on the boundary, a peculiar difference between the spectrum of the Dirichlet and the Neumann realisation can be explained.

Based on joint work with Elmar Schrohe.