Semiclassical analysis of the Neumann Laplacian with constant magnetic field in three dimensions

Frédéric HÉRAU, Laboratoire de Mathématiques Jean Leray - Nantes

We present results about the spectral analysis of the semiclassical Neumann magnetic Laplacian on a smooth bounded domain in dimension three. When the magnetic field is constant and in the semiclassical limit, we establish a five-term asymptotic expansion of the low-lying eigenvalues, involving a geometric quantity along the apparent contour of the domain in the direction of the field. In particular, we prove that they are simple. This is a joint work with Nicolas Raymond (Angers).

Contact :