

SEMICLASSICAL SPECTRAL ANALYSIS FOR MAGNETIC
SCHRÖDINGER OPERATORS

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We will consider a purely magnetic Schrödinger operator $H^h = (ih\nabla + A)^*(ih\nabla + A)$, depending on the semiclassical parameter $h > 0$, on a compact Riemannian manifold. Assuming that the minimal value of the intensity of the magnetic field is strictly positive, we will describe some results on asymptotic behavior of the eigenvalues of the operator H^h in the semiclassical limit. We will also discuss related problems in geometry and dynamics of magnetic fields.

These results were obtained in collaboration with B. Helffer, N. Raymond and S. Vũ Ngọc.

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