A TRACE FORMULA FOR THE EIGENVALUE CLUSTERS OF THE PERTURBED LANDAU HAMILTONIAN

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I will discuss a trace formula for the eigenvalue clusters of the Landau Hamiltonian (i.e. the 2D Schrödinger operator with a constant magnetic field), perturbed by an electric potential which decays at infinity. The spectrum of this Hamiltonian consists of clusters of eigenvalues which accumulate to the Landau levels. The asymptotic density of the eigenvalues in these clusters is studied when the cluster number tends to infinity. This asymptotic density is described explicitly in terms of the Radon transform of the perturbation potential. The main tools applied in the proofs of the results, are pseudodifferential operators with contravariant symbols.

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