Pankratova, T. F.

Quasimodes and exponential splitting of eigenvalues. (Russian) Zbl 0599.47033

Probl. Mat. Fiz. 11, 167-177 (1986).

An abstract theorem is proved which permits the determination of eigenvalues of a self-adjoint operator starting from its quasi- eigenvalues. With the help of this theorem expressions are derived for an exponentially small splitting of energy levels in the Schrödinger equation with a smooth, not necessarily even, potential in the case of two mirror-symmetric potential wells and in the case of a finite number of equal potential wells.

Reviewer: O.Dumbrajs

MSC:

47B25 Linear symmetric and selfadjoint operators (unbounded)
47A10 Spectrum, resolvent
81Q05 Closed and approximate solutions to the Schrödinger, Dirac, Klein-Gordon and other equations of quantum mechanics

Keywords:

eigenvalues of a self-adjoint operator; quasi-eigenvalues; exponentially small splitting of energy levels in the Schrödinger equation; mirror- symmetric potential wells; equal potential wells