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The Schrödinger operator with singular potentials

Abstract

The Schrdinger operator $-\Delta + V$ in $\mathbb{R}^N$ has been extensively studied for potentials in L^∞ and even L^p with any exponent $p > N/2$. Kato's inequality in the 1970s was a major breakthrough in spectral problems by allowing one to consider potentials V that are merely L^1. We present new counterparts of the strong maximum principle and Hopf's boundary lemma for $-\Delta + V$ on domains when V has a singular behaviour.