

LIEB-THIRRING TYPE INEQUALITIES FOR MULTIDIMENSIONAL SCHRODINGER OPERATORS WITH COMPLEX-VALUED POTENTIALS

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The purpose of this research is to investigate a conjecture that was stated by Demuth, Hansmann and Katriel in 2013. We study a possible generalization of Lieb–Thirring type inequalities for eigenvalues of non-selfadjoint Schrödinger operators, with complex-valued potentials, acting on $L^2(\mathbb{R}^d)$ where $d \geq 2$. In particular, we find the asymptotic behavior for the discrete spectra of Schrödinger operators with a one-parameter family of rapidly decaying complex-valued potentials and present a disproof of this conjecture. This is a joint work with Sabine Bögli (Durham) and František Stampach (Prague).