Abstract:

On the distribution of the eigenvalues for non-selfadjoint operators

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Let A be a selfadjoint operator. We are interested in the discrete spectrum of $B = A+M$ where B is non-selfadjoint. If the resolvent difference $R = (s-B)^{-1} - (s-A)^{-1}$ is in the Schatten class S_p then

$$\sum_{\lambda \in \sigma_{\rm disc}(B)} \frac{{\rm disc}(\lambda, \sigma(A))^\gamma}{|\lambda|^{\gamma/2}(1+|\lambda|)^\gamma} \leq c \, ||R||_p$$

where $\gamma \geq \max\,(1+p,\ 2p)\,.$

By means of this estimate we can give qualitative estimates for the number of eigenvalues of B or their moments. That can be applied to Schrödinger operators with complex potentials.