

Sectorial perturbations of self-adjoint matrices

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April 25, 2012

This talk considers $N \times N$ matrices of the form $A_\gamma = A + \gamma B$, where A is self-adjoint, $\gamma \in \mathbb{C}$ and B is a non-self-adjoint perturbation of A . We obtain new results relating the spectral behaviour of such matrices in the two asymptotic regimes $|\gamma| \rightarrow \infty$ and $|\gamma| \rightarrow 0$ under certain assumptions on B . We also explain some properties of the spectrum of A_γ for intermediate sized γ by considering the limit $N \rightarrow \infty$.