

Eigenvalue asymptotics of linear operators in Banach spaces

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Let Z_0 be a bounded operator in a Banach space X and let K be a nuclear perturbation of Z_0 in X . We estimate the asymptotics of the eigenvalues of $Z_0 + K$ if they approach to the essential spectrum of Z_0 . Moreover we give bounds for the number of eigenvalues in certain regions of the complex plane. The general operator theoretical result is applied to the discrete Laplacian.

The talk is based on a joint work with F. Hanauska (Clausthal).