

The Norm Estimate for the Sum of Two Matrices

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This is a joint work with Chi-Kwong Li. We look into some subtle aspects of the structure of the numerical ranges in connection with the C^* -norm (the usual Hilbert-space operator-norm) for n by n matrices. In particular, we seek an ultimate answer for the norm estimate of a matrix $T = A + B$ where A and B are (non-commuting) normal matrices with known spectra. We also extend the main result to cover the case where A and B are non-normal matrices.