

Spectrum of Nonnegative Matrices

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(The talk is based on a joint work with Thomas Laffey)

The question which lists of complex numbers are the spectrum of some nonnegative matrix is known as the nonnegative inverse eigenvalue problem (NIEP). This problem is open for lists with more than four elements. In this talk we will give an overview of some of our recent results on this problem. In particular, we will present the solution for the case when all elements of the possible spectrum, except the dominant one, have negative real part. Best possible results are obtainable in this case and the conditions are surprisingly easy to state.