

NUMERICAL ANALYSIS AND SCIENTIFIC COMPUTING  
SEMINAR

*Computing the joint spectral radius of a family of matrices.*

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**Abstract:** We address the problem of the computation of the spectral radius of a family of matrices. We briefly describe the extension of the concept of polytope to the complex space and outline the main geometric properties of such an object. Then we consider the norms determined by the complex polytopes and illustrate a possible algorithm for the approximation of the joint spectral radius of a family of matrices which is based on these complex polytope norms. As an example for our technique we consider the set of two matrices recently analyzed by Blondel, Nesterov and Theys to disprove the finiteness conjecture.

This is a joint work with Marino Zennaro (Università di Trieste, Italy).

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MATHEMATICS AND COMPUTER SCIENCE  
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