

Geršgorin-type localizations of generalized eigenvalues

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Abstract

The aim of the presentation is to introduce some new localization techniques for generalized eigenvalues of a matrix pair obtained via famous Geršgorin theorem and its different generalizations. Special attention will be given to the techniques of computation and visual presentation of the obtained localization areas using MATLAB. Since the work that will follow involves much about nonnegative matrices, strictly diagonally dominant (SDD) matrices, H- and M-matrices, some useful facts in this field will be presented, too. To conclude the talk, the question of utility of the proved results will be analyzed through the propositions and some numerical examples.

Keywords

Eigenvalue localization, Generalized eigenvalues, Matrix pencil, Geršgorin theorem, Minimal Geršgorin set.

References

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