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REGIONS CONTAINING EIGENVALUES OF A MATRIX*

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Abstract. In this paper, regions containing eigenvalues of a matrix are obtained in terms of partial absolute deleted row sums and column sums. Furthermore, some sufficient and necessary conditions for H-matrices are derived. Finally, an upper bound for the Perron root of nonnegative matrices is presented. The comparison of the new upper bound with the known ones is supplemented with some examples.

Key words. Eigenvalue, H-matrix, Perron root, Nonnegative matrix.

AMS subject classifications. 15A18, 15A42, 15A57, 65F15, 65F99.

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