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ON SYMMETRIC MATRICES WITH EXACTLY ONE POSITIVE EIGENVALUE*

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Abstract. We present a class of nonsingular matrices, the MC'-matrices, and prove that the class of symmetric MC-matrices introduced by Shen, Huang and Jing [On inclusion and exclusion intervals for the real eigenvalues of real matrices. *SIAM J. Matrix Anal. Appl.*, 31:816-830, 2009] and the class of symmetric MC'-matrices are both subsets of the class of symmetric matrices with exactly one positive eigenvalue. Some other sufficient conditions for a symmetric matrix to have exactly one positive eigenvalue are derived.

Key words. Eigenvalue, Symmetric matrix, MC-matrix, MC'-matrix.

AMS subject classifications. 15A18, 15A48, 15A57.

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