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P^α-MATRICES AND LYAPUNOV SCALAR STABILITY*

DANIEL HERSHKOWITZ† AND NIRA MASHAL†

Abstract. For partitions α of $\{1, \dots, n\}$, the classes of P^α-matrices are defined, unifying the classes of the real P-matrices and of the real positive definite matrices. Lyapunov scalar stability of matrices is defined and characterized, and it is shown also that every real Lyapunov α-scalar stable matrix is a P^α-matrix. Implication relations between Lyapunov scalar stability and H-stability are discussed.

Key words. P-matrices, P^α-matrices, stability, scalar stability, positive definite matrices, H-stability

AMS subject classifications. 15A15, 15A18, 15A57

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†Department of Mathematics, Technion - Israel Institute of Technology, Haifa 32000, Israel (hershkow@tx.technion.ac.il, mashal@tx.technion.ac.il)