ELA

QUADRATIC CONVERGENCE BOUNDS OF SCALED ITERATES BY THE SERIAL JACOBI METHODS FOR INDEFINITE HERMITIAN MATRICES[*]

J. MATEJAŠ[†]

Abstract. Using the technique from [**?**], sharp quadratic convergence bounds for scaled Jacobi iterates are derived. The iterates are generated by any serial Jacobi method when applied to a general complex nonsingular Hermitian matrix. The scaled iterates are defined relatively to the diagonal. The estimates depend on the relative separation between the eigenvalues. The assumptions are general, since no monotonic ordering of the diagonal elements within any diagonal block which converges to a multiple eigenvalue is presumed.

Key words. Jacobi method, Scaled matrices, Quadratic convergence.

AMS subject classifications. 65F15, 65G05.

[†]Faculty of Economics, University of Zagreb, Kennedyjev trg 6, 10000 Zagreb, Croatia (josip.matejas@kr.htnet.hr).