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**Valeria Simoncini** ([valeria@dm.unibo.it](mailto:valeria@dm.unibo.it)), Dipartimento di Matematica, Univeristà di Bologna, Piazza di Porta S. Donato, 5, I-40127 Bologna, Italy, and **Daniel B Szyld\*** ([szyld@temple.edu](mailto:szyld@temple.edu)), Temple University, Department of Mathematics (038-16), 1805 N Broad Street, Philadelphia, PA 19122. *Superlinear convergence of MINRES.*

We show quantitative bounds for the superlinear convergence of the MINRES method of Paige and Saunders [*SIAM J. Numer. Anal.*, 1975] for the solution of sparse linear systems  $Ax = b$ , with  $A$  symmetric and indefinite. It is shown that the superlinear convergence is observed as soon as the harmonic Ritz values approximate well the extreme eigenvalues of  $A$ , i.e., either those closest to zero or farthest from zero. (Received September 22, 2010)