ON GENERALIZED SCHUR COMPLEMENT OF NONSTRICLY DIAGONALLY DOMINANT MATRICES AND GENERAL $H$-MATRICES∗

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Abstract. This paper proposes the definition of the generalized Schur complement on nonstrictly diagonally dominant matrices and general $H$–matrices by using a particular generalized inverse, and then, establishes some significant results on heredity, nonsingularity and the eigenvalue distribution for these generalized Schur complements.

Key words. Generalized Schur complement, Nonstrictly diagonally dominant matrices, General $H$–matrices.

AMS subject classifications. 15A15, 15F10.