

Some invariants of Schur complement derived from scaling approach

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Abstract

It is well-known that the Schur complement of a strictly diagonally dominant matrix is strictly diagonally dominant, too. Also, if a matrix is an H-matrix, then its Schur complement is an H-matrix, too. Recent research showed that the same type of statement holds for some special subclasses of H-matrices, see, for example, Liu et al. (2004). The aim of this paper is twofold: first, to show that the proof of these results can be significantly simplified by using "scaling" approach, and second, to prove more similar invariant results.

Keywords

H-matrices, Schur complement, Diagonal scaling blocks.

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