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SUBDIRECT SUMS OF NONSINGULAR M-MATRICES AND OF THEIR INVERSES*

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Abstract. The question of when the subdirect sum of two nonsingular M-matrices is a nonsingular M-matrix is studied. Sufficient conditions are given. The case of inverses of M-matrices is also studied. In particular, it is shown that the subdirect sum of overlapping principal submatrices of a nonsingular M-matrix is a nonsingular M-matrix. Some examples illustrating the conditions presented are also given.

AMS subject classifications. 15A48.

Key words. Subdirect sum, M-matrices, Inverse of M-matrix, Overlapping blocks.

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