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SUBDIRECT SUMS OF DOUBLY DIAGONALLY DOMINANT MATRICES*

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Abstract. The problem of when the k-subdirect sum of a doubly diagonally dominant matrix (DDD matrix) is also a DDD matrix is studied. Some sufficient conditions are given. The same situation is analyzed for diagonally dominant matrices and strictly diagonally dominant matrices. Additionally, some conditions are also derived when card(S)>card(S_1) which was not studied by Bru, Pedroche and Szyld [*Electron. J. Linear Algebra*, 15:201-209, 2006]. Examples are given to illustrate the conditions presented.

Key words. Subdirect sum, Doubly diagonally dominant matrices, H-matrices, Overlapping blocks.

AMS subject classifications. 15A48.

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