

On the intersection of the classes of doubly diagonally dominant matrices and S -strictly diagonally dominant matrices

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Abstract

We denote by H_0 the subclass of H -matrices consisting of all the matrices that lay simultaneously on the classes of doubly diagonally dominant (DDD) matrices ($A = [a_{ij}] \in \mathbb{C}^{n \times n} : |a_{ii}| |a_{jj}| \geq \sum_{k \neq i} |a_{ik}| \sum_{k \neq j} |a_{jk}|, i \neq j$; see [3]) and S -strictly diagonally dominant (S -SDD) matrices; see [1], [2]. Notice that strictly doubly diagonally dominant matrices (also called Ostrowsky matrices) are a subclass of H_0 . Strictly diagonally dominant matrices (SDD) are also a subclass of H_0 . In this paper we analyze some properties of the class $H_0 = \text{DDD} \cap S\text{-SDD}$.

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References

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