

## $GSDD_1^+$ MATRICES AND ERROR BOUNDS FOR LINEAR COMPLEMENTARITY PROBLEMS

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**Abstract.** A new subclass of  $H$ -matrices named  $GSDD_1^+$  matrices is introduced and some properties of  $GSDD_1^+$  matrices are presented. The relationships between  $GSDD_1^+$  matrices and other subclasses of  $H$ -matrices is studied. Moreover, the infinity norm bound for the inverse of  $GSDD_1^+$  matrices is provided. As applications, error bound of the linear complementarity problems for  $GSDD_1^+$  matrices is also presented, which improves some existing results. Numerical examples are given to illustrate the validity of new results.

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