ARROWHEAD OPERATORS ON A HILBERT SPACE

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Abstract. The arrowhead matrices define a class of one-term Sylvester matrix (OTSM) operators on a finite-dimensional Hilbert space through an elementary UDL factorization. It enables us to consider the infinite invertible arrowhead matrices UDL factored properly for introducing, under suitable conditions, the arrowhead operators and their associated class of OTSM operators on an infinite-dimensional Hilbert space. Properties regarding convergence, inertia, inverses, and spectra are also considered.


Keywords and phrases: Infinite arrowhead matrix, matrix factorization, arrowhead operator, one-term Sylvester matrix operator.

REFERENCES