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IRREDUCIBLE TOEPLITZ AND HANKEL MATRICES*

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Abstract. An infinite matrix is called irreducible if its directed graph is strongly connected. It is proved that an infinite Toeplitz matrix is irreducible if and only if almost every finite leading submatrix is irreducible. An infinite Hankel matrix may be irreducible even if all its finite leading submatrices are reducible. Irreducibility results are also obtained in the finite cases.

Key words. Infinite Toeplitz, Hankel matrices, Finite leading submatrices, Irreducibility, Strongly connected digraphs.

AMS subject classifications. 05C50, 05C40, 11A05, 11D04, 15A48, 47B35.

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