MATRIX-VALUED DIFFERENCE OPERATORS WITH POLYNOMIAL TYPE JOST SOLUTIONS ON THE WHOLE AXIS

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Abstract

The main aim of this paper is to obtain the Jost solutions and some spectral properties of a second order matrix self-adjoint difference equation on the whole axis. In this paper, we investigate the analytical properties and asymptotic behaviors of these Jost solutions. Then, we find continuous spectrum of the operator L generated by matrix-valued difference expression of second order. At last, we get that the operator L has a finite number of real eigenvalues.

Keywords: Difference Equations, Discrete operator, Jost Solution, Eigenvalues, Continuous Spectrum

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