

Some Spectral Properties of the Generalized Difference Operator $(\Delta)_v$

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Abstract

In this paper we consider the generalized difference operator ν on the sequence spaces l_1 and c_0 . The operator ν is represented by a lower triangular double band matrix whose nonzero entries are the elements of a sequence (v_k) with certain conditions. We mainly review several recent results concerning the fine spectrum of the operator ν over the sequence spaces l_1 and c_0 . Also, we provide some new results. Following that we give some illustrative examples which motivate the main results. Finally, we give notes on the fine spectrum of the operator ν . These notes attempt to present some ideas about changing the conditions on the sequence (v_k) in the fine spectrum of the operator ν . The new results of this paper generalize and improve some recent results that appeared recently in the literature.

Key Words: *Spectrum of an operator; Generalized difference operator; Thesequence spaces l_1 and c_0 .*