# THE SPECTRUM OF THE OPERATOR Δv OVER THE SPACE lp,(1<= p<∞)

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**Abstract**

The main purpose of this paper is to determine the spectrum of the generalized difference operatorΔv over the sequence space lp, where $1< p < \infty$. The operator Δv on the space p l is defined by  where ( ) k p x = ∈ x l and (vk) is a strictly decreasing sequence of positive real numbers satisfying certain conditions. In this paper, some results concerning the spectrum, the point spectrum, the residual spectrum and the continuous spectrum of the operatorΔv on the space lp have been found.

**Key words:***spectrum of an operator, Generalized difference operator, The sequencespace lp.*