

## On the fine spectrum of the operator $\Delta_{a,b}$ over the sequence space $c$

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### Abstract

In this paper we examine the fine spectrum of the generalized difference operator  $\Delta_{a,b}$  over the sequence space  $c$ . The boundedness of the operator  $\Delta_{a,b}$  has been proved. Also, the norm of this operator has been found. The class of the operator  $\Delta_{a,b}$  includes some other special cases such as the generalized difference operator  $B(r,s)$  introduced by Altay and Başar in 2005. Our results not only generalize the corresponding results in the existing literature, but also give results for some more operators.

**Keywords:** *Spectrum of an operator; Generalized difference operator; The sequence space  $c$*