ON THE FINE SPECTRUM OF THE UPPER TRIANGULAR
BAND MATRIX OVER THE HAHN SEQUENCE SPACE

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ABSTRACT

In this study, we will calculate the point spectrum, the continuous spectrum, and
the residual spectrum of the upper triangular band matrix over the Hahn sequence
space. Hahn introduced in [1] the Hahn space $h$ of all sequence $x = (x_k) \in c_0$ such
that $\sum_{k=0}^{\infty} k |x_{k+1} - x_k|$ is finite. The norm $\|x\|_h = \sum_{k=1}^{\infty} k |x_{k+1} - x_k| + \sup_k |x_k|$ was
defined on the space $h$ by Hahn [1]. Rao ([3] Proposition 2.1) defined a new norm
of $h$ given by $\|x\|_h = \sum_{k=1}^{\infty} k |x_{k+1} - x_k|$.

References


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