

5TH IFSCOM2018 ABSTRACT BOOK
ISBN: 978-605-68670-1-9

IFSCOM2018
5TH IFS AND CONTEMPORARY MATHEMATICS CONFERENCE
SEPTEMBER, 05-09, 2018, KAHRAMANMARAS, TURKEY
pp: 45-45

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

N. DURNA

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

- [1] H. Hahn, Über Folgen linearer operationen, Monatsh Math Phys., Vol.32, 3–88 (1922).
- [2] E. Kreyszig, Introductory Functiona lAnalysis with Applications, JohnWiley & Sons, New York, NY, USA, (1978).
- [3] K.C. Rao, The Hahn sequence spaces I, Bull Calcutta Math Soc, Vol.82, 72–78 (1990).

(N. Durna) SIVAS CUMHURİYET UNIVERSITY, FACULTY OF SCIENCE, DEPARTMENT OF MATHEMATICS, 58140, SIVAS, TURKEY

E-mail address, N. Durna: ndurna@cumhuriyet.edu.tr

2000 *Mathematics Subject Classification*. Primary 47A10 Secondary 47B37.

Key words and phrases. upper triangular band matrix, spectrum, fine spectrum.

This work is supported by Scientific Research Projects Fund of Cumhuriyet University under the Project number F-583.