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ON VECTOR VALUED SEQUENCE SPACES $c_0(X \times Y, \overline{\lambda}, \overline{p}), c(X \times Y, \overline{\lambda}, \overline{p})$ AND $l_\infty(X \times Y, \overline{\lambda}, \overline{p})$

YOGENDRA YADAV AND J. K. SRIVASTAVA

Department of Mathematics and Statistics,
D.D.U. Gorakhpur University, Gorakhpur, India

Abstract

In this paper we introduce certain new vector valued sequence spaces $c_0(X \times Y, \overline{\lambda}, \overline{p}), c(X \times Y, \overline{\lambda}, \overline{p})$ and $l_\infty(X \times Y, \overline{\lambda}, \overline{p})$ with their terms from a product normed space $X \times Y$ and propose to study them. We investigate the conditions in terms of $\overline{p}$ and $\overline{\lambda}$, so that a class is contained in another class of same kind and thereby derive the conditions of their equality. We also investigate topological linear structure of each of these spaces, by endowing them with suitable natural paranorms.

Key Words and Phrases : *Sequence space, Product normed space, Paranormed space, GK-, GAD-, GAK-, and GC-sequence spaces.*

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