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A GENERALIZATION OF ORLICZ SEQUENCE SPACES DERIVED BY QUADRUPLE SEQUENTIAL BAND MATRIX

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Abstract: In this article we have introduced a new Orlicz sequence space $l_p^{\lambda}(M, B)$ derived by a quadruple sequential band matrix associated with an Orlicz function and lambda matrix. Further, we have studied some topological properties and inclusion relations of this space.

Keywords and Phrases: Orlicz function, Four band matrix, Lambda matrix, AK-space, BK-space.

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1. Introduction

Let w represent the space of all real or complex sequences and any subspace of w is called a sequence space. By $c, c_0, l_\infty, l_1, l_p$ and bv_p, we denote the space of all convergent, null, bounded, absolutely summable, p-absolutely summable and p-bounded variation sequences respectively, where $0 < p < \infty$.

As the theory of sequence spaces has been a subject of interest to several mathematicians, Cesàro, Nörlund, Abel, Riesz and others studied the theory of sequence spaces through summability theory while Nakano [24], Simons [28], Maddox [19] and many others have constructed different sequence spaces by using the modern techniques of functional analysis. Later on Kızmaz [16], Et and Çolak [13], Başar and Dutta [6], Dutta and Başar [12] and many others gave a new direction for the development of the structural properties of Orlicz sequence spaces.