South East Asian J. of Math. & Math. Sci. **ISSN : 0972-7752**
Vol.14, No.2 (2018), pp. 39 - 44

Relation Between the Orlicz Space of χ_M^π and $\chi_M^\pi(a)$

S. Thalapathiraj and B. Baskaran
Department of Mathematics,
SRM Institute of Science and Technology, Chennai, Tamilnadu
E-mail : thalapathirajs@gmail.com, baskaran_40@hotmail.com

Abstract : This paper is developed to the study on the general properties of the relation between the orlicz space of χ_M^π and $\chi_M^\pi(a)$.

Key words : Gai sequence, analytic sequence, rate sequence, modulus function, semi norm, difference sequence

1. Introduction :

Let ω denote the set of all real or complex sequences $x = (x_k)$ and $M : [0,\infty) \to [0,\infty)$ be an orlicz function (or) a modulus function.

An orlicz function is continuous, non-decreasing and convex with
$M(0) = 0,\ M(x) > 0$ for $x > 0$ and $M(x) \to \infty$ as $x \to \infty$

Nakano introduced "Modulus function" if the convexity of orlicz function is replaced by
$M(x + y) \le M(x) + M(y)$

Lindenstraus and Tzafari used the idea of orlicz function to orlicz sequence space

$$\ell_M = \left\{ x \in \omega; \sum_{k=1}^{\infty} M\left(\frac{|x_k|}{\rho}\right) < \infty, \text{ for some } \rho > 0 \right\}$$

The space ℓ_M with the norm,

$$\|x\| = \inf\left\{ \rho > 0; \sum_{k=1}^{\infty} M\left(\frac{|x_k|}{\rho}\right) \le 1 \right\}$$

1. Definition :

Let ℓ_∞, c, c_o be the sequence spaces of bounded ,convergent and null sequence $x = (x_k)$ respectively. In respect of ℓ_∞, c, c_o we have $\|x\| = \sup_k |x_k|$, where $x = (x_k) \in c_0 < c < \ell_\infty$.