



New Sequence Spaces with Respect to a Sequence of Modulus Functions

Ömer Kişi^{a*}, Erhan Güler^b

^{a,b}Department of Mathematics, Faculty of Science, Bartın University, 74100, Bartın, Turkey

^aEmail: okisi@bartin.edu.tr

^bEmail: eguler@bartin.edu.tr

Abstract

In this paper, we introduce the notions of A^I -invariant convergence, A^{I^*} -invariant convergence with respect to a sequence of modulus functions and establish some basic theorems. Furthermore, we give some properties of A^{I^σ} -Cauchy sequence and $A^{I^{\sigma^*}}$ -Cauchy sequence. We basically study some connections between A^I -invariant statistical convergence and A^I -invariant lacunary statistical convergence with respect to a sequence of modulus functions and between strongly A^I -invariant convergence and A^I -invariant lacunary statistical convergence with respect to a sequence of modulus functions. Also, we establish some inclusion relations between new concepts of $I_\sigma - \lambda$ statistically convergence and A^I -invariant statistically convergence with respect to a sequence of modulus functions.

Keywords: Lacunary invariant statistical convergence; Invariant statistical convergence; modulus function.

1. Introduction

The notion of statistical convergence of sequences of numbers was introduced by Fast [12]. Later on, statistical convergence turned out to be one of the most active areas of research in summability theory after the works of [15,29].

* Corresponding author.