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$\mathcal{I}$-CESÀRO SUMMABILITY OF SEQUENCES OF SETS

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Abstract. In this paper, we defined concept of Wijsman $\mathcal{I}$-Cesàro summability for sequences of sets and investigate the relationships between the concepts of Wijsman strongly $\mathcal{I}$-Cesàro summability, Wijsman strongly $\mathcal{I}$-lacunary summability, Wijsman p-strongly $\mathcal{I}$-Cesàro summability and Wijsman $\mathcal{I}$-statistical convergence.

1. Introduction and Background

The concept of convergence of sequences of real numbers has been extended to statistical convergence independently by Fast [7] and Schoenberg [16]. The idea of $\mathcal{I}$-convergence was introduced by Kostyrko et al. [13] as a generalization of statistical convergence which is based on the structure of the ideal $\mathcal{I}$ of subset of the set of natural numbers. Recently, Das et al. [5] introduced new notions, namely $\mathcal{I}$-statistical convergence and $\mathcal{I}$-lacunary statistical convergence by using ideal.

Freedman et al. [6] established the connection between the strongly Cesàro summable sequences space and the strongly lacunary summable sequences space. Connor [9] gave the relationships between the concepts of strongly p-Cesàro summability and statistical convergence of sequences.

The concept of convergence of sequences of numbers has been extended by several authors to convergence of sequences of sets. The one of these such extensions considered in this paper is the concept of Wijsman convergence (see, [2, 3, 4, 14, 20, 21]). Nuray and Rhoades [14] extended the notion of convergence of set sequences to statistical convergence and gave some basic theorems. Furthermore, the concept of strongly summable set sequences was given by Nuray and Rhoades [14]. Ulusu and Nuray [18] defined the concept of Wijsman lacunary statistical convergence of sequences of sets and considered its relation with Wijsman statistical convergence, which was defined by Nuray and Rhoades. Also, Ulusu and Nuray [19] introduced the concept of Wijsman strongly lacunary summability of sequences of sets. Kişi and Nuray [11] introduced a new convergence notion, for sequences of sets, which

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