Asymptotically $\mathcal{I}_\lambda$- Statistical Equivalent Sequences of weight g

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Abstract: This paper presents the following definition which is a natural combination of the definition for asymptotically equivalent of weight g, $\mathcal{I}$ -statistically limit, and λ- statistical convergence, where $g : \mathbb{N} \to [0, \infty)$ is a function satisfying $g(n) \to \infty$ and $n/g(n) \nrightarrow 0$. The two nonnegative sequences $x = (x_k)$ and $y = (y_k)$ are said to be asymptotically $\mathcal{I}^g$- statistical equivalent of weight g to multiple L provided that for every $\epsilon > 0$, and $\delta > 0$,

$$\{n \in \mathbb{N} : \frac{1}{g(\lambda_n)} |\{k \in I_n : |\frac{x_k}{y_k} - L| \geq \epsilon\}| \geq \delta\} \in \mathcal{I},$$

(denoted by $x \overset{S_\lambda^L(I)^g}{\sim} y$) and simply asymptotically $\mathcal{I}^g$- statistical equivalent of weight g if $L = 1$. In addition, we shall also present some inclusion theorems.

Keywords: Asymptotical equivalent, ideal convergence, $\mathcal{I}$-statistical convergence, λ- statistical convergence, statistical convergence of weight g

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