

# ON $\mathcal{I}$ -DEFERRED STATISTICAL CONVERGENCE OF ORDER $\alpha$ FOR COMPLEX UNCERTAIN SEQUENCES\*

Bijoy Das<sup>†</sup> Chiranjib Choudhury<sup>‡</sup>

## Abstract

In this paper, we introduce the concepts of  $\mathcal{I}$ -deferred statistical convergence almost surely of order  $\alpha$ ,  $\mathcal{I}$ -deferred statistical convergence in measure of order  $\alpha$ ,  $\mathcal{I}$ -deferred statistical convergence in mean of order  $\alpha$ ,  $\mathcal{I}$ -deferred statistical convergence in distribution of order  $\alpha$ ,  $\mathcal{I}$ -deferred statistical convergence in uniformly almost surely of order  $\alpha$  and some relationships among them are discussed.

**Keywords:** uncertainty theory, complex uncertain variable, deferred statistical convergence,  $\mathcal{I}$ -convergence.

**MSC:** 60B10, 40A35, 40G15.

DOI <https://doi.org/10.56082/annalsarscimath.2024.2.214>

## 1 Introduction

Uncertainty theory is unpreventable to quantify the future when no data is available, to evaluate the future when an emergency like war, flood, earthquake arises, or the past when counting precise observations or performing measures is nearly impossible. The uncertainty theory and uncertain

---

\*Accepted for publication on May 23, 2024

<sup>†</sup>[bijoy.mathematics.tu@gmail.com](mailto:bijoy.mathematics.tu@gmail.com), Department of Mathematics, Tripura University (A Central University), Suryamaninagar-799022, Agartala, India

<sup>‡</sup>[chiranjibchoudhury123@gmail.com](mailto:chiranjibchoudhury123@gmail.com), Department of Mathematics, Tripura University (A Central University), Suryamaninagar-799022, Agartala, India