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## DOUBLE DEFERRED $f$ -STATISTICAL CONVERGENCE OF ORDER $\alpha$

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### ABSTRACT

In this study, we define the concept of double deferred  $f$ -density of order  $\alpha$  that is a generalization of  $f$ -density, where  $f$  is an unbounded modulus. We examine some similarities and differences between the concept of double deferred  $f$ -density of order  $\alpha$  and the well-known notions. Also, we define the double deferred  $f$ -statistical convergence of order  $\alpha$  for any double sequence and double deferred Cesàro summability with respect to modulus of order  $\alpha$ . Moreover, we have investigated the relationship between the two concepts and give some characterizations.

### REFERENCES

- [1] Çolak R. and Altın Y., Statistical convergence of double sequences of order  $\alpha$ , Jour. Function spaces and appl. (2013).
- [2] İ. Dağadur, Ş. Sezgek: Deferred Cesàro mean and Deferred Statistical convergence of double sequences, Jour. Ineq. and Special func. V.7, N.4, pp.118-136 (2016).
- [3] Nakano H., Concave modular, J. Math. Soc. Jpn. V.5, pp.29-49 (1953).
- [4] M. Zeltser, Investigation of Double Sequence Spaces by Soft and Hard Analytical Methods, Diss. Math. Univ. Tartu. 25, Tartu University Press, Univ. of Tartu, Faculty of Mathematics and Computer Science, Tartu (2001).
- [5] M. Mursaleen, Osama H.H. Edely, Statistical Convergence of Double sequences, J.Math. Anal. Appl. V.288 pp.223-231 (2003).
- [6] D. H. Armitage, I. J. Maddox *A New Type of Cesàro Mean*, Analysis **9** (1989), 195-206.

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