

Duman, O.; Khan, M. K.; Orhan, C.

***A*-statistical convergence of approximating operators.** (English) Zbl 1086.41008

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Let A be a regular summability matrix all of whose entries a_{n_k} ($n \in \mathbb{N}, k \in \mathbb{N}$) are non-negative. A sequence $x = \{x_k\}$ is said to be A -statistically convergent to L if and only if for every $\varepsilon > 0$

$$\lim_n \sum_{k:|x_k-L|\geq\varepsilon} a_{n_k} = 0.$$

This concept was introduced by *A. R. Freedman* and *J. J. Sember* [Densities and summability, Pac. J. Math. 95, 293–305 (1981; [Zbl 0504.40002](#))]. In *A. D. Gadjiev* and *C. Orhan* [Some approximation theorems via statistical convergence, Rocky Mt. J. Math. 32, No. 1, 129–138 (2002; [Zbl 1039.41018](#))], some classical Korovkin type approximation theorems have been studied via statistical convergence (the special case of the Cesàro summability matrix).

In the present paper the authors study the analogues of the classical Korovkin theorem via A -statistical convergence using an arbitrary interval of \mathbb{R} . Also, some results on A -statistical rates of convergence of positive linear operators are obtained.

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MSC:

- [41A36](#) Approximation by positive operators
- [41A25](#) Rate of convergence, degree of approximation
- [40A05](#) Convergence and divergence of series and sequences

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