Erkuş, Esra; Duman, Oktay; Srivastava, H. M.
Statistical approximation of certain positive linear operators constructed by means of the Chan-Chyan-Srivastava polynomials. (English) Zbl 1103.41024

Summary: By obtaining some Korovkin type approximation results in statistical sense for certain positive linear operators constructed by means of the Chan-Chyan-Srivastava multivariable polynomials [W.-C. C. Chan, C.-J. Chyan and H. M. Srivastava, The Lagrange polynomials in several variables, Integral Transform. Spec. Funct. 12, 139–148 (2001; Zbl 1057.33003)], we show that our approximation method is stronger than the corresponding classical aspects in the approximation theory settings. Furthermore, we investigate their statistical rates by means of the modulus of continuity and the elements of the Lipschitz class.

MSC:
41A36 Approximation by positive operators
41A25 Rate of convergence, degree of approximation
47B38 Linear operators on function spaces (general)

Keywords:
Chan-Chyan-Srivastava multivariable polynomials; Lagrange polynomials; $A$-statistical convergence; positive linear operators; Korovkin approximation theorem; Fourier series; Gibbs phenomenon; modulus of continuity; Lipschitz class

Full Text: DOI

References:

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.