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ON THE APPROXIMATION OF ANALYTIC FUNCTIONS BY THE q -BERNSTEIN POLYNOMIALS IN THE CASE $q>1^{\ast}$

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Abstract. Since for q > 1, the *q*-Bernstein polynomials $B_{n,q}$ are not positive linear operators on C[0, 1], the investigation of their convergence properties turns out to be much more difficult than that in the case 0 < q < 1. In this paper, new results on the approximation of continuous functions by the *q*-Bernstein polynomials in the case q > 1 are presented. It is shown that if $f \in C[0, 1]$ and admits an analytic continuation f(z) into $\{z : |z| < a\}$, then $B_{n,q}(f; z) \to f(z)$ as $n \to \infty$, uniformly on any compact set in $\{z : |z| < a\}$.

Key words. q-integers, q-binomial coefficients, q-Bernstein polynomials, uniform convergence

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