Some results regarding King operators

Zoltán Finta

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Abstract

We prove the existence of a sequence of King's operators which approximate each continuous function on $[0, 1]$ and preserve the functions $e_0(x) = 1$ and $e_{2i}(x) = x^{2i}$. Moreover, we construct a sequence of polynomial bounded positive linear operators possessing similar properties. For a convergent sequence of Bernstein type operators we determine those $i, j \in \{0, 1, 2, \ldots\}$ for which the functions $e_i(x) = x^i$ and $e_j(x) = x^j$ are preserved by our operators.