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BOHMAN-KOROVKIN-WULBERT OPERATORS ON C[0,1] for $\{1, x, x^2, x^3, x^4\}$

Sin-Ei Takahasi*

Abstract. A class of operators on the Banach space C[0,1] of all complex-valued functions on [0,1] satisfying a Bohman-Korovkin-Wulbert type theorem is investigated. Under the test function $\{1, x, x^2, x^3, x^4\}$ the sum of two homomorphisms on C[0,1] is an example.

In 1952, H. Bohman [2] proved that the sequene of interpolation operators

$$B_n = \sum_{k=0}^{n} b_{k,n} \otimes \delta_{t_{k,n}}$$

$$\left(\begin{array}{l} 0 \leqq t_{k,n} \leqq 1,\ t_{j,n} < t_{k,n}\ (j<k),\ 0 \leqq b_{k,n} \in C[0,1], \\ \delta_t \text{ is the evaluation at } t \end{array}\right)$$

on C[0,1] converges strongly to the identity operator if $\lim_{n\to\infty} \| B_n(f) - f \|_\infty = 0$ for $f = 1, x, x^2$, where $\| \ \|_\infty$ denotes the supremum norm on C[0,1]. Such functions $\{1, x, x^2\}$ are called test functions.

In 1959, P. P. Korovkin [3] proved that Bohman's theorem is true even if the interpolation operators B_n are replaced with positive linear operators on C[0,1]. In 1968, D. E. Wulbert [5] proved that

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