



Jakimovski-Leviatan Type Operators Including Bessel's K Function in the Kernel

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Abstract

In this paper we introduce Jakimovski-Leviatan type operators including Bessel's K function in the kernel. These operators are the composition of the exponential type operators connected with x^3 and the Jakimovski-Leviatan operators. We investigate convergence properties of these operators using Korovkin type approximation theorems. We also obtain quantitative type result by introducing appropriate Lipschitz type functionals including cubic polynomial weight. We further obtain the rate of convergence of the operators by means of modulus of continuity.

Keywords: Jakimovski-Leviatan operators, exponential type operators, Lipschitz type functional.

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