ON THE PROPERTIES OF APPROXIMATION OF A SEQUENCES OF MODIFIED SZÁSZ-MIRAKJAN OPERATORS

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We studies futher properties of approximation of the following sequence of operators, introduced in [1]

$$L_\alpha^\rho(f, x) = e^{-\alpha x}\Big(f(0) + \sum_{k=1}^\infty \frac{(\alpha x)^k}{k!} \int_0^\infty \frac{\alpha\rho^{k\rho}}{\Gamma(k\rho)} \cdot e^{-\alpha\rho t}(\alpha t)^{k\rho-1} f(t)\, dt\Big),$$

where $\alpha > 0$, $\rho > 0$ and $f : [0, \infty) \to \mathbf{R}$ is an integrable function, for which the series above converges for all $x \geq 0$. Varying the parameter ρ, these operators make a link between the Philips operators, obtained for $\rho = 1$ and the usual Szász-Mirakjan operators, obtained by passing to the limit $\rho \to \infty$.

REFERENCES

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