On operator analogue of Jackson inequality

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Classical Jackson inequality establishes the relationship between the degree of smoothness of a function and the rate of convergence to zero of the best approximation of this function by some simpler functions.

An operator analogue of Jackson inequality is considered. Let A is the closed unbounded operator on the complex Banach space such that A generates bounded C_0 group $U(t)$. We call the quantity $\inf \|x - y\|$ as the best approximation $\mathcal{E}_r(x)$ of vector x, where infimum is taken over all exponential type entire vectors of operator A with type, not exceeding r.

Recently, Y. Kryakin obtained almost optimal values of constants in the classical Jackson inequality. We shows that similar results are true for the operator analogue of this inequality.