

Stability of Localized Integral Operators on Weighted L^p spaces

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In this paper, we consider localized integral operators whose kernels have mild singularity near the diagonal and certain Holder regularity and decay off the diagonal. Our model example is the Bessel potential operator \mathcal{J}_{γ} , $\gamma > 0$. We show that if such a localized integral operator has stability on a weighted function space L^p_w for some $p \in [1, \infty)$ and Muckenhoupt A_p -weight w , then it has stability on weighted function spaces $L^{p'}_{w'}$ for all $1 \leq p' < \infty$ and Muckenhoupt $A_{p'}$ -weights w' .

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