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INEQUALITIES FOR NORMS OF SOME INTEGRAL OPERATORS

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Abstract. Let $(A(a)u)(x) := \int_0^a (1-xt)^{-1}u(t)\,dt, 0 < a < 1$. Properties of the operators $A(a)$ as $a \to 1$ are studied. It is proved that $A := A(1)$ is a bounded, positive self-adjoint operator in $H = L^2[0,1]$, $||A|| \leqslant \pi$, while $A : C(0,1) \to C(0,1)$ is unbounded.

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