OPERATOR RADII AND UNITARY OPERATORS

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Abstract. Let $\rho \geq 1$ and $w_\rho(A)$ be the operator radius of a linear operator $A$. Suppose $m$ is a positive integer. It is shown that for a given invertible linear operator $A$ acting on a Hilbert space, one has $w_\rho(A^{-m}) \geq w_\rho(A)^{-m}$. The equality holds if and only if $A$ is a multiple of a unitary operator.


Keywords and phrases: Unitary $\rho$-dilation, operator radius, numerical radius, unitary operator.

REFERENCES