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A Lower Bound for the Differences of Powers of Linear Operators

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摘要

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Abstract Let T be a bounded linear operator in a Banach space, with $\sigma(T) = \{1\}$. In 1983, Esterle--Berkani's conjecture was proposed for the decay of differences $\|(I - T)^n\|$ as follows: Either $\liminf_{n \rightarrow \infty} \|(I - T)^n\| \geq 1/e$ or $T = I$. We prove this claim and discuss some of its consequences.

Key words [Esterle--Berkani's conjecture](#) [Quasi-nilpotent linear operator](#) [Differences of powers](#) [Decay](#)

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