

J. Malinen, O. Nevanlinna, V. Turunen and Z. Yuan: *A lower bound for the differences of powers of linear operators*; Helsinki University of Technology Institute of Mathematics Research Reports A467 (2004).

Abstract: *Let T be a bounded linear operator in a Banach space, with $\sigma(T) = \{1\}$. In 1990, M. Berkani presented a conjecture on the decay of differences $(I - T)T^n$ as $n \rightarrow \infty$. More precisely, either*

$$\liminf_{n \rightarrow \infty} (n + 1) \| (I - T)T^n \| \geq 1/e$$

or $T = I$. We prove this claim and discuss some of its consequences.

AMS subject classifications: 47A30, 47D03, 47A10, 30C45

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