

On the semiconvergence of powers of interval matrices

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Abstract

Let $[A]$ be an $n \times n$ interval matrix. We consider the behavior of the powers $[A]^k$ of $[A]$, defined recursively by $[A]^0 := I$, $[A]^{k+1} := [A]^k \cdot [A]$. For point matrices $[A] \equiv A$ this behavior is well-known, depending on the spectral radius of A . For non-degenerate interval matrices the case $\lim_{k \rightarrow \infty} [A]^k = O$ was studied completely years ago while the case $\lim_{k \rightarrow \infty} [A]^k \neq O$ could only be handled with gaps. We give a survey on both cases and present some new results for the second case.