Berdysheva, Elena E.; Filatova, Maria A.
On the best approximation of the infinitesimal generator of a contraction semigroup in a Hilbert space. (English) Zbl 1448.41025

Summary: Let $A$ be the infinitesimal generator of a strongly continuous contraction semigroup in a Hilbert space $H$. We give an upper estimate for the best approximation of the operator $A$ by bounded linear operators with a prescribed norm in the space $H$ on the class $Q_2 = \{x \in D(A^2) : \|A^2x\| \leq 1\}$, where $D(A^2)$ denotes the domain of $A^2$.

MSC:

- 41A50 Best approximation, Chebyshev systems
- 47J25 Iterative procedures involving nonlinear operators

Keywords:
contraction semigroup; infinitesimal generator; Stechkin’s problem

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References:

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