

**Dobner, H.-J.**

**Numerical bounds for inverses of linear operators.** (English) Zbl 1265.65267

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Summary: An effective way of computing bounds for inverses of linear operators is discussed. It involves computing very fast a bound for the inverse of linear Volterra and Fredholm integral operators. This approach covers a wide class of ordinary and partial initial and boundary value problems. It is demonstrated that this concept is feasible in the framework of computer algebra systems.

**MSC:**

- 65R20 Numerical methods for integral equations
- 45P05 Integral operators
- 68W30 Symbolic computation and algebraic computation
- 45B05 Fredholm integral equations
- 45D05 Volterra integral equations
- 45A05 Linear integral equations

**Keywords:**

computer algebra system; bounds for inverses; linear Volterra and Fredholm integral operators

**Software:**

INTPAK; PASCAL-XSC