

Fatullayev, Afet Golayoğlu

Numerical method of identification of an unknown source term in a heat equation. (English)

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Summary: A numerical procedure for an inverse problem of identification of an unknown source in a heat equation is presented. Approach of proposed method is to approximate unknown function by polygons linear pieces which are determined consecutively from the solution of minimization problem based on the overspecified data. Numerical examples are presented.

MSC:

- 65M32 Numerical methods for inverse problems for initial value and initial-boundary value problems involving PDEs
- 35K55 Nonlinear parabolic equations
- 35R30 Inverse problems for PDEs
- 65M06 Finite difference methods for initial value and initial-boundary value problems involving PDEs

Cited in 4 Documents

Keywords:

unknown source; finite difference metho; inverse problem; heat equation; Numerical examples

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