

**AN APPROACH TO SOLVING AN ILL-POSED PROBLEM FOR A NONLINEAR DIFFERENTIAL EQUATION****E. V. Tabarintseva**

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A reverse time problem is considered for a semilinear differential equation. We suggest an approach to construct approximate solving methods for the problem under study. The approach generalizes the scheme proposed by A.B. Bakushinskii for linear ill-posed problems. Two-sided error estimates for the proposed methods are obtained via the error estimates for the corresponding linear problem on standard correctness classes. Order optimality is proved for the considered algorithms.

Keywords: differential equation, inverse problem, modulus of continuity of the inverse operator, approximate method, error estimate.

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