APPLIED PROBLEMS OF MATHEMATICS AND MECHANICS

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# NUMERICAL SOLUTION TO SOME INVERSE NONLOCAL BOUNDARY-VALUE PROBLEMS

**Abstract**

*We investigate problems of restoring the parameters of an object the state of which is described by a non-autonomous system of ordinary loaded differential equations with non-separated point and integral conditions. To restore the parameters, additional conditions are given. We propose an approach to the numerical solution to the problem. The approach is based on the operation that convolves given integral conditions into point conditions. This approach allows reducing the solution to the initial problem to a Cauchy problem with respect to systems of ordinary differential and of linear algebraic equations. The approach is extended to a class of one-dimensional inverse problems for parabolic equations.*