

## ON AN APPROXIMATE METHOD FOR SOLVING LOADED EQUATIONS OF HYPERBOLIC AND PARABOLIC TYPES

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*Examples of the implementation of an approximate method for solving loaded partial differential equations are described. In the first case, the hyperbolic equation contains an integer degree of the modulus of the solution under the sign of the integral over the spatial variable. In the second example, a similar load is contained in the lower term of the parabolic equation. In the process of solving initial boundary value problems, a priori estimates of the solution are established, which are later used to linearize the corresponding equations. The transition from it to the associated ordinary differential equations is made. The solutions of the latter are used to construct solutions to the original problems. The method of selecting the indefinite constants that arise when establishing a priori estimates is demonstrated.*

**Keywords:** power-law nonlinearity, loaded equation, a priori estimate, approximate solution.

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