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The inverse problem of determining the source depending on spatial variables in a hyperbolic equation of the third order

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Annotation. The work is devoted to the proof of the existence and uniqueness of the solution of the inverse problem of determining the source for a hyperbolic equation of the third order. An inverse problem is posed, which consists in determining an unknown source that depends on spatial variables. As additional information for solving the inverse problem, the values of the solution of the problem at the interior point are given. The proof is based on the derivation of a linear system of Volterra integral equations of the second kind with respect to an unknown source.

Key words: hyperbolic equation, inverse problem, source function, uniqueness, existence, Volterra equation, redefinition

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