

Keldysh type problem for B-hyperbolic equation with integral boundary value condition of the first kind

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Abstract

© 2017, Pleiades Publishing, Ltd. We consider a boundary value problem for a hyperbolic equation in a rectangular domain with non-complete boundary data and integral boundary value conditions of the first kind. The existence and uniqueness of solution of the problem are established by means of the spectral method. The solution is obtained in the form of the Fourier-Bessel series. Its convergence is proved in the class of regular solutions.

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Keywords

Bessel differential operator, Fourier-Bessel series, Hyperbolic equation, non-local boundary value condition

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