

Identification hyperbolic problems with nonlocal conditions

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Abstract: In the present study, a identification problem with nonlocal conditions for a one-dimensional hyperbolic equation is investigated. Stability estimates for the solution of the identification problem are established. Furthermore, a first order of accuracy difference scheme for the numerical solution of the identification hyperbolic equations problems with nonlocal conditions is presented. Stability estimates for the solution of the difference scheme are established. Then, this difference scheme is tested on an example and some numerical results are presented.

Keywords: Source identification problem, hyperbolic differential equations, difference schemes.

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