Lipschitz Stability for Hyperbolic Inequalities in Octants With the Lateral Cauchy Data and Refocusing in Time Reversal

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Abstract

Hyperbolic equations and inequalities in octants with the lateral Cauchy data at coordinate palnes are consdered.Lipschitz stability estimate is established in the case when both the inhomogeneous right hand side and (unknown) initial conditions at $\{t = 0\}$ have a finite support. This is the first stability estimate for such a Cauchy problem in an infinite domain. Refocusing of time reversal fields in octants follows. It is shown that the modified Quasi-Reversibility Method can be applied for the numerical solution of such a Cauchy probem including computational time reversal.

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