Lipschitz Stability of an Inverse Problem for an Acoustic Equation

Michael V. Klibanov and Masahiro Yamamoto

Abstract

An inverse problem of the determination of the coefficient $p(x)$ in the equation $u_{tt} = \nabla \cdot (p(x)\nabla u)$, $x \in \Omega \subset R^n, t \in (0, T)$ is considered. The main difficulty here as compared with the previous results is that the function $p(x)$ is involved together with its derivatives. Lipschitz stability estimate is obtained using the method of Carleman estimates.

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Department of Mathematics, UNC Charlotte, Charlotte, NC 28223