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Khajdarov, A.

On stability estimates in multidimensional inverse problems for differential equations. (English. Russian original) Zbl 0679.35085

Sov. Math., Dokl. 38, No. 3, 614-617 (1989); translation from Dokl. Akad. Nauk SSSR 303, No. 4, 803-806 (1988).

Let A be a uniformly elliptic operator on a domain Ω in $\mathbb{R}^n$, B be a matrix of first order partial differential operators, ρ be a matrix coefficient function. The inverse problem of determining the vector functions u and q in the parabolic (hyperbolic) systems

$$[(\partial^{(2)}/\partial t^{(2)} + A)I + B]u = \rho q + f$$

from overdetermined boundary data is considered. For sufficiently large observation time, stability estimates are given.

Reviewer: H.W.Engl

MSC:

35R30 Inverse problems for PDEs
35B35 Stability in context of PDEs
35K40 Second-order parabolic systems
86A99 Geophysics
35L55 Higher-order hyperbolic systems

Cited in **9** Documents

Keywords:

parameter identification; Carleman estimates; parabolic systems; hyperbolic systems; inverse problem; overdetermined boundary data; stability estimates

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