

Clark, H. R.; San Gil Jutuca, L. P.; Milla Miranda, M.

On a mixed problem for a linear coupled system with variable coefficients. (English)

Zbl 0886.35043

Electron. J. Differ. Equ. 1998, Paper 4, 20 p. (1998).

Summary: We prove existence, uniqueness, and exponential decay of solutions to the mixed problem

$$u''(x, t) - \mu(t)\Delta u(x, t) + \sum_{i=1}^n \frac{\partial \theta}{\partial x_i}(x, t) = 0, \quad \theta'(x, t) - \Delta \theta(x, t) + \sum_{i=1}^n \frac{\partial u'}{\partial x_i}(x, t) = 0,$$

with a suitable boundary damping and a positive real-valued function μ .

MSC:

35F15 Boundary value problems for linear first-order PDEs

35N10 Overdetermined systems of PDEs with variable coefficients

35B40 Asymptotic behavior of solutions to PDEs

Cited in **1** Review
Cited in **5** Documents

Keywords:

hyperbolic-parabolic system; boundary damping; exponential stability; mixed boundary conditions; initial boundary value problem

Full Text: [EMIS](#) [EuDML](#)