

S. P. Lavrenyuk. **The Cauchy problem for a strongly degenerate equation of the plate vibration type** // Nelinejnye granichnye zadachi (Nonlinear Boundary Value Problems). – 1989. – 1. – p. 64-67.

In this article, the author obtains conditions of the correct solvability of the Cauchy problem

$$(p(x, t) u_t)_t + \sum_{|\alpha|=|\beta|=2} D_x^\alpha (a_{\alpha\beta}(x, t) D_x^\beta u) + \\ + \sum_{|\alpha|\leq 2} b_\alpha(x, t) D_x^\alpha u + \sum_{|\alpha|\leq 1} (c_\alpha(x, t) D_x^\alpha u)_t = f(x, t),$$

$$u(x, 0) = 0, \quad u_t(x, 0) = 0$$

in the domain $Q_T = \{(x, t): x \in \mathbb{R}^n, 0 < t < T\}$ under the assumption

$$\sum_{|\alpha|=|\beta|=2} a_{\alpha\beta}(x, t) \eta_\alpha \eta_\beta \geq \mu \sum_{|\alpha|=2} \eta_\alpha^2, \quad \eta \in \mathbb{R}^{\frac{n(n+1)}{2}}, \quad (x, t) \in Q_T.$$