1085-35-50 **Mikhail D Surnachev*** (peitsche@yandex.ru), Kustanayskaya ul., 5-1-91, Moscow, 115682, Russia. *On stabilization of solutions to nonlinear parabolic equations of the p-Laplace type.*

We study stabilization of solutions to the Cauchy problem

$$u_t = \mathrm{div} A(x,t,\nabla u), \quad x \in \mathbb{R}^n,\ n \geq 2, \quad t > 0, \tag{1}$$

$$u|_{t=0} = f \in L^2_{loc}(\mathbb{R}^n). \tag{2}$$

The flow $A(x,t,\xi)$ is a Carathéodory function satisfying

$$|A(x,t,\xi)| \leq C_0|\xi|^{p-1},\ A(x,t,\xi)\cdot\xi \geq C_1|\xi|^p,$$

where $p > \frac{2n}{n+2}$, and

$$(A(x,t,\xi_2) - A(x,t,\xi_1), \xi_2 - \xi_1) \geq 0.$$

A solution to (1)-(2) is understood in the standard weak sense.

Theorem 1. *Let $p \leq n$. Then for any $f \in L^2(\mathbb{R}^n)$ the energy solution to (1)-(2) converges to zero in $L^2(\mathbb{R}^n)$ as $t \to \infty$.*

Definition. We say that f has the uniform mean $\bar{f}$ if $f(z+\omega x)$ weakly converges to $\bar{f}$ in $L^2_{loc}(\mathbb{R}^n)$ as $\omega \to \infty$ uniformly with respect to $z \in \mathbb{R}^n$.

Theorem 2. *Let u be a bounded solution to (1)-(2). Then u uniformly converges to zero as $t \to \infty$ if and only if f has zero uniform mean.*

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