

Existence of exponential attractor to $p(x)$ -laplacian via the L^1 -trajectories method.

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Abstract

This article is devoted to the study of the existence of an exponential attractor for a family of problems, in which diffusion d_{λ} blows up in localized regions inside the domain
$$\begin{cases} u_t - \lambda \operatorname{div}(d_{\lambda}(x)(|\nabla u^{\lambda}|^{p(x)-2} + \eta) \nabla u^{\lambda}) + |u^{\lambda}|^{p(x)-2} u^{\lambda} = B(u^{\lambda}), & \\ \text{in } \Omega \quad u^{\lambda} = 0, & \text{on } \partial\Omega \quad u^{\lambda}(0) = u^{\lambda}_0 \end{cases}$$
 in $L^2(\Omega)$, and their limit problem via the L^1 -trajectory method.

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