

论文
无界区域上具线性阻尼的二维 Navier-Stokes 方程的拉回吸引子

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摘要:

该文首先介绍拉回渐近紧非自治动力系统的概念, 给出非自治动力系统拉回吸引子存在定理. 最后证明了无界区域上具线性阻尼的二维Navier-Stokes 方程的拉回吸引子的存在性, 并给出了其Fractal维数估计.

关键词: 渐近紧 过程 非自治 线性阻尼 拉回吸引子

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35B41; 35Q35

Pullback Attractors for Non-autonomous 2D Navier-Stokes Equations with Linear Dampness in Some Unbounded Domains

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Abstract:

In this paper, the concept of pullback asymptotically compact non-autonomous dynamical system is firstly introduced. Then, a result ensuring the existence of a pullback attractor for a non-autonomous dynamical system is given. Finally, the existence of a pullback attractor for a non-autonomous 2D Navier-Stokes equation with linear dampness in some unbounded domains is proved. Moreover, the upper bounds of Fractal dimension of the pullback attractor is estimated.

Keywords: Asymptotic compactness Process Non-autonomous Linear dampness Pullback attractor

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