SEMINÁRIO DE EQUAÇÕES DIFERENCIAIS

Asymptotic pullback behavior for a parabolic equation with delay on time-dependent domains

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Resumo: We apply the theory of non-autonomous dynamical systems to study the asymptotic pullback behavior of the solutions of the semilinear transfer equation with a delay term defined on time-dependent domains. We prove the existence and regularity of weak solutions as well as the existence, regularity, and finiteness of the fractal dimension of pullback attractors on tempered universes that depend on a non-increasing function. We address the problem of estimating the fractal dimension of pullback attractors, under current techniques, which consists of readjusting the proof presented in [1, Lemma 1.3] and extending it to families of normed spaces parameterized in time.

References

[1] J. Málek, D. Pražák, Large time behavior via the method of ℓ-trajectories. *J. Differential Equations*, **181** (2002), 243-279.