# Existence of unique attractors in abstract skew-product semiflows, with applications to neural networks [*]

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## Abstract

The main results that we present deal with abstract skew-product semiflows over a minimal base flow. Using techniques of topological dynamics, we prove some results on the structure of positively invariant compact sets which have some extensibility properties as well as some stability properties, such as uniform stability or uniform asymptotic stability. We also establish conditions that guarantee the existence of a unique minimal set which is a 1-cover of the base flow and a global attractor. Then, we apply the previous results to the skew-product semiflows induced by the solutions of a family of non-autonomous delay differential equations which are modelling the behaviour of some of the so-called delay-Hopfield neural networks. In particular, we study the almost periodic case, for which we prove the existence of a unique almost periodic attracting solution.

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[*]oral communication.