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ON SUPPORTS OF EVOLUTION SYSTEMS OF MEASURES FOR CONVERGING IN LAW NON-HOMOGENOUS MARKOV PROCESSES

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Dedicated to memory of Professor Andrzej Lasota (1932–2006)

Abstract. We obtain an explicit form of supports of strongly mixing evolution system of measures naturally connected with non-homogenous Markov process induced by time-dependent SPDEs. We show that considered supports one can get as a net of limit sets determined by a two-parameters semigroup of set-valued maps induced by transition probabilities.

1. Introduction

This work is devoted to connections between stochastic evolution of a Markov-Feller non-homogenous process and asymptotic behavior of deterministic set-valued semigroup induced by considered process. Such connections between random and deterministic behavior of different systems is the subject of interest of many scientists, not only mathematicians, during last decades. One of older and famous results reads as follows: if a Markov–Feller chain induced by an iterated function system with finite number of continuous transformations on a compact metric space admits the unique invariant and attractive measure

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