

# Asymptotic measures of random logistic maps

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## Abstract

We consider a system whose state  $x$  changes to  $F_\sigma(x)$  if a perturbation occurs at the time  $t$ , for  $t > 0, t \notin \mathbb{N}$  and the state  $x$  changes to the new state  $F_\eta(x)$  at the time  $t$ , for  $t \in \mathbb{N}$ . Here,  $F_\eta$  and  $F_\sigma$  are logistic maps. We assume that the number of perturbations in the interval  $(n, n+1)$  is a Poisson distributed random variable. We show that under certain conditions on the parameters  $\eta$  and  $\sigma$ , the system has, even for the non-contractive case, a unique stationary probability measure, the support of which can be either a Cantor set or an interval.