

Switching Diffusions

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Many problems arising in applications involve random noise influence as well as interactions of continuous and discrete events. In this talk, we study a class of such problems. The underlying system consists of a continuous component and a discrete component, termed a switching diffusion. We consider the case that the switching process take values in a countable set and the associate operator could be past dependent. We study recurrence, ergodicity, and stability of the system. This is a joint work with Dang Nguyen.