

SWITCHING DIFFUSIONS WITH PAST-DEPENDENT AND COUNTABLE SWITCHING

G. YIN *Wayne State University, USA*, E-mail: gyin@math.wayen.edu

KEY WORDS: ergodicity

MATHEMATICAL SUBJECT CLASSIFICATION: 60J60, 60H10.

Abstract: In this talk, we study a class of switching diffusions consisting of a continuous component and a discrete component. We consider the case that the switching process takes 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.

References

- [1] D.H. Nguyen and G. Yin, Modeling and analysis of switching diffusion systems: Past dependent switching with a countable state space, *SIAM J. Control Optim.*, **54** (2016), 2450–2477.