

On Stochastic Control under Poisson Observations:
Optimality of a Barrier Strategy in a General Lévy Model

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Abstract

This talk is based on the joint work with Prof. Kazutoshi Yamazaki from The University of Queensland. We revisit the stochastic control problem in two cases with Lévy processes that minimize running and controlling costs. Existing studies have shown the optimality of classical or periodic barrier strategies when driven by Brownian motion or Lévy processes with one-sided jumps. Under the assumption that we can be controlled at any time or only at Poissonian dividend-decision times, we show the optimality of classical or periodic barrier strategies for a general class of Lévy processes.

Keywords:

Lévy Process; Stochastic Control.