

Necessary and Sufficient Condition for Optimality of a Backward Non-Markovian System

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Abstract

We consider a stochastic control problem in the case where the set of control domain is convex, the system is governed by a nonlinear backward stochastic differential equation with a non-Markovian system and constant terminal conditions. The paper reports on a derivation of a stochastic maximum principle for optimality with a minimized criterion in the general form, with initial costs.

Keywords : Backward Stochastic Differential Equations, Maximum Principle, Adjoint Equation, Variational Inequalities, Path Dependence.

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