A TIME-CHANGED STOCHASTIC CONTROL PROBLEM AND ITS MAXIMUM PRINCIPLE

BY

ERKAN NANE (AUBURN) AND **YINAN NI** (ROMEOVILLE)

Abstract. This paper studies a time-changed stochastic control problem, where the underlying stochastic process is a Lévy noise time-changed by an inverse subordinator. We establish a maximum principle for the time-changed stochastic control problem. We also prove the existence and uniqueness of the corresponding time-changed backward stochastic differential equation involved in the stochastic control problem. Some examples are provided for illustration.

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