

## **New perspective to stochastic differential games and applications to Economics**

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### **Abstract**

This paper gives a new method to compute Nash equilibria in feedback strategies in stochastic differential games. We obtain a system of partial differential equations, which directly characterize the Markov perfect Nash equilibria, without resorting to the knowledge of the value functions. We also show how to obtain the value functions from the optimal controls. We apply the theoretical results to solve a game and to study analytically robust strategies, in an economic framework.

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