

2016학년도 1학기

# 수학전공 Colloquium

제 목

Backward SDE methods for nonlinear filtering problems

연 사

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초 록

A nonlinear filtering problem can be classified as a stochastic Bayesian optimization problem of identifying the state of a system with a noise perturbation given noisy observations of the system.

Well known numerical simulation methods include unscented Kalman filters and particle filters. In this talk, we attempt to construct efficient numerical methods using forward backward stochastic differential equations.

The backward SDEs for the nonlinear filtering problems are the counter parts of Fokker-Planck equations for SDEs with no observation constraints. In this talk, we will describe the process of deriving such backward SDEs as well as the corresponding high order numerical algorithms for nonlinear filtering problems.

일 시

5월 25일 수요일 5시

장 소

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