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Linus Nyström: An Introduction to Forward Backward Stochastic Differential Equations

Handledare: Yishao Zhou

Sammanfattning

The aim of this paper is to introduce the reader to the concept of Forward Backward Stochastic Differential Equations (FBSDEs). We begin with an overview of some theoretical preliminaries and a formal presentation of our problem. We then proceed to study the solvability of FBSDEs through the use of mathematical control theory. This will subsequently lead us to a method for explicitly solving FBSDEs. We investigate when this method is applicable and what restrictions it brings. Finally, we conclude the text with two examples of applications of our theory.