

Abstract

In this thesis, we study various notions of variation of certain stochastic processes, namely p -variation, pathwise p -th variation along sequence of partitions and p -th variation along sequence of partitions. We study these concepts for fractional Brownian motions and Rosenblatt processes. A fractional Brownian motion is a Gaussian process and it has been intensively developed and studied over the last two decades because of its importance in modeling various phenomena. On the other hand, a Rosenblatt process, which is a non-Gaussian process that can be used for modeling non-Gaussian fluctuations, has not been getting as much attention as fractional Brownian motion. For that reason, we concentrate in this thesis on this process and we present some original results that deal with ergodicity, p -variation, pathwise p -th variation along sequence of partitions and p -th variation along sequence of partitions.

Boris Kiška