

Some Properties of Rosenblatt Processes

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Abstract

Rosenblatt processes are described by double Wiener-Itô integrals. These processes have a useful stochastic calculus that can be used to describe and solve various stochastic problems that historically were described by a Brownian motion. Empirical evidence exists that Brownian motion or other Gaussian processes are not effective models for noise in physical control systems. Some results are described for a stochastic calculus for these processes and how these results can be used to solve some specific problems of estimation and control. A result for absolute continuity of some specific transformations of Rosenblatt processes are given and their relation to the corresponding results for Brownian motion (Wiener measure).

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