

An Introduction to Continuity, Extrema, and Related Topics for General Gaussian Processes

by Robert J. Adler

This monograph provides a general and abstract introduction to the theory of sample path properties of Gaussian processes based on concepts such as entropy and majorising measures. A generally accessible introduction to majorising measures, the general theory of continuity, boundedness, and suprema distributions for Gaussian processes is presented.

Contents

Introduction

The basic ideas; The Brownian family of processes; A collection of examples;
Exercises

Two Basic Results

Borell's inequality; Slepian's inequality; Applications in Banach spaces; Exercises

Prelude to Continuity

Boundedness and continuity; Zero-one laws and continuity; The Karhunen-Loeve
expansion; Exercises

Boundedness and Continuity

Majorising measures; Upper bound proof; Lower bound proof; Entropy;
Ultrametricity and majorising measures; Discontinuous processes; Exercises

Suprema Distributions

Introduction; Some easy bounds; Processes with a unique point of maximal
variance; General bounds; The Brownian sheet on the unit square; Exercises

Afterthoughts

Two topics that were left out; Directions for research

References

Index

List price \$25

IMS member price \$15

Order prepaid from:

**Institute of Mathematical Statistics
3401 Investment Boulevard, Suite 7
Hayward, California 94545 (USA)**