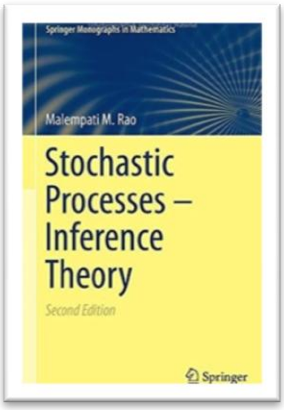
BOOK REVIEW



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STOCHASTIC PROCESSES-INFERENCE THEORY (Second Edition)

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INTRODUCTION

The book under review is **Stochastic Processes-Inference Theory (Second Edition)**, 978-3-319-12171-0 by **Malempati M. Rao** from Springer Series *Springer Monographs in Mathematics,* 1439-7382.

The author belongs to the Department of Mathematics, University of California, CA, USA.

Mathematics Subject Classification (2010): 60Gxx, 60H05, 60H30, 60J25, 62J02, 62MXX.

The 1st Edition is from Kluwer Academic Publishers 2000 and the 2nd Edition from Springer International Publishing Switzerland 2014.

THE REVIEW

In this book the author deals with a matter of great difficulty, still with open scientific problems: the inference theory in stochastic processes. It is a matter of great scientific interest and also of enormous practical applicability.

It is remarkable the care that the author puts in drafting the text to make it accessible to the widest audience possible. It is also to enhance the dexterity with which it does it. In fact, with a very careful organization, starting from the issues more accessible to reach the most complex, and through a mathematically elegant writing, a work with a very nice reading is achieved, constructed as a building from the foundations to the roof. According to this assertion, as the author notes, the first three chapters can be used for a quarter or semester graduate course on inference on stochastic processes, while the remaining six provide more advanced material on stochastic analysis appropriate for graduate scientific seminars and discussions.

The text is of very high scientific level, and it is remarkable that this is achieved without compromising the clarity and educational quality. The approach to regression analysis, both for stochastic processes and measures, and Ridge regression are remarkable being as a whole a fresh and unique look on these issues.

Very interesting applications are suggested in econometrics and electrical and information theory. Also gives inside in Kalman filter analysis.

In short a wonderful text with a very high pedagogical and scientific quality, on inference theory in stochastic processes, important for researchers in probability theory, mathematical statistics and electrical and information theory.