MODELLING AND IDENTIFICATION OF STOCHASTIC SYSTEMS

by

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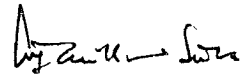
To Sushila, my wife
and
Niraj & Nitu, my children

PREFACE

The thesis contains results of investigations obtained by the author while working as a Lecturer in the Department of Electrical Engineering, Indian Institute of Technology, Delhi. The investigations reported here have been spread over the period January 1971 to November 1973. The main aim of the author has been to make use of the powerful recursive estimation techniques of Kalman for solving some of the problems in the area of model order reduction and system identification. In all, five different problems have been studied and the results obtained on these problems are discussed in the text. While the results of Chapter 3 and 6 are extensions of some of the results recently reported by other workers, those of Chapters 4,5 and 7 are believed to be significantly new.

The author would like to utilize this opportunity to express his deep sense of gratitude to his supervisor, Professor A.K. Mahalnabis for his active and effective guidance throughout the duration of the work. He would also like to thank his coresearchers Dr.K.L.S. Sharma and Dr.K.K. Biswas for many useful discussions and to the staff of the Computer Centre of the Institute for cooperation. Finally, the author would like to thank Mr. J.N. Saini for patient typing of this report.



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