



# Advanced Signal Analysis with Applications, 1/e

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## About the Book

This book is a sequel to the two previous books on signal analysis applications. The book applies the standard tools of signal analysis like differential calculus, probability theory, mechanism processes, partial differential equations, group theory and linear algebra to a variety of problems in physics and engineering that arise in practical applications. The book is a blend of theory and practices. In some problems, a new theoretical method is developed and in some others a well known theoretical method is applied to a new practical problem. The book will be of interest to theoretical and experimental physicists, engineers and applied mathematicians. Research students of applied mathematics and engineering will find the book extremely useful for providing new suggestions for existing problems and also for suggesting new research problems in their fields.

## Salient Features

Salient Features:

- ▶ Applies various mathematical tools to problems in different branches of physics like fluid dynamics, electromagnetism, and quantum theory.
- ▶ Has a dedicated chapter on signal theory which covers basic probability theory, stochastic processes & Brownian motion, linear & nonlinear systems, differential equations and wavelets in signal processing & parameter estimation.
- ▶ Use of partial differential equations in signal analysis is a special feature of this book.

## Table of Contents

Preface

1. Signal Theory

2. Mechanics

3. Fluid Dynamics

4. Electromagnetics

5. Electromagnetic Field Theory

6. Special and General Theories of Relativity

7. Group Representations Theory

8. Statistical Mechanics

9. Functional Analysis

10. Optimal Control of Dynamical Systems Index

## About the Author

**Harish Parthasarathy** :- Harish Parthasarathy completed his B.Tech in Electrical Engineering from the Indian Institute of Technology, Kanpur in 1990 and his Ph.D. from the Indian Institute of Technology, Delhi in 1994. The author has taught at the Indian Institute of Technology, Bombay, and the Indian Institute of Technology, Kanpur. Since June 2000, he has been in the Division of Electronics and Communication at the Netaji Subhash Institute of Technology where he has been teaching courses on systems, linear algebra and electromagnetic field theory.