



# Handbook of Problems in Engineering Mathematics and Physics , 1/e

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2008                                      826 pp                                      Paperback                                      ISBN: 9788188237234                                      Price: 695.00

## About the Book

The book is intended to be a reference for selected problems in Engineering Mathematics and physics covering the fields of Mechanics, Fluid Dynamics, Signal Processing, Electromagnetic field theory and Quantum Mechanics. Many of the problems introduced in this book appear in the form of a bridge between two apparently disconnected topics. For example, the section on mechanics contains a section on linear algebra and another section on group representation with reference to image processing. The specialized techniques developed in one field very often find applications in other fields, and the collection of problems in this book illustrates this interplay. The book will be of equal use to mathematicians working on applied problems, to physicists interested in applying tools of signal analysis to their research and to signal processing experts who are looking for applications of signal processing methods to physical problems.

## Salient Features

- ▶ This book contains selected important problems covering engineering mathematics, physics, and some aspects of signal processing.
- ▶ The problems are broadly dealt in four sections, namely, mechanics, quantum mechanics, electrodynamics, and random processes, estimation and filtering.
- ▶ Proofs of all the relevant theorems and lemma have been appropriately given.

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## 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.