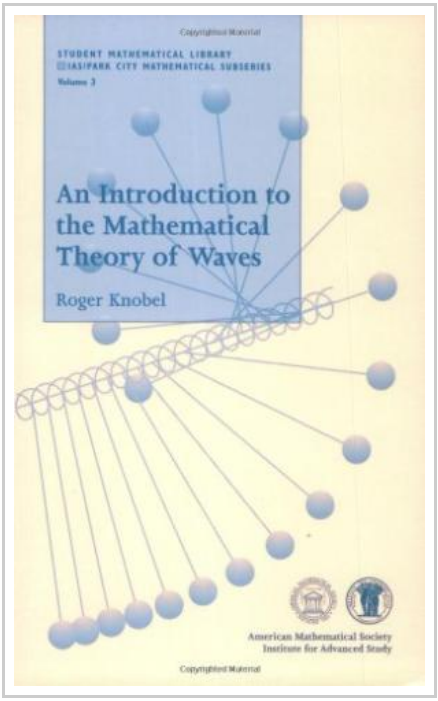



DOWNLOAD

# An Introduction to the Mathematical Theory of Waves

By Roger A. Knobel

American Mathematical Society. Paperback. Book Condition: new. BRAND NEW, An Introduction to the Mathematical Theory of Waves, Roger A. Knobel, This book is based on an undergraduate course taught at the IAS/Park City Mathematics Institute (Utah) on linear and nonlinear waves. The first part of the text overviews the concept of a wave, describes one-dimensional waves using functions of two variables, provides an introduction to partial differential equations, and discusses computer-aided visualization techniques. The second part of the book discusses traveling waves, leading to a description of solitary waves and soliton solutions of the Klein-Gordon and Korteweg-deVries equations. The wave equation is derived to model the small vibrations of a taut string, and solutions are constructed via d'Alembert's formula and Fourier series.The last part of the book discusses waves arising from conservation laws. After deriving and discussing the scalar conservation law, its solution is described using the method of characteristics, leading to the formation of shock and rarefaction waves. Applications of these concepts are then given for models of traffic flow. The intent of this book is to create a text suitable for independent study by undergraduate students in mathematics, engineering, and science. The content of the book is meant...

READ ONLINE
[ 9.26 MB ]

### Reviews

*It becomes an incredible ebook which i have at any time go through. It normally fails to charge excessive. Your daily life period will be enhance the instant you full reading this article book.*

-- ***Alize Bashirian I***

*Good electronic book and valuable one. It is one of the most incredible publication we have read through. It is extremely difficult to leave it before concluding, once you begin to read the book.*

-- ***Mrs. Bridgette Rau MD***