



## Boundary and Eigenvalue Problems in Mathematical Physics (Paperback)

By Hans Sagan

Dover Publications Inc., United States, 1990. Paperback. Book Condition: New. New edition. 211 x 135 mm. Language: English . Brand New Book. This well-known text uses a limited number of basic concepts and techniques Hamilton s principle, the theory of the first variation and Bernoulli s separation method to develop complete solutions to linear boundary value problems associated with second order partial differential equations such as the problems of the vibrating string, the vibrating membrane, and heat conduction. It is directed to advanced undergraduate and beginning graduate students in mathematics, applied mathematics, physics, and engineering who have completed a course in advanced calculus. In the first three chapters, Professor Sagan introduces Hamilton s principle and the theory of the first variation; he then discusses the representation of the vibrating string, the vibrating membrane and heat conduction (without convection) by partial differential equations. Bernoulli s separation method and infinite series solutions of homogeneous boundary value problems are introduced as a means for solving these problems. The next three chapters take up Fourier series, self-adjoint boundary value problems, Legendre polynomials, and Bessel functions. The concluding three chapters address the characterization of eigenvalues by a variational principle; spherical harmonics, and the solution of...



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