

1. Record Nr.	UNINA9910795835203321
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Titolo	Solutions Manual to Accompany Beginning Partial Differential Equations
Pubbl/distr/stampa	Somerset : , : John Wiley & Sons, Incorporated, , 2014 ©2014
ISBN	9781118880586 9781118630099
Edizione	[3rd ed.]
Descrizione fisica	1 online resource (199 pages)
Collana	Pure and Applied Mathematics: a Wiley Series of Texts, Monographs and Tracts Ser.
Disciplina	515.353
Soggetti	Differential equations -- Problems, exercises, etc Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Series -- Title Page -- Copyright -- Preface -- Chapter 1: First Ideas -- 1.1 Two Partial Differential Equations -- 1.2 Fourier Series -- 1.3 Two Eigenvalue Problems -- 1.4 A Proof of the Convergence Theorem -- Chapter 2: Solutions of the Heat Equation -- 2.1 Solutions on an Interval $[0,L]$ -- 2.2 A Nonhomogeneous Problem -- Chapter 3: Solutions of the Wave Equation -- 3.1 Solutions on Bounded Intervals -- 3.2 The Cauchy Problem -- 3.3 The Wave Equation in Higher Dimensions -- Chapter 4: Dirichlet and Neumann Problems -- 4.1 Laplace's Equation and Harmonic Functions -- 4.2 The Dirichlet Problem for a Rectangle -- 4.3 The Dirichlet Problem for a Disk -- 4.4 Properties of Harmonic Functions -- 4.5 The Neumann Problem -- 4.6 Poisson's Equation -- 4.7 An Existence Theorem for the Dirichlet Problem -- Chapter 5: Fourier Integral Methods of Solution -- 5.1 The Fourier Integral of a Function -- 5.2 The Heat Equation on the Real Line -- 5.3 The Debate Over the Age of the Earth -- 5.4 Burgers' Equation -- 5.5 The Cauchy Problem for the Wave Equation -- 5.6 Laplace's Equation on Unbounded Domains -- Chapter 6: Solutions Using Eigenfunction Expansions -- 6.1 A Theory of Eigenfunction Expansions -- 6.2 Bessel Functions -- 6.3 Applications of Bessel Functions -- 6.4 Legendre Polynomials and Applications -- Chapter 7: Integral Transform Methods of Solution -- 7.1 The Fourier Transform

-- 7.2 Heat and Wave Equations -- 7.3 The Telegraph Equation -- 7.4 The Laplace Transform -- Chapter 8: First-Order Equations -- 8.1 Linear First-Order Equations -- 8.2 The Significance of Characteristics -- 8.3 The Quasi-Linear Equation -- Series List -- End User License Agreement.

Sommario/riassunto

Solutions Manual to Accompany Beginning Partial Differential Equations, 3rd Edition Featuring a challenging, yet accessible, introduction to partial differential equations, Beginning Partial Differential Equations provides a solid introduction to partial differential equations, particularly methods of solution based on characteristics, separation of variables, as well as Fourier series, integrals, and transforms. Thoroughly updated with novel applications, such as Poe's pendulum and Kepler's problem in astronomy, this third edition is updated to include the latest version of Maples, which is integrated throughout the text. New topical coverage includes novel applications, such as Poe's pendulum and Kepler's problem in astronomy.
