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Autore	Arendt Wolfgang <1950->
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Nota di contenuto	Intro -- Foreword by the Translator -- Preface -- Acknowledgments -- About the Authors -- About the Translator -- Contents -- List of figures -- 1 Modeling, or where do differential equations come from -- 1.1 Mathematical modeling -- 1.1.1 Modeling with partial differential equations -- 1.1.2 Modeling is only the first step -- 1.2 Transport processes -- 1.2.1 Conservation laws -- 1.2.2 From a conservation law to a differential equation -- 1.2.3 The linear transport equation -- 1.2.4 The convection-reaction equation -- 1.2.5* Burgers' equation -- 1.3 Diffusion -- 1.4 The wave equation -- 1.5 The Black-Scholes equation -- 1.6 Let's get higher dimensional -- 1.6.1 Transport processes -- 1.6.2 Diffusion processes -- 1.6.3 The wave equation -- 1.6.4 Laplace's equation -- 1.7* But there's more -- 1.7.1 The KdV equation -- 1.7.2 Geometric differential equations -- 1.7.3 The plate equation -- 1.7.4 The Navier-Stokes equations -- 1.7.5 Maxwell's equations -- 1.7.6 The Schrödinger equation -- 1.8 Classification of partial differential equations -- 1.9* Comments -- 1.10 Exercises -- 2 Classification and characteristics -- 2.1 Characteristics of initial value problems on ps: [/EMC pdfmark [/Subtype /Span /ActualText (double struck upper R) /StPNE pdfmark [/StBMC pdfmarkRps: [/EMC pdfmark [/StPop pdfmark [/StBMC pdfmark -- 2.1.1 Homogeneous problems -- 2.1.2 Inhomogeneous problems -- 2.1.3* Burgers' equation -- 2.2 Equations of second order -- 2.3* Nonlinear equations of second order

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