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Nota di contenuto	Preface -- Vibration ODEs -- Wave Equations -- Diffusion equations -- Advection-dominated equations -- Nonlinear problems -- Useful formulas -- Truncation error analysis -- Software engineering: wave equation model -- References -- Index. .
Sommario/riassunto	This book is open access under a CC BY 4.0 license. This easy-to-read book introduces the basics of solving partial differential equations by means of finite difference methods. Unlike many of the traditional academic works on the topic, this book was written for practitioners. Accordingly, it especially addresses: the construction of finite difference schemes, formulation and implementation of algorithms, verification of implementations, analyses of physical behavior as implied by the numerical solutions, and how to apply the methods and software to solve problems in the fields of physics and biology.