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Altri autori (Persone)	NepomnyashchyAlexander BelozerovaTatyana KhennerMikhail
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Nota di contenuto	Introduction -- First-order Differential Equations -- Differential Equations of the Order n>1 -- Systems of Differential Equations -- Qualitative Analysis and Atability of ODE Solutions -- Power series solutions of ODEs -- Laplace Transform -- Fourier series -- Boundary Value Problems for second-order ODEs -- Special Functions -- Integral Equations -- Calculus of Variations -- Partial Differential Equations -- Appendix 1: Picard's Existence and Uniqueness Theorem -- Appendix 2: A Primer on the Matrix Eigenvalue Problems and the Solutions of the Selected Examples -- Appendix 3: How to Use Software Associated with the Book. .
Sommario/riassunto	The textbook presents a rather unique combination of topics in ODEs, examples and presentation style. The primary intended audience is undergraduate (2nd, 3rd, or 4th year) students in engineering and science (physics, biology, economics). The needed pre-requisite is a mastery of single-variable calculus. A wealth of included topics allows using the textbook in up to three sequential, one-semester ODE courses. Presentation emphasizes the development of practical solution skills by including a very large number of in-text examples and end-of-section exercises. All in-text examples, be they of a mathematical

nature or a real-world examples, are fully solved, and the solution logic and flow are explained. Even advanced topics are presented in the same undergraduate-friendly style as the rest of the textbook. Completely optional interactive laboratory-type software is included with the textbook.