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Titolo	Fractional Calculus : High-Precision Algorithms and Numerical Implementations // by Dingyü Xue, Lu Bai
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Nota di contenuto	Introduction to Fractional Calculus -- Commonly Used Special Functions: Definitions and Computing -- Definitions and Numerical Evaluations of Fractional Calculus -- High-precision Numerical Algorithms and Implementation in Fractional Calculus -- Approximations of Fractional-order Operators and Systems -- Analytical and Numerical Solutions of Linear Fractional-order Differential Equations -- Numerical Solutions of Nonlinear FODEs -- Block Diagram based Solutions of FODEs -- Numerical Solutions of Special Fractional-order Differential Equations.
Sommario/riassunto	Fractional calculus and its applications are fascinating research areas in many engineering disciplines. This book is a comprehensive collection of research from the author's group, which is one of the most active in the fractional calculus community worldwide and is the birthplace of one of the four MATLAB toolboxes in fractional calculus, the FOTF Toolbox. The book presents high-precision solution algorithms for a variety of fractional-order differential equations, including nonlinear, delay, and boundary value equations. Currently, there are no other universal solvers available for the latter two types of equations. Through this book, readers can systematically study the mathematics and solution methods in the field of fractional calculus and apply these

concepts to different engineering fields, particularly control systems engineering. This book is a translation of an original Chinese edition. The translation of some chapters was done with the help of artificial intelligence (machine translation by the service DeepL.com). A subsequent human revision was done.
