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Autore	Owolabi Kolade M
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Nota di contenuto	<ol> <li>Review of Fractional Differentiation 2. Finite Difference Approximations 3. Numerical Approximation of Riemann-Liouville Differentiation 4. Numerical Approximation of Caputo Differentiation 5. Numerical Approximation of Caputo-Fabrizio Differentiation 6. Numerical Approximation of Atangana-Baleanu Differentiation 7. Application to Ordinary Fractional Differential Equations 8. Application to Partial Fractional Differential Equation.</li> </ol>
Sommario/riassunto	This book discusses numerical methods for solving partial differential and integral equations, as well as ordinary differential and integral equations, involving fractional differential and integral operators. Differential and integral operators presented in the book include those with exponential decay law, known as Caputo–Fabrizio differential and integral operators, those with power law, known as Riemann–Liouville fractional operators, and those for the generalized Mittag–Leffler function, known as the Atangana–Baleanu fractional operators. The book reviews existing numerical schemes associated with fractional operators including those with power law, while also highlighting new

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trends in numerical schemes for recently introduced differential and integral operators. In addition, the initial chapters address useful properties of each differential and integral fractional operator. Methods discussed in the book are subsequently used to solved problems arising in many fields of science, technology, and engineering, including epidemiology, chaos, solitons, fractals, diffusion, groundwater, and fluid mechanics. Given its scope, the book offers a valuable resource for graduate students of mathematics and engineering, and researchers in virtually all fields of science, technology, and engineering, as well as an excellent addition to libraries.