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	Nota di contenuto	Part I: Transmutations, Integral Equations and Special Functions -- Some Recent Developments in the Transmutation Operator Approach -- Transmutation Operators and Their Applications -- Hankel Generalized Convolutions with the Associated Legendre Functions in the Kernel and Their Applications -- Second Type Neumann Series Related to Nicholson's and to Dixon–Ferrar Formula -- On Some Generalizations of the Properties of the Multidimensional Generalized Erdélyi–Kober Operators and Their Applications -- Alternative Approach to Miller-Paris Transformations and Their Extensions -- Transmutation Operators For Ordinary Dunkl–Darboux Operators -- Theorems on Restriction of Fourier–Bessel and Multidimensional Bessel Transforms to Spherical Surfaces -- Necessary Condition for the

Existence of an Intertwining Operator and Classification of Transmutations on Its Basis -- Polynomial Quantization on Line Bundles -- Fourier–Bessel Transforms of Measures and Qualitative Properties of Solutions of Singular Differential Equations -- Inversion of Hyperbolic B-Potentials -- One-Dimensional and Multi-Dimensional Integral Transforms of Buschman–Erdélyi Type with Legendre Functions in Kernels -- Distributions, Non-smooth Manifolds, Transmutations and Boundary Value Problems -- Part II: Transmutations in ODEs, Direct and Inverse Problems -- On a Transformation Operator Approach in the Inverse Spectral Theory of Integral and Integro-Differential Operators -- Expansion in Terms of Appropriate Functions and Transmutations -- Transmutation Operators as a Solvability Concept of Abstract Singular Equations -- On the Bessel-Wright Operator and Transmutation with Applications -- On a Method of Solving Integral Equation of Carleman Type on the Pair of Segments -- Transmutation Operators Boundary Value Problems -- Solution of Inverse Problems for Differential Operators with Delay -- Part III: Transmutations for Partial and Fractional Differential Equations -- Transmutations of the Composed Erdélyi-Kober Fractional Operators and Their Applications -- Distributed Order Equations in Banach Spaces with Sectorial Operators -- Transformation Operators for Fractional Order Ordinary Differential Equations and Their applications -- Strong Solutions of Semilinear Equations with Lower Fractional Derivatives -- Mean Value Theorems and Properties of Solutions of Linear Differential Equations -- Transmutations for Multi-Term Fractional Operators -- Fractional Bessel Integrals and Derivatives on Semi-axes -- The Fractional Derivative Expansion Method in Nonlinear Dynamics of Structures: A Memorial Essay -- Boundary Value Problem with Integral Condition for the Mixed Type Equation with a Singular Coefficient. .

| Sommario/riassunto | Transmutation operators in differential equations and spectral theory can be used to reveal the relations between different problems, and often make it possible to transform difficult problems into easier ones. Accordingly, they represent an important mathematical tool in the theory of inverse and scattering problems, of ordinary and partial differential equations, integral transforms and equations, special functions, harmonic analysis, potential theory, and generalized analytic functions. This volume explores recent advances in the construction and applications of transmutation operators, while also sharing some interesting historical notes on the subject. . |