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Autore	Remy Pascal
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	- Part I Asymptotic expansions -- Taylor expansions -- Gevrey formal power series -- Gevrey asymptotics -- Part II Summability -- k-summability: definition and first algebraic properties -- First characterization of the k-summability: the successive derivatives -- Second characterization of the k-summability: the Borel-Laplace method -- Part III Moment summability -- Moment functions and moment operators -- Moment-Borel-Laplace method and summability -- Linear moment partial differential equations.
Sommario/riassunto	This book provides a comprehensive exploration of the theory of summability of formal power series with analytic coefficients at the origin of Cn, aiming to apply it to formal solutions of partial differential equations (PDEs). It offers three characterizations of summability and discusses their applications to PDEs, which play a pivotal role in understanding physical, chemical, biological, and ecological

phenomena. Determining exact solutions and analyzing properties such as dynamic and asymptotic behavior are major challenges in this field. The book compares various summability approaches and presents simple applications to PDEs, introducing theoretical tools such as Nagumo norms, Newton polygon, and combinatorial methods. Additionally, it presents moment PDEs, offering a broad class of functional equations including classical, fractional, and q-difference equations. With detailed examples and references, the book caters to readers familiar with the topics seeking proofs or deeper understanding, as well as newcomers looking for comprehensive tools to grasp the subject matter. Whether readers are seeking precise references or aiming to deepen their knowledge, this book provides the necessary tools to understand the complexities of summability theory and its applications to PDEs.