

1. Record Nr.	UNINA9910131280603321
Autore	Bodine Sigrun
Titolo	Asymptotic Integration of Differential and Difference Equations // by Sigrun Bodine, Donald A. Lutz
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-18248-X
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XI, 402 p.)
Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 2129
Disciplina	515.35
Soggetti	Differential equations Difference equations Functional equations Ordinary Differential Equations Difference and Functional Equations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Introduction, Notation, and Background -- Asymptotic Integration for Differential Systems -- Asymptotics for Solutions of Difference Systems -- Conditioning Transformations for Differential Systems -- Conditioning Transformations for Difference Systems -- Perturbations of Jordan Differential Systems -- Perturbations of Jordan Difference Systems -- Applications to Classes of Scalar Linear Differential Equations -- Applications to Classes of Scalar Linear Difference Equations -- Asymptotics for Dynamic Equations on Time Scales.
Sommario/riassunto	This book presents the theory of asymptotic integration for both linear differential and difference equations. This type of asymptotic analysis is based on some fundamental principles by Norman Levinson. While he applied them to a special class of differential equations, subsequent work has shown that the same principles lead to asymptotic results for much wider classes of differential and also difference equations. After discussing asymptotic integration in a unified approach, this book studies how the application of these methods provides several new insights and frequent improvements to results found in earlier literature. It then continues with a brief introduction to the relatively

new field of asymptotic integration for dynamic equations on time scales. Asymptotic Integration of Differential and Difference Equations is a self-contained and clearly structured presentation of some of the most important results in asymptotic integration and the techniques used in this field. It will appeal to researchers in asymptotic integration as well to non-experts who are interested in the asymptotic analysis of linear differential and difference equations. It will additionally be of interest to students in mathematics, applied sciences, and engineering. Linear algebra and some basic concepts from advanced calculus are prerequisites. .

---