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| Nota di contenuto | Introduction To Stability And Boundedness In Dynamical Systems -- Ordinary Dynamical Systems -- Functional Dynamical Systems -- Volterra Integro-dynamic Equations -- Exotic Lyapunov Functionals for Boundedness and Stability -- Volterra Integral Dynamic Equations -- Periodic Solutions; The Natural Set up -- Periodicity Using Shift Periodic Operators -- . |
| Sommario/riassunto | Motivated by recent increased activity of research on time scales, the book provides a systematic approach to the study of the qualitative theory of boundedness, periodicity and stability of Volterra integro-dynamic equations on time scales. Researchers and graduate students who are interested in the method of Lyapunov functions/functionals, in the study of boundedness of solutions, in the stability of the zero solution, or in the existence of periodic solutions should be able to use this book as a primary reference and as a resource of latest findings. This book contains many open problems and should be of great benefit to those who are pursuing research in dynamical systems or in Volterra integro-dynamic equations on time scales with or without delays. Great efforts were made to present rigorous and detailed proofs of theorems. |

The book should serve as an encyclopedia on the construction of Lyapunov functionals in analyzing solutions of dynamical systems on time scales. The book is suitable for a graduate course in the format of graduate seminars or as special topics course on dynamical systems. The book should be of interest to investigators in biology, chemistry, economics, engineering, mathematics and physics.
