1. Record Nr. UNINA9910483479903321

Autore	Queffelec Martine
Titolo	Substitution dynamical systems, spectral analysis. / / Martine Queffelec
Pubbl/distr/stampa	Heidelberg, Germany ; ; New York, New York : , : Springer-Verlag, , [2010] ©2010
ISBN	1-280-39165-0 9786613569578 3-642-11212-9
Edizione	[2nd ed. 2010.]
Descrizione fisica	1 online resource (366 p.)
Collana	Lecture notes in mathematics ; ; 1294
Disciplina	515/.39
Soggetti	Spectral theory (Mathematics) Point mappings (Mathematics) Differentiable dynamical systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (pages [335]-344) and index.
Nota di contenuto	The Banach Algebra (T) -- Spectral Theory of Unitary Operators -- Spectral Theory of Dynamical Systems -- Dynamical Systems Associated with Sequences -- Dynamical Systems Arising from Substitutions -- Eigenvalues of Substitution Dynamical Systems -- Matrices of Measures -- Matrix Riesz Products -- Bijective Automata -- Maximal Spectral Type of General Automata -- Spectral Multiplicity of General Automata -- Compact Automata.
Sommario/riassunto	This volume mainly deals with the dynamics of finitely valued sequences, and more specifically, of sequences generated by substitutions and automata. Those sequences demonstrate fairly simple combinatorical and arithmetical properties and naturally appear in various domains. As the title suggests, the aim of the initial version of this book was the spectral study of the associated dynamical systems: the first chapters consisted in a detailed introduction to the mathematical notions involved, and the description of the spectral invariants followed in the closing chapters. This approach, combined with new material added to the new edition, results in a nearly self-contained book on the subject. New tools - which have also proven

helpful in other contexts - had to be developed for this study. Moreover, its findings can be concretely applied, the method providing an algorithm to exhibit the spectral measures and the spectral multiplicity, as is demonstrated in several examples. Beyond this advanced analysis, many readers will benefit from the introductory chapters on the spectral theory of dynamical systems; others will find complements on the spectral study of bounded sequences; finally, a very basic presentation of substitutions, together with some recent findings and questions, rounds out the book.