

1. Record Nr.	UNINA9910786639803321
Titolo	Chaotic dynamics and fractals // edited by Michael F. Barnsley, Stephen G. Demko
Pubbl/distr/stampa	Orlando, Florida ; ; London, England : , : Academic Press, Inc., , 1986 ©1986
ISBN	1-4832-6908-6
Descrizione fisica	1 online resource (305 p.)
Collana	Notes and Reports in Mathematics in Science and Engineering ; ; Volume 2
Disciplina	515.3/5
Soggetti	Dynamics Chaotic behavior in systems Fractals
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 at the end of each chapters.
Nota di contenuto	Front Cover; Chaotic Dynamics and Fractals; Copyright Page; Table of Contents; Contributors; Preface; Part I: Chaos and Fractals; CHAPTER 1. CHAOS: SOLVING THE UNSOLVABLE, PREDICTING THE UNPREDICTABLE!; 1. CHAOS: AN ILLUSTRATIVE EXAMPLE; 2. ALGORITHMIC COMPLEXITY THEORY; 3. ALGORITHMIC INTEGRABILITY; 4. ALGORITHMIC RANDOMNESS; 5. QUANTUM CHAOS, IF ANY?; REFERENCES; CHAPTER 2. MAKING CHAOTIC DYNAMICAL SYSTEMS TO ORDER; ABSTRACT; 1. INTRODUCTION; 2. THE COLLAGE THEOREM; 3. MAKING DIFFERENTIAL EQUATIONS WITH PRESCRIBED ATTRACTORS; REFERENCES CHAPTER 3. ON THE EXISTENCE AND NON-EXISTENCE OF NATURAL BOUNDARIES FOR NON-INTEGRABLE DYNAMICAL SYSTEMSABSTRACT; 1. INTRODUCTION; 2. NONLINEAR DIFFERENTIAL EQUATIONS AND ALGEBRAIC INTEGRABILITY; 3. A CANONICAL EXAMPLE; 4. SOME SIMPLE EXAMPLES; ACKNOWLEDGMENT; REFERENCES; CHAPTER 4. THE HENON MAPPING IN THE COMPLEX DOMAIN; 1. INTRODUCTION; 2. HISTORY AND MOTIVATION; 3. THE RELATION WITH THE THEORY OF POLYNOMIALS; 4. RATES OF ESCAPE FOR THE HENON FAMILY; 5. ANGLES OF ESCAPE; 6. A PROGRAM FOR DESCRIBING MAPPINGS IN THE HENON FAMILY; CHAPTER 5. DYNAMICAL COMPLEXITY OF MAPS OF THE INTERVAL

1. THE SARKOVSKII STRATIFICATION 2. TOPOLOGICAL ENTROPY; 3. TURBULENCE; 4. ENTROPY MINIMAL ORBITS; 5. HOMOCLINIC ORBITS; ACKNOWLEDGEMENTS; REFERENCES; CHAPTER 6. A USE OF CELLULAR AUTOMATA TO OBTAIN FAMILIES OF FRACTALS; ABSTRACT; 1. A SHORT HISTORY OF CELLULAR AUTOMATA; 2. WHAT ARE CELLULAR AUTOMATA?; 3. RESCALING TO OBTAIN FRACTALS IN THE LIMIT; 4. WAYS OF OBTAINING SOME NUMBERS FROM THE LIMIT SETS; 5. CONCLUSIONS AND DISCUSSION; REFERENCES; Part II: Julia Sets; CHAPTER 7. EXPLODING JULIA SETS; ABSTRACT; 1. INTRODUCTION; 2. AN EXPLOSION IN THE EXPONENTIAL FAMILY CHAPTER 12. DIOPHANTINE PROPERTIES OF JULIA SETS

Sommario/riassunto

Chaotic Dynamics and Fractals
