1.
Record Nr.	UNICAMPANIASUN0060665
Autore	Kozlov, Vladimir V.
Titolo	Dynamical systems 10. : general theory of vortices / V. V. Kozlov
Pubbl/distr/stampa	Berlin, : Springer, 2003
ISBN	8-3-642-07584-1
Descrizione fisica	VIII, 184 p. ; 24 cm.
Soggetti	76-XX - Fluid mechanics [MSC 2020]
	37-XX - Dynamical systems and ergodic theory [MSC 2020]
	34-XX - Ordinary differential equations [MSC 2020]
	70Hxx - Hamiltonian and Lagrangian mechanics [MSC 2020]
	70-XX - Mechanics of particles and systems [MSC 2020]
	37Jxx - Dynamical aspects of finite-dimensional Hamiltonian and Lagrangian systems [MSC 2020]
	70Exx - Dynamics of a rigid body and of multibody systems [MSC 2020]
	76Mxx - Basic methods in fluid mechanics [MSC 2020]
	70Gxx - General models, approaches, and methods [MSC 2020]
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2.	Record Nr.	UNINA9910815553703321
	Autore	Shahin Mazen <1947->
	Titolo	Explorations of mathematical models in biology with Maple / / Mazen Shahin
	Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2015 2015
	ISBN	1-118-55217-2 1-118-55215-6
	Edizione	[1st ed.]
	Descrizione fisica	1 online resource (307 p.)
	Collana	New York Academy of Sciences
	Classificazione	461.9 570.1/51
	Disciplina	570.1/51
	Soggetti	Biology - Mathematical models Biology - Data processing
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
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	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Machine generated contents note: Preface Chapter 1. Overview of Discrete Dynamical Modeling and Maple 1.1 Introduction to Modeling and Difference Equations 1.2 The Modeling Process 1.3 Getting Started with Maple Chapter 2. Modeling with First-order Difference Equations 2.1 Modeling with First-order Linear Homogenous Difference Equations with Constant Coefficients 2.2 Modeling with Non-homogenous First-order Linear Difference Equations 2.3 Modeling with Nonlinear Difference Equations: Logistic Growth Models 2.4 Logistic Equations and Chaos Chapter 3. Modeling with Matrices 3.1 Systems of Linear Equations Having Unique Solutions 3.2 The Gauss-Jordan Elimination Method with Models 3.3 Introduction to Matrices and Matrix Operations 3.4 Determinants and Systems of Linear Equations 3.5 Eigenvectors and Eigenvalues 3.6 Eigenvalues and Stability of Linear Systems Chapter 4. Modeling with Systems of Linear Difference Equations 4.1 Modeling with Markov Chains 4.2 Age-structured Population Models 4.3 Modeling with Second-order Linear Difference Equations Chapter 5. Modeling with Nonlinear Systems of Difference Equations 5.1 Modeling of Interacting Species 5.2 The SIR Models of Infectious Disease 5.3

Modeling with Second-order Nonlinear Difference Equations Index .

Sommario/riassunto

"With an emphasis on Maple applications to showcase graphical and numerical techniques, this book investigates and analyzes the behavior of solutions of mathematical models and also features interesting linear and nonlinear models from diverse disciplines, such as biology, ecology, and environment. It utilizes difference equations, matrix algebra, and Markov chains as the main mathematical tools. It is an ideal book for students of mathematical biology, theoretical ecology, bioeconomics, forensic science, applied mathematics, and environmental science"--

"This book focuses on mathematical models in biology and utilizes difference equations, matrix algebra, and Markov chains as the main mathematical tools. In addition, Maple, a computer algebra system, as well as cooperative learning initiatives are integrated"--