

1. Record Nr.	UNINA9910463756203321
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Titolo	Explorations of mathematical models in biology with MATLAB // Mazen Shahin, Department of Mathematical Sciences, Delaware State University, Dover, DE
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2014 ©2014
ISBN	1-118-54859-0 1-118-54853-1
Descrizione fisica	1 online resource (390 p.)
Disciplina	570.1/5195
Soggetti	Biology - Mathematical models Electronic books.
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 and index.
Nota di contenuto	COVER; TITLE PAGE; COPYRIGHT PAGE; DEDICATION; PREFACE; MAIN GOALS; THE NEED FOR A TEXTBOOK IN ELEMENTARY MATHEMATICAL MODELING AND MATRIX ALGEBRA; APPROACH; WHY MODELING WITH DIFFERENCE EQUATIONS AND MATRICES?; WHY DO WE USE MATLAB?; ORGANIZATION; THE INTENDED AUDIENCES; SUPPORT WEBSITE; ACKNOWLEDGMENTS; CHAPTER 1: OVERVIEW OF DISCRETE DYNAMICAL MODELING AND MATLAB®; 1.1. INTRODUCTION TO MODELING AND DIFFERENCE EQUATIONS; 1.2. THE MODELING PROCESS; 1.3. GETTING STARTED WITH MATLAB; 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 NONHOMOGENOUS 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; 3.4. DETERMINANTS AND SYSTEMS OF LINEAR EQUATIONS; 3.5. EIGENVALUES AND EIGENVECTORS; 3.6. EIGENVALUES AND STABILITY

OF LINEAR MODELS

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 MODEL OF INFECTIOUS DISEASE; 5.3. MODELING WITH SECOND-ORDER NONLINEAR DIFFERENCE EQUATIONS; REFERENCES; INDEX

Sommario/riassunto

Explore and analyze the solutions of mathematical models from diverse disciplines As biology increasingly depends on data, algorithms, and models, it has become necessary to use a computing language, such as the user-friendly MATLAB, to focus more on building and analyzing models as opposed to configuring tedious calculations. Explorations of Mathematical Models in Biology with MATLAB provides an introduction to model creation using MATLAB, followed by the translation, analysis, interpretation, and observation of the models. With an integrated and interdisciplinary appro
