1. Record Nr. UNINA9910465451603321

Autore	Ginzburg Lev R
Titolo	Ecological orbits [[electronic resource]] : how planets move and populations grow / / Lev Ginzburg, Mark Colyvan
Pubbl/distr/stampa	Oxford ; ; New York, : Oxford University Press, 2004
ISBN	1-60256-800-6 1-280-53423-0 9786610534234 0-19-803754-6 1-4237-2031-8
Descrizione fisica	1 online resource (183 p.)
Altri autori (Persone)	ColyvanMark
Disciplina	577.8/8
Soggetti	Population biology Ecology 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 (p. 151-160) and index.
Nota di contenuto	Contents; 1 On Earth as It Is in the Heavens; 1.1 How Planets Move; 1.2 How Populations Grow; 1.3 Metaphors and the Language of Science; 1.4 Inertial Population Growth; 2 Does Ecology Have Laws?; 2.1 Ecological Allometries; 2.2 Kepler's Laws; 2.3 What Is a Law of Nature?; 2.4 Laws in Ecology; 3 Equilibrium and Accelerated Death; 3.1 Accelerated Death; 3.2 Galileo and Falling Bodies; 3.3 The Slobodkin Experiment; 3.4 Falling Bodies and Dying Populations; 3.5 The Meaning of Abundance Equilibrium; 3.6 The Damuth Allometry; 3.7 A Harder Question; 4 The Maternal Effect Hypothesis 4.1 Inertial Growth and the Maternal Effect4.2 The Missing Periods; 4.3 The Calder Allometry; 4.4 The Eigenperiod Hypothesis; 4.5 What Can Be Done in the Laboratory; 5 Predator-Prey Interactions and the Period of Cycling; 5.1 An Alternative Limit Myth; 5.2 Prey-Dependent versus Ratio-Dependent Models; 5.3 The Fallacy of Instantism; 5.4 Why Period Travels Bottom Up; 5.5 Competing Views on Causes and Cyclicity; 6 Inertial Growth; 6.1 The Implicit Inertial-Growth Model; 6.2 Parametric Specification; 6.3 Malthusian Invariancy; 6.4 What Is and What Is Not

	Analogous; 7 Practical Consequences 7.1 Theoretical and Applied Ecology7.2 Managing Inertial Populations; 7.3 Rates of Evolution; 7.4 Risk Analysis; 7.5 The Moral; 8 Shadows on the Wall; 8.1 Plato's Cave; 8.2 Evidence and Aesthetics; 8.3 Overfitting; 8.4 A Simplified Picture of Population Ecology; Appendix A: Notes and Further Reading; Appendix B: Essential Features of the Maternal Effect Model; Bibliography; Index; A; B; C; D; E; F; G; H; I; K; L; M; N; O; P; Q; R; S; T; U; V; Z
Sommario/riassunto	Proposes a fresh approach to population biology and ecology. This book proposes and develops an inertial view of population growth, taking note of acceleration, or rate of change of the growth rate between consecutive generations. It is useful for population biologists, ecological modellers, and theoretical biologists and philosophers of science.

2.

Record Nr.	UNINA9910299494003321
Autore	Choukchou-Braham Amal
Titolo	Analysis and control of underactuated mechanical systems / / Amal Choukchou-Braham [and three others]
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , 2014
ISBN	3-319-02636-4
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (xv, 138 pages) : illustrations (some color)
Collana	Gale eBooks
Disciplina	620 629.1 629.2 629.8
Soggetti	Automatic control
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	Introduction -- Generalities and State-of-the-Art on the Control of Underactuated Mechanical Systems.- Underactuated Mechanical Systems from the Langrangian formalism -- Classification of Underactuated Mechanical Systems -- Control Design Schemes for

Underactuated Mechanical Systems.- Appendices: Theoretical Background on Nonlinear System Stability and Control -- Limits of Linearization and Dangers of Destabilization -- Differential Geometry -- Controllability of Continuous Systems.

Sommario/riassunto

This monograph provides readers with tools for the analysis, and control of systems with fewer control inputs than degrees of freedom to be controlled, i.e., underactuated systems. The text deals with the consequences of a lack of a general theory that would allow methodical treatment of such systems and the ad hoc approach to control design that often results, imposing a level of organization whenever the latter is lacking. The authors take as their starting point the construction of a graphical characterization or control flow diagram reflecting the transmission of generalized forces through the degrees of freedom. Underactuated systems are classified according to the three main structures by which this is found to happen—chain, tree, and isolated vertex—and control design procedures proposed. The procedure is applied to several well-known examples of underactuated systems: acrobot; pendubot; Tora system; ball and beam; inertia wheel; and robotic arm with elastic joint. <The text is illustrated with MATLAB®/Simulink® simulations that demonstrate the effectiveness of the methods detailed. Readers interested in aircraft, vehicle control or various forms of walking robot will be able to learn from Analysis and Control of Underactuated Mechanical Systems how to estimate the degree of complexity required in the control design of several classes of underactuated systems and proceed on to further generate more systematic control laws according to its methods of analysis.