1. Record Nr. UNINA9910300243003321

| | |
|---|---|
| Titolo | Extended Abstracts Spring 2014 : Hamiltonian Systems and Celestial Mechanics; Virus Dynamics and Evolution / / edited by Montserrat Corbera, Josep Maria Cors, Jaume Llibre, Andrei Korobeinikov |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Birkhäuser, , 2015 |
| ISBN | 3-319-22129-9 |
| Edizione | [1st ed. 2015.] |
| Descrizione fisica | 1 online resource (150 p.) |
| Collana | Research Perspectives CRM Barcelona, , 2509-7407 ; ; 4 |
| Disciplina | 514.74 |
| Soggetti | Differential equations<br>Numerical analysis<br>Biomathematics<br>Ordinary Differential Equations<br>Numerical Analysis<br>Mathematical and Computational Biology |
| 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 | Hamiltonian Systems and Celestial Mechanics -- Foreword -- On the Force Fields which are Homogeneous of Degree -- Bifurcations of the Spatial Central Configurations in the 5-Body Problem -- Convex Central Configurations of Two Twisted n-gons -- The Newtonian n-Body Problem in the Context of Curved Space -- Poincaré Maps and Dynamics in Restricted Planar (n + 1)-Body Problems -- A Methodology for Obtaining Asymptotic Estimates for the Exponentially Small Splitting of Separatrices to Whiskered Tori with Quadratic Frequencies -- Homoclinic and Heteroclinic Orbits for a Class of Singular Planar Newtonian Systems -- Transport Dynamics: from the Bicircular to the Real Solar System Problem -- Quasi-Periodic Almost-Collision Motions in the Spatial Three-Body Problem -- Generalized Discrete Nonlinear Schrödinger as a Normal Form at the Thermodynamic Limit for the Klein-Gordon Chain -- Stability of Euler-Type Relative Equilibria in the Curved Three Body Problem -- Two-dimensional Symplectic Return Maps and Applications -- Central Configurations of an Isosceles |

Trapezoidal Five-Body Problem -- The Discrete Hamiltonian-Hopf Bifurcation for 4D Symplectic Maps -- Moment Map of the Action of SO (3) on R3XR3 -- Virus Dynamics and Evolution -- Foreword -- Modelling Infection Dynamics and Evolution of Viruses in Plant Populations -- The Spread of Two Viral Strains on a Plant Leaf -- Tracking the Population Dynamics of Plant Virus Escape Mutants -- Evolutionary Escape in Populations with Genotype-Phenotype Structure -- Evolution of Stalk/Spore Ratio in a Social Amoeba: Cell-to-Cell Interaction Via a Signaling Chemical Shaped by Cheating Risk -- Within-Host Viral Evolution Model with Cross-Immunity -- Modelling Viral Evolution and Adaptation -- Changes in Codon-Pair Bias of Human Immunodeficiency Virus Type 1 Affect Virus Replication -- Competing Neutral Populations of Different Diffusivity -- Density-Dependent Diffusion and Epidemics on Heterogeneous Metapopulations -- Are Viral Blips in HIV-1-Infected Patients Clinically Relevant? -- Models of Developmental Plasticity and Cell Growth.

Sommario/riassunto

The two parts of the present volume contain extended conference abstracts corresponding to selected talks given by participants at the "Conference on Hamiltonian Systems and Celestial Mechanics 2014" (HAMSYS2014) (15 abstracts) and at the "Workshop on Virus Dynamics and Evolution" (12 abstracts), both held at the Centre de Recerca Matemàtica (CRM) in Barcelona from June 2nd to 6th, 2014, and from June 23th to 27th, 2014, respectively. Most of them are brief articles, containing preliminary presentations of new results not yet published in regular research journals. The articles are the result of a direct collaboration between active researchers in the area after working in a dynamic and productive atmosphere. The first part is about Central Configurations, Periodic Orbits and Hamiltonian Systems with applications to Celestial Mechanics – a very modern and active field of research. The second part is dedicated to mathematical methods applied to viral dynamics and evolution. Mathematical modelling of biological evolution currently attracts the interest of both mathematicians and biologists. This material offers a variety of new exciting problems to mathematicians and reasonably inexpensive mathematical methods to evolutionary biologists. It will be of scientific interest to both communities. The book is intended for established researchers, as well as for PhD and postdoctoral students who want to learn more about the latest advances in these highly active areas of research.