1. Record Nr. UNISA990002974170203316

Autore	HOPKINSON, Terry
Titolo	The Middle Palaeolithic leaf points of Europe : ecology, knowledge and scale / Terry Hopkinson
Pubbl/distr/stampa	Oxford : John and Erica Hedges, 2007
ISBN	978-1-4073-0067-2
Descrizione fisica	X, 253 p. : ill. ; 30 cm.
Collana	BAR international series ; 1663
Disciplina	936.01
Soggetti	Paleolitico - Europa Strumenti di pietra - Europa
Collocazione	XI.5. Coll. 12/ 322
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9910151932103321

Autore	Zehnder Eduard
Titolo	Lectures on Dynamical Systems [[electronic resource]] : Hamiltonian Vector Fields and Symplectic Capacities / / Eduard Zehnder
Pubbl/distr/stampa	Zuerich, Switzerland, : European Mathematical Society Publishing House, 2010
ISBN	3-03719-581-9
Descrizione fisica	1 online resource (363 pages)
Collana	EMS Textbooks in Mathematics (ETB)
Classificazione	37-xx34-xx53-xx70-xx
Soggetti	Calculus of variations Dynamical systems and ergodic theory Ordinary differential equations Differential geometry Mechanics of particles and systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book originated from an introductory lecture course on dynamical systems given by the author for advanced students in mathematics and physics at the ETH Zurich. The first part centres around unstable and chaotic phenomena caused by the occurrence of homoclinic points. The existence of homoclinic points complicates the orbit structure considerably and gives rise to invariant hyperbolic sets nearby. The orbit structure in such sets is analyzed by means of the shadowing lemma, whose proof is based on the contraction principle. This lemma is also used to prove S. Smale's theorem about the embedding of Bernoulli systems near homoclinic orbits. The chaotic behavior is illustrated in the simple mechanical model of a periodically perturbed mathematical pendulum. The second part of the book is devoted to Hamiltonian systems. The Hamiltonian formalism is developed in the elegant language of the exterior calculus. The theorem of V. Arnold and R. Jost shows that the solutions of Hamiltonian systems which possess sufficiently many integrals of motion can be written down explicitly and for all times. The existence proofs of global periodic orbits of

Hamiltonian systems on symplectic manifolds are based on a variational principle for the old action functional of classical mechanics. The necessary tools from variational calculus are developed. There is an intimate relation between the periodic orbits of Hamiltonian systems and a class of symplectic invariants called symplectic capacities. From these symplectic invariants one derives surprising symplectic rigidity phenomena. This allows a first glimpse of the fast developing new field of symplectic topology.