

1.	Record Nr.	UNISALENTO991002466699707536
	Titolo	Antike Plastik / Deutsche Archaologische Institute von Walter- Herwig Schardt. - 1962-
	Pubbl/distr/stampa	Berlin, 1962-
	ISSN	0518-018X
	Altri autori (Enti)	Deutsche Archaologische Institute von Walter- Herwig Schardt
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Periodico
2.	Record Nr.	UNINA9911150318603321
	Autore	Cushman Richard H. <1942->
	Titolo	Geometry of nonholonomically constrained systems / / Richard Cushman, Hans Duistermaat, Jędrzej Sniatycki
	Pubbl/distr/stampa	Singapore ; ; Hackensack, NJ, : World Scientific, c2010
	ISBN	9786612761676 9781282761674 1282761676 9789814289498 9814289493
	Edizione	[1st ed.]
	Descrizione fisica	1 online resource (421 p.)
	Collana	Advanced series in nonlinear dynamics ; ; v. 26
	Altri autori (Persone)	DuistermaatJ. J <1942-> (Johannes Jisse) SniatyckiJędrzej
	Disciplina	516.3/6
	Soggetti	Nonholonomic dynamical systems Geometry, Differential Rigidity (Geometry) Caratheodory measure
	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. 387-393) and index.

Contents; Acknowledgments; Foreword; 1. Nonholonomically constrained motions; 1.1 Newton's equations; 1.2 Constraints; 1.3 Lagrange-d'Alembert equations; 1.4 Lagrange derivative in a trivialization; 1.5 Hamilton-d'Alembert equations; 1.6 Distributional Hamiltonian formulation; 1.6.1 The symplectic distribution $(H, \cdot)$; 1.6.2 H and $\cdot$ in a trivialization; 1.6.3 Distributional Hamiltonian vector field; 1.7 Almost Poisson brackets; 1.7.1 Hamilton's equations; 1.7.2 Nonholonomic Dirac brackets; 1.8 Momenta and momentum equation; 1.8.1 Momentum functions; 1.8.2 Momentum equations; 1.8.3 Homogeneous functions; 1.8.4 Momenta as coordinates; 1.9 Projection principle; 1.10 Accessible sets; 1.11 Constants of motion; 1.12 Notes; 2. Group actions and orbit spaces; 2.1 Group actions; 2.2 Orbit spaces; 2.3 Isotropy and orbit types; 2.3.1 Isotropy types; 2.3.2 Orbit types; 2.3.3 When the action is proper; 2.3.4 Stratification on by orbit types; 2.4 Smooth structure on an orbit space; 2.4.1 Differential structure; 2.4.2 The orbit space as a differential space; 2.5 Subcartesian spaces; 2.6 Stratification of the orbit space by orbit types; 2.6.1 Orbit types in an orbit space; 2.6.2 Stratification of an orbit space; 2.6.3 Minimality of S ; 2.7 Derivations and vector fields on a differential space; 2.8 Vector fields on a stratified differential space; 2.9 Vector fields on an orbit space; 2.10 Tangent objects to an orbit space; 2.10.1 Stratified tangent bundle; 2.10.2 Zariski tangent bundle; 2.10.3 Tangent cone; 2.10.4 Tangent wedge; 2.11 Notes; 3. Symmetry and reduction; 3.1 Dynamical systems with symmetry; 3.1.1 Invariant vector fields; 3.1.2 Reduction of symmetry; 3.1.3 Reduction for or a free and proper G -action; 3.1.4 Reduction of a nonfree, proper G -action; 3.2 Nonholonomic singular reduction for a proper action; 3.3 Nonholonomic reduction for a free and proper action; 3.4 Chaplygin systems; 3.5 Orbit types and reduction; 3.6 Conservation laws; 3.6.1 Momentum map; 3.6.2 Gauge momenta; 3.7 Lifted actions and the momentum equation; 3.7.1 Lifted actions; 3.7.2 Momentum equation; 3.8 Notes; 4. Reconstruction, relative equilibria and relative periodic orbits; 4.1 Reconstruction; 4.1.1 Reconstruction for proper free actions; 4.1.2 Reconstruction for nonfree proper actions; 4.1.3 Application to nonholonomic systems; 4.2 Relative equilibria; 4.2.1 Basic properties; 4.2.2 Quasiperiodic relative equilibria; 4.2.3 Runaway relative equilibria; 4.2.4 Relative equilibria when the action is not free; 4.2.5 Other relative equilibria in a G -orbit; 4.2.5.1 When the G -action is free; 4.2.5.2 When the G -action is not free; 4.2.6 Smooth families of quasiperiodic relative equilibria; 4.2.6.1 Elliptic, regular, and stably elliptic elements of $\mathfrak{g}$; 4.2.6.2 When the G -action is free and proper; 4.2.6.3 When the G -action is proper but not free; 4.3 Relative periodic orbits; 4.3.1 Basic properties; 4.3.2 Quasiperiodic relative periodic orbits; 4.3.3 Runaway relative period orbits

This book gives a modern differential geometric treatment of linearly nonholonomically constrained systems. It discusses in detail what is meant by symmetry of such a system and gives a general theory of how to reduce such a symmetry using the concept of a differential space and the almost Poisson bracket structure of its algebra of smooth functions. The above theory is applied to the concrete example of Caratheodory's sleigh and the convex rolling rigid body. The qualitative behavior of the motion of the rolling disk is treated exhaustively and in detail. In particular, it classifies all mot