Local dynamics of symmetric Hamiltonian systems with application to the affine rigid body

typescript - Algebraic structure of certain integrable hamiltonian systems

$$
\begin{aligned}
\frac{dN}{dt} &= \frac{d}{dt}\int_{a(t)}^{b(t)} \rho(x,t)\,dx \\
&= \int_a^b \frac{\partial \rho}{\partial t}\,dx + \rho(b,t)\frac{db}{dt} - \rho(a,t)\frac{da}{dt} \\
&= \int_a^b \frac{\partial \rho}{\partial t}\,dx + \rho(b,t)u(b,t) - \rho(a,t)u(a,t) \\
&= \int_a^b \left[\frac{\partial \rho}{\partial t} + \frac{\partial}{\partial x}(\rho u)\right] dx
\end{aligned}
$$

Description: -
-Local dynamics of symmetric Hamiltonian systems with application to the affine rigid body
-Local dynamics of symmetric Hamiltonian systems with application to the affine rigid body
Notes: Thesis (Ph.D.) - University of Warwick, 1995.
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Tags: #Affinely #rigid #body #and #Hamiltonian #systems #on #GL(n, #R)

ShieldSquare

Title: Symmetries of relative equilibria for simple mechanical systems Journal: In Symmetry and Perturbation Theory, SPT 2002, Abenda, S.

Stabilizing the coupled orbit

The latter problems are described by dynamical systems with variable dissipation.

A Geometric Hamiltonian Approach to the Affine Rigid Body

In particular each robot of the team predicts the other robots' planned actions while making decision to maximise its own expected reward that is dependent on the reward for joint successful completion of the task. The reduced description of doubly-isotropic dynamics is based on the two-polar decomposition of GL + n, R. We now address the case when some dissipation takes place.

Affinely rigid body and Hamiltonian systems on GL(n, R)

The symmetry groups of the different typesof ellipsoidal figures of equilibrium are also computed. An essential novelty is our stress on models with the affinely-invariant kinetic energy. We now discuss some infinite-dimensional examples of reduced Hamiltonian systems.

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