Non-Hamiltonian Systems

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Abstract

A large class of objects, called legendrians are considered on vector bundles and on manifolds, giving in particular non-hamiltonian systems on manifolds. The Euler-Lagrange equation of a legendrian and the Hamilton equation of a legendrian^{*} are considered. A regularity condition gives rise to a duality between legendrians and legendrians^{*}, as for hyperregular lagrangians and their dual hamiltonians. An example is the Euler equation of the dynamics of a rigid-body.

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