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Nonholonomic, Dissipative, and Hamiltonian Dynamics

In this talk I will discuss the origin of dissipative dynamics in certain mechanical systems. This will include nonholonomic systems with linear constraints, nonholonomic systems with nonlinear constraints, and Hamiltonian systems including the Toda lattice and some of its generalizations. I will describe the long time dynamics that can occur in these settings and make the connection to the double bracket formalism which arises in some cases.