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The Helmholtz Conditions and the Method of Controlled Lagrangians

The method of controlled Lagrangians is a technique for deriving stabilizing feedback controls for nonlinear mechanical systems. It relies on constructing a Lagrangian which describes the feedback controlled dynamics. The talk will review the connections between the classical inverse problem of the calculus of variations and the method of controlled Lagrangians. This is a joint work with Anthony Bloch and Demeter Krupka