

1068-93-265

David A Long, Anthony M Bloch, Jerrold E Marsden and Dmitry V Zenkov*
(dvzenkov@ncsu.edu). *Relaxed Method of Controlled Lagrangians.*

The method of controlled Lagrangians is a technique for feedback stabilization of relative equilibria of mechanical systems. The key step is to represent the controlled dynamics in the form of unforced Euler–Lagrange equations for a suitable new Lagrangian. The conditions for such a representation to exist are often very restrictive or even inconsistent. The suggested approach relaxes these conditions and is thus applicable to a larger class of mechanical systems. (Received January 19, 2011)