1048-93-265   **Dong Eui Chang*** (`dechang@uwaterloo.ca`), 200 University Ave. W., Waterloo, ON N2L 3G1, Canada. *Energy Shaping for Stabilization of Mechanical Systems.*

I will present the energy shaping method for stabilization of mechanical systems. The basic idea in this method is that a given controlled mechanical system is transformed via feedback to another controlled mechanical system with positive definite energy and a dissipative external force such that a dissipative feedback force will stabilize the closed loop system by decreasing the energy as Lyapunov function. This method will be presented with various easily verifiable criteria and examples. (Received February 09, 2009)