A Reduction Principle for Global Stabilization of Nonlinear Systems.

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Abstract: The goal of this paper is to propose new sufficient conditions for dynamic stabilization of nonlinear systems. More precisely, we present a reduction principle for the stabilization of systems that are obtained by adding integrators. This represents a generalization of the well-known lemma on integrators (see for instance [C. Byrnes and A. Isidori: New results and examples in nonlinear feedback stabilization. Systems Control Lett. 12 (1989), 437–442.] or [J. Tsinias: Sufficient Lyapunov–like conditions for stabilization. Math. Control Signals Systems 18 (1989), 343–357.]).

Keywords: