

45. Zvi Artstein, **On Liapunov functions for time-varying and for controlled equations.** In: Differential Equations: Qualitative Theory, (Sz.-Nagy and L. Hatvani, eds.), North Holland, Amsterdam, 1986, pp. 61-103.

Abstract. The paper examines the relation between the time-dependent structure of a vector field which determines a differential equation $\dot{x} = f(x, t)$ and the structure of Liapunov functions $V(x, t)$ sought after when a trajectory $x(t) = 0$ is checked for uniform asymptotic stability. The related problem concerning a time-varying control system $\dot{x} = f(x, t, u)$ where a feedback control $u = u(x, t)$ is sought, which makes $x(t) = 0$ a uniformly asymptotically stable trajectory, is also examined. A prime tool is the structure of the limiting equations of the systems.

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