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9. Ordinary Differential Equations and Dynamical Systems

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Liberzon, Mark, Moscow St. Avia. Tech. Univ., Russia

Inners and Absolute Stability of Time-Lag Systems

Inner approach in the absolute stability theory based on the inner theory, oscillation theory, control and stability theory, variational methods is extended to dynamical systems with time delay. Tipical for inner approach algebraic coefficient criterion of absolute stability of time-lag nonlinear nonstationary system is obtained and presented in simple form convenient for use in stability analysis. Applications in new technological processes, electrical engineering, and mechanics will be presented. Reference: M. Liberzon, Inners indication of absolute stability for discrete systems, Fundamentals of DescreteTime Systems, Albuquerque, NM, USA, TSI Press (1993), 333-338