

lyapunov stability theorem

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Aleksandr Lyapunov - Wikipedia

Lyapunov is known for his development of the stability theory of a dynamical system, as well as for his many contributions to mathematical physics and probability theory.

Aleksandr Mikhailovich Lyapunov (1857 - 1918) - Biography - MacTutor ...

Aleksandr Lyapunov was a Russian mathematician best known for his development of the stability theory of a dynamical system. He also made contributions to mathematical physics and probability theory.

Lecture 12 Basic Lyapunov theory - Stanford University

Lyapunov theory Lyapunov theory is used to make conclusions about trajectories of a system $\dot{x} = f(x)$ (e.g., G.A.S.) without finding the trajectories (i.e., solving the differential equation) typical Lyapunov theorem has the form:

Lyapunov Stability - University of Washington

Lyapunov Stability The stability of solutions to ODEs was first put on a sound mathematical footing by Lyapunov circa 1890. This theory still dominates modern notions of stability, and provides the foundation upon which alternative notions of stability continue to be built.

Ch. 9 - Lyapunov Analysis

While we can use the Lyapunov method for linear systems to initialize quadratic Lyapunov functions, the ability to search for the parameters of the Lyapunov functions really shines when the Lyapunov candidates are higher degree (such as the quartic we use here).

34 Facts About Lyapunov

Lyapunov was a Russian mathematician and physicist known for his groundbreaking work in stability theory and dynamical systems. Born in 1857, he made significant contributions to the field of mathematics, particularly in understanding how systems behave over time.

Lyapunov Function -- from Wolfram MathWorld

A Lyapunov function is a scalar function $V(y)$ defined on a region D that is continuous, positive definite, $V(y) > 0$ for all $y \neq 0$, and has continuous first-order partial derivatives at every point of D .

Biography of Aleksandr Lyapunov - Babeş-Bolyai University

From 1870 to 1876 Lyapunov together with his friend Andrei Markov (1856-1922) attended the gymnasium in Nizhny-Novgorod. Lyapunov and Markov then studied at the University of St. Petersburg physico-mathematics under Pafnuty Cebyshev (1821-1894), and chemistry. In 1880, Lyapunov finished his studies to start with research.

Lecture Lyapunov Functions and Storage Functions - MIT OpenCourseWare

Lecture 5: Lyapunov Functions and Storage Functions 1 This lecture gives an introduction into system analysis using Lyapunov functions and their generalizations.

Lyapunov function - Wikipedia

In the theory of ordinary differential equations (ODEs), Lyapunov functions, named after Aleksandr Lyapunov, are scalar functions that may be used to prove the stability of an equilibrium of an ODE.