Siegert

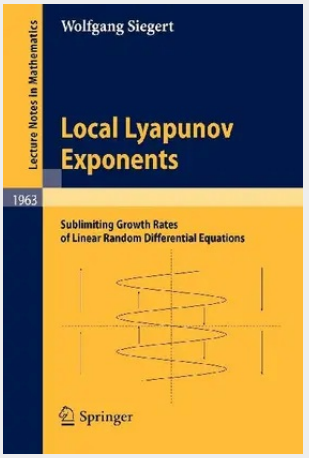
Local Lyapunov Exponents

Sublimiting Growth Rates of Linear Random Differential Equations

Establishing a new concept of local Lyapunov exponents the author brings together two separate theories, namely Lyapunov exponents and the theory of large deviations.

Specifically, a linear differential system is considered which is controlled by a stochastic process that during a suitable noise-intensity-dependent time is trapped near one of its so-called metastable states. The local Lyapunov exponent is then introduced as the exponential growth rate of the linear system on this time scale. Unlike classical Lyapunov exponents, which involve a limit as time increases to infinity in a fixed system, here the system itself changes as the noise intensity converges, too.

Establishing a new concept of local Lyapunov exponents the author brings together two separate theories, namely Lyapunov exponents and the theory of large deviations.Specifically, a linear differential system is considered which is controlled by a stochastic process that during a suitable noise-intensity-dependent time is trapped near one of its so-called metastable states. The local Lyapunov exponent is then introduced as the exponential growth rate of the linear system on this time scale. Unlike classical Lyapunov exponents, which involve a limit as time increases to infinity in a fixed system, here the system itself changes as the noise intensity converges, too.



53,49 €
49,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783540859635
Medium: Buch
ISBN: 978-3-540-85963-5
Verlag: Springer
Erscheinungstermin: 13.11.2008
Sprache(n): Englisch
Auflage: 1. Auflage 2008
Serie: Lecture Notes in Mathematics
Produktform: Kartoniert
Gewicht: 417 g
Seiten: 254
Format (B x H): 155 x 235 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)