

28. Oktober 2005

Einladung

Im Stochastik-Kolloquium spricht

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über das Thema

**On Li-Yorke sensitivity and various
concepts of chaos**

Der Vortrag findet statt am

9. November 2005 um 11:15 Uhr

im

Seminarraum der Stochastik, Maschmühlenweg 8 - 10

Es laden ein: die Dozenten des Instituts für Mathematische Stochastik

Abstract:

This talk will be a survey on the theory of chaos of a topological dynamical system given by a continuous selfmap of a compact metric space. Mostly I will speak about a concept which links the Li-Yorke version of chaos with the notion of sensitivity to initial conditions. A dynamical system (X, T) is called Li-Yorke sensitive, if there is a positive ε such that every $x \in X$ is a limit of points $y \in X$ such that the pair (x, y) is proximal but not ε -asymptotic. In other words, for infinitely many positive integers i the distance $\rho(T^i(x), T^i(y))$ is greater than ε , but for any positive δ this distance is less than δ for infinitely many i .

This notion is strictly stronger than sensitivity: any minimal system which is distal but not equicontinuous is sensitive but not Li-Yorke sensitive. On the other hand, we will show that a topologically weak mixing system is Li-Yorke sensitive (as well as chaotic in the sense of Li and Yorke, as was previously known).