Title: Statistical stability for interval maps.

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Dates: 6th December, 2011.

Abstract

Given a family of dynamical systems $f_t : I \to I$ on the unit interval $I = [0, 1]$, which depend smoothly on t in a parameter space Ω, if there is a corresponding family of naturally defined invariant measures $(\mu_t)_{t\in\Omega}$, one can ask if the measures depend continuously on t: this is statistical stability in the family.

If the maps f_t are for example quadratic interval maps $f(x) = tx(1 - x)$ with absolutely continuous invariant probability measures μ_t, there are examples to show that the family is not statistically stable. Conversely, if such f_t are chosen to have some exponential growth then it is known that the family is statistically stable. In this talk I will discuss these examples and give a minimal condition which guarantees statistical stability.