
# Seminário de Sistemas Dinâmicos da UFF

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## Statistical stability for singular hyperbolic attractors

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**Resumo**

A common agreement on the definition of chaos is the sensitive dependence on initial conditions. That means independent of how close two initial conditions are, by letting the system to proceed for a while, the new resulting states of the system are significantly different. In other words, a small error at a starting point will cause a huge difference in the outcome of the system. Since measuring a starting point can not be done accurately, the orbit of states is quite unpredictable. But statistically there is a hope to make a prediction by measuring an observable along orbits of the system. Despite of the alteration of the observable along an orbit, its time average for typical points converges to a constant which is the space average. This is due to the existence of an SRB (Physical) measure. Now, an interesting question is if the space average depends sensitively on system, i.e., if the statistical behaviour is stable under the small perturbation of a system? In this talk, we start with some basic definitions and provide some examples of statistical stable chaotic systems: Lorenz-like map and Lorenz attractor. The Lorenz attractor is the first example of robust attractor containing a hyperbolic singularity in dimension three which is called singular hyperbolic attractor. Then we define precisely the singular hyperbolic attractors and discuss their statistical stability. This a joint work with Mohammad Fanaee.