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Typical behaviour in chaotic dynamical systems.

Abstract:

In systems displaying sensitive dependence on initial conditions, orbits of nearby starting points may have very different properties. One is led to study long-term behaviour of orbits of typical starting points. Surprisingly, this is often fruitful, with most (in a topological or a measure-theoretical sense) orbits presenting similar behaviour. This typical behaviour may in turn depend sensitively on the parameters governing the system, and one may ask what happens as the parameter varies. In this talk, I will give an overview of these ideas and give insight into some older and some more recent results.