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Basins of attraction. (English) Zbl 1226.37009

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Summary: Many remarkable properties related to chaos have been found in the dynamics of nonlinear physical systems. These properties are often seen in detailed computer studies, but it is almost always impossible to establish these properties rigorously for specific physical systems. This article presents some strange properties about basins of attraction. In particular, a basin of attraction is a “Wada basin” if every point on the common boundary of that basin and another basin is also on the boundary of a third basin. The occurrence of this strange property can be established precisely because of the concept of a basin cell.

MSC:

37C70 Attractors and repellers of smooth dynamical systems and their topological structure

37N20 Dynamical systems in other branches of physics (quantum mechanics, general relativity, laser physics)

Cited in **22** Documents

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