Ott, Edward; **Grebogi, Celso**; **Yorke, James A.**
Controlling chaos. (English) Zbl 0964.37501
Phys. Rev. Lett. 64, No. 11, 1196-1199 (1990); Erratum, No. 23, 2837 (1990).

Summary: The authors show that one can convert a chaotic attractor to any one of a large number of possible attracting time-periodic motions by making only small time-dependent perturbations of an available system parameter. The method utilizes delay coordinate embedding, and so is applicable to experimental situations in which apriori analytical knowledge of the system dynamics is not available. Important issues include the length of the chaotic transience preceding the periodic motion, and the effect of noise. A numerical example is given.

MSC:

37D45 Strange attractors, chaotic dynamics of systems with hyperbolic behavior
34C25 Periodic solutions to ordinary differential equations
37C70 Attractors and repellers of smooth dynamical systems and their topological structure

Keywords:

chaotic attractor

Full Text: DOI

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