Cornell University Library

We gratefully acknowledge supporting institutions

arXiv.org > nlin > arXiv:1204.3278

Search or Article-id

(Help | Advanced search)

All papers | Go!

Nonlinear Sciences > Chaotic Dynamics

Kneadings, Symbolic Dynamics and Painting Lorenz Chaos. A Tutorial

Roberto Barrio, Andrey Shilnikov, Leonid Shilnikov

(Submitted on 15 Apr 2012)

A new computational technique based on the symbolic description utilizing kneading invariants is proposed and verified for explorations of dynamical and parametric chaos in a few exemplary systems with the Lorenz attractor. The technique allows for uncovering the stunning complexity and universality of bi-parametric structures and detect their organizing centers - codimension-two T-points and separating saddles in the kneading-based scans of the iconic Lorenz equation from hydrodynamics, a normal model from mathematics, and a laser model from nonlinear optics.

Submission history

From: Andrey Shilnikov L [view email]
[v1] Sun, 15 Apr 2012 15:20:44 GMT (2213kb,D)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.