Nonlinear Sciences > Chaotic Dynamics

Issues of Chaos and Recurrence in Infinite Dimensions

Y. Charles Li

(Submitted on 16 Nov 2009)

Various issues with regard to chaos and recurrence in infinite dimensions are discussed. The doctrine we are trying to derive is that Sobolev spaces over bounded spatial domains do host chaos and recurrence, while Sobolev spaces over unbounded spatial domains are lack of chaos and recurrence. Local Sobolev spaces over unbounded spatial domains can host chaos and are natural phase spaces e.g. for fluid problems, but are very challenging to study.

Comments:	Relevant manuscripts arXiv:0707.4458 and arXiv:0707.4456 [The Poincar\'e Recurrence Problem of Inviscid Incompressible Fluids, Asian J. Math, vol.13, no.1, 7-14, (2009). A Recurrence Theorem on the Solutions to the 2D Euler Equation Asian J. Math, vol.13, no.1, 1-6, (2009)]
Subjects:	**Chaotic Dynamics (nlin.CD)**; Analysis of PDEs (math.AP); Dynamical Systems (math.DS); Pattern Formation and Solitons (nlin.PS)
Cite as:	**arXiv:0911.2762v1 [nlin.CD]**

Submission history

From: Charles Li [view email]

[v1] Mon, 16 Nov 2009 20:02:56 GMT (10kb)

Which authors of this paper are endorsers?

Download:

- PDF
- PostScript
- Other formats

Current browse context:
nlin.CD
< prev | next >
new | recent | 0911

Change to browse by:

math
    math.AP
    math.DS
nlin
    nlin.PS

References & Citations

- CiteBase

Bookmark(what is this?)

- CiteULike logo
- Connotea logo
- BibSonomy logo
- Mendeley logo
- Facebook logo
- del.icio.us logo
- Digg logo
- Reddit logo

Link back to: arXiv, form interface, contact.