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Global attractor for heat convection problem in a micropolar fluid. (English) Zbl 1191.37042

Math. Methods Appl. Sci. 29, No. 11, 1215-1236 (2006).

The author uses the model proposed by Eringen, which is the generalization of the Navier-Stokes model. The behaviour of the fluid layer filling the region between two rigid surfaces is studied. The existence and the uniqueness of global in time solutions and existence of global attractor is shown. The Hausdorff dimension of the global attractor is estimated.

Reviewer: Igor Andrianov (Köln)

MSC:

37L30	Attractors and their dimensions, Lyapunov exponents for infinite-dimensional dissipative dynamical systems	Cited in **13** Documents
35B41	Attractors	
35Q35	PDEs in connection with fluid mechanics	
37N10	Dynamical systems in fluid mechanics, oceanography and meteorology	
76D05	Navier-Stokes equations for incompressible viscous fluids	
76R05	Forced convection	

Keywords:

Micropolar fluid; Navier-Stokes equations; dynamical system; global attractor; Hausdorff dimension

Full Text: DOI

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