

# Global attractor for the m-semiflow generated by a quasilinear degenerate parabolic equation

Anh C.T., Chuong N.M., Ke T.D.

Department of Mathematics, Hanoi National University of Education, 136 Xuan Thuy, Cau Giay, Hanoi, Viet Nam; Institute of Mathematics, Vietnamese Academy of Science and Technology, 18 Hoang Quoc Viet, 10307 Hanoi, Viet Nam

**Abstract:** Using theory of global attractors for multi-valued semiflows, we prove the existence of a global attractor for the m-semiflow generated by a parabolic equation involving the nonlinear degenerate operator in a bounded domain. ?? 2009 Elsevier Inc. All rights reserved.

**Author Keywords:** Compact embedding; Global attractor; Global solution; m-Semiflow; Quasilinear degenerate parabolic equation

Year: 2010

Source title: Journal of Mathematical Analysis and Applications

Volume: 363

Issue: 2

Page : 444-453

Cited by: 1

Link: Scopus Link

Correspondence Address: Ke, T.D.; Department of Mathematics, Hanoi National University of Education, 136 Xuan Thuy, Cau Giay, Hanoi, Viet Nam; email: ketd@hn.vnn.vn

ISSN: 0022247X

DOI: 10.1016/j.jmaa.2009.09.034

Language of Original Document: English

Abbreviated Source Title: Journal of Mathematical Analysis and Applications

Document Type: Article

Source: Scopus

Authors with affiliations:

1. Anh, C.T., Department of Mathematics, Hanoi National University of Education, 136 Xuan Thuy, Cau Giay, Hanoi, Viet Nam
2. Chuong, N.M., Institute of Mathematics, Vietnamese Academy of Science and Technology, 18 Hoang Quoc Viet, 10307 Hanoi, Viet Nam
3. Ke, T.D., Department of Mathematics, Hanoi National University of Education, 136 Xuan Thuy, Cau Giay, Hanoi, Viet Nam

References:

1. Anh, C.T., Hung, P.Q., Global existence and long-time behavior of solutions to a class of degenerate parabolic equations (2008) Ann. Polon. Math., 93 (3), pp. 217-230
2. Caldirola, P., Musina, R., On a variational degenerate elliptic problem (2000) NoDEA Nonlinear Differential Equations Appl., 7, pp. 187-199
3. Kapustyan, A.V., Global attractors of a nonautonomous reaction-diffusion equation (2002) Differ. Equ., 38 (10), pp. 1467-

1471. , translation from
- 4. Kapustyan, A.V., Global attractors of a nonautonomous reaction-diffusion equation (2002) Differ. Uravn., 38 (10), pp. 1378-1381
  - 5. Kapustyan, A.V., Shkundin, D.V., Global attractor of one nonlinear parabolic equation (2003) Ukrain. Mat. Zh., 55, pp. 446-455
  - 6. Karachalios, N.I., Zographopoulos, N.B., Convergence towards attractors for a degenerate Ginzburg-Landau equation (2005) Z. Angew. Math. Phys., 56, pp. 11-30
  - 7. Karachalios, N.I., Zographopoulos, N.B., On the dynamics of a degenerate parabolic equation: Global bifurcation of stationary states and convergence (2006) Calc. Var. Partial Differential Equations, 25 (3), pp. 361-393
  - 8. Melnik, V.S., Valero, J., On attractors of multi-valued semiflows and differential inclusions (1998) Set-Valued Anal. (4), 6, pp. 83-111
  - 9. Lions, J.-L., (1969) Quelques M??thodes de R??solution des Probl??mes aux Limites Non Lin??aires, , Dunod, Paris
  - 10. Temam, R., (1997) Infinite Dimensional Dynamical Systems in Mechanics and Physics. 2nd edition, , Springer-Verlag
  - 11. Valero, J., Kapustyan, A.V., On the connectedness and asymptotic behaviour of solutions of reaction-diffusion systems (2006) J. Math. Anal. Appl., 323, pp. 614-633

Download Full Text: 0187.pdf