

# 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:

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

References:

- 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
- Caldiroli, P., Musina, R., On a variational degenerate elliptic problem (2000) *NoDEA Nonlinear Differential Equations Appl.*, 7, pp. 187-199
- Kapustyan, A.V., Global attractors of a nonautonomous reaction-diffusion equation (2002) *Differ. Equ.*, 38 (10), pp. 1467-1471.

, translation from

- Kapustyan, A.V., Global attractors of a nonautonomous reaction-diffusion equation (2002) *Differ. Uravn.*, 38 (10), pp. 1378-1381
- Kapustyan, A.V., Shkunding, D.V., Global attractor of one nonlinear parabolic equation (2003) *Ukrain. Mat. Zh.*, 55, pp. 446-455
- Karachalios, N.I., Zographopoulos, N.B., Convergence towards attractors for a degenerate Ginzburg-Landau equation (2005) *Z. Angew. Math. Phys.*, 56, pp. 11-30
- 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
- Melnik, V.S., Valero, J., On attractors of multi-valued semiflows and differential inclusions (1998) *Set-Valued Anal.* (4), 6, pp. 83-111
- Lions, J.-L., (1969) *Quelques Méthodes de Résolution des Problèmes aux Limites Non Linéaires*, , Dunod, Paris
- Temam, R., (1997) *Infinite Dimensional Dynamical Systems in Mechanics and Physics*. 2nd edition, , Springer-Verlag
- 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: 0187.pdf