

Reçu le 27 AVR. 1991

ISSN 0020-7462

1991

VOLUME 26

NUMBER 2



INTERNATIONAL JOURNAL OF

# NON-LINEAR MECHANICS

Editor-in-Chief: **WILLIAM A. NASH**



Pergamon Press

OXFORD · NEW YORK · FRANKFURT  
SEOUL · SYDNEY · TOKYO

# INTERNATIONAL JOURNAL OF NON-LINEAR MECHANICS

*Editor-in-Chief*

WILLIAM A. NASH

College of Engineering, University of Massachusetts  
Amherst, MA 01002, U.S.A.

VOLUME 26, No. 2

1991

## CONTENTS

- A. Borrelli and M. C. Patria** 141 Discontinuity waves through a linear thermo-viscoelastic solid of integral type
- J. Nowinka and S. Lukaszewicz** 151 Symmetric elements in geometrical analysis of large deformations of spherical shells
- N. S. Abhyankar and S. V. Hanagod** 169 Coupled waves in a bar of Mooney-Rivlin material
- K. R. Schneider and G. Heinz** 187 Branch inclusion in generic Hopf bifurcation: the case of scaled van der Pol's equation
- X. L. Yang and P. R. Sethna** 199 Local and global bifurcations in parametrically excited vibrations of nearly square plates
- B. Straughan** 221 Continuous dependence on the heat source and non-linear stability in penetrative convection
- A. Nosier and J. N. Reddy** 233 A study of non-linear dynamic equations of higher-order shear deformation plate theories
- H. Pascal** 251 On non-linear effects in unsteady flows through porous media
- Shuxian Gu** 263 Buckling behaviour of ring-loaded shallow spherical shells with a centre hole
- G. Ahmadi and S. Abu-Zaid** 275 A thermodynamical formulation for heat conducting Jeffreys and Maxwell polymeric fluids

## I Software Survey Section

Indexed/abstracted in: *Appl. Mech. Rev.*, *Curr. Cont. ASCA*, *Cam. Sci. Abstr.*,  
*Curr. Cont./Eng. Tech. & Applied Sci.*, *Eng. Ind.*, *Math. R.*,  
*Mechanics*, *Curr. Cont. SCISEARCH Data*, *SSSA/CISA/ECA/ISMEC*.



ISSN 0020-7462  
IJNMAG 26(2) 141-278 (1991)

PERGAMON PRESS

Headington Hill Hall, Oxford OX3 0BW, U.K.  
Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A.