

Applied Mathematics

European Journal of

VOLUME 2 · PART 3 · SEPTEMBER 1991

CAMBRIDGE UNIVERSITY PRESS

EDITOR-IN-CHIEF

DR J. R. OCKENDON

Mathematical Institute, University of Oxford, 24-29 St Giles, Oxford, OX1 3LB, UK
EJAM@UK.AC.OX.VAX

ASSISTANT EDITOR

DR S. D. HOWISON

Mathematical Institute, University of Oxford, 24-29 St Giles, Oxford, OX1 3LB, UK
EJAM@UK.AC.OX.VAX
FAX 44 865 273583

EDITORS

PROF. A. FRIEDMAN

Institute for Mathematics and Applications, University of Minnesota, Minneapolis, MN 55455-0436, USA
FRIEDMAN%CSFSA.CS.UMN.EDU
@UMN-CS.CS.UMN.EDU

PROF. K.-H. HOFFMANN

Lehrstuhl für Angewandte Mathematik 1, Inst. für Mathematik der Universität Augsburg, Universitätstr. 8, D8900 Augsburg, Germany
KHOFFMANN@NUMPC2.
MATHEMATIK.UNI-AUGSBURG.DE

PROF. M. PRIMICERIO

Università degli Studi, Istituto Matematico U. Dini, Viale Morgagni 67/a, 50134 Firenze, Italy
FISMAT@EARN.IFIDG

ASSOCIATE EDITORS

PROF. C. BARDOS

U.E.R. de Mathématique et d'Informatiques, Tour 45 55 5° Etage, 2 Place Jussieu, 75230 Paris Cédex 05, France
BARDOS@EARN.FRULM63

PROF. C. M. ELLIOTT

Department of Mathematics, University of Sussex, Falmer, Brighton BN1 9QH
MMFC8@UK.AC.SUSSEX.CLUSTER

PROF. S. LUCKHAUS

Institut für Angewandte Mathematik, Universität Bonn, Wegelerstrasse 6, 5300 Bonn, Germany
SFB256@DBNRHRZ1.bitnet

PROF. G. I. BARENBLATT

USSR Academy of Sciences, PP Shirskova Institute of Oceanology, 23. Krasikova, Moscow 117218, USSR

DR. A. K. HEAD

CSIRO (Materials Science and Technology), Locked Bag 33, Clayton, Victoria 3168, Australia
HEAD@RIVETT.MST.CSIRO.AU.

PROF. B. J. MATKOWSKY

Department of Engineering Sciences and Applied Mathematics, The Technological Institute, Northwestern University, Evanston, Illinois 60201, USA
MATKOWSKY@NUACC.ACNS.
NWU.EDU

PROF. M. CHIPOT

Université de Metz, Département de Mathématiques, Ile du Saucy, 57045 Metz Cédex 01, France

PROF. N. KENMOCHI

Department of Mathematics, Faculty of Education, Chiba University, Yayoi-cho 1-33, Chiba-shi 260, Japan

PROF. V. V. PUKHNACHOV

Laurentyev Institute of Hydrodynamics, Siberian Division of the USSR Academy of Sciences, Novosibirsk 630090, USSR

PROF. D. G. CRIGHTON

DAMTP, University of Cambridge, Silver Street, Cambridge CB3 9EW

PROF. A. LIÑÁN

Dpto. Motorpropulsión y Termostuidodinámica, Universidad Politécnica de Madrid, ETSI Aeronáuticos, Plaza Cardenal Cisneros 3, 28040 Madrid, Spain

PROF. D. G. SCHAEFFER

Department of Mathematics, Duke University, North Carolina 27706, USA

PROF. A. DAMLAMIAN

Ecole Polytechnique, Centre de Mathématiques, Route de Saclay, 91128 Palaiseau, France
MATDAMLA@EARN.FRPPOLY11

PROF. LI TATSIN

Department of Mathematics, Fudan University, Shanghai, China

PROF. J. R. WILLIS

School of Mathematics, University of Bath, Claverton Down, Bath BA2 7AY
JRW@UK.AC.BATH.MATHS

© CAMBRIDGE UNIVERSITY PRESS 1991

SUBSCRIPTIONS

European Journal of Applied Mathematics (ISSN: 0956-7925) is published quarterly in March, June, September and December. The subscription price of Volume 2, 1991, is £80 net (UK), £85 elsewhere (USA and Canada US \$155) post free; single parts cost £22 net (USA and Canada US \$40) plus postage. Four parts form a volume. Orders, which must be accompanied by payment, may be sent to any bookseller, subscription agent or to the publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, or in the USA and Canada to Cambridge University Press, The Journals Department, 40 West 20th Street, New York, NY 10011-4211, USA. Copies of the journal for subscribers in the USA and Canada are sent by air to New York to arrive with minimum delay. Second class postage paid at New York, NY and at additional mailing offices.

POSTMASTER: send address changes in USA and Canada to *European Journal of Applied Mathematics*, Cambridge University Press, 110 Midland Avenue, Port Chester, NY 10573-9864.

Claims for missing issues should be made immediately on receipt of the subsequent issue.