

APPLIED MATHEMATICS AND MECHANICS

The *Journal of Applied Mathematics and Mechanics* is translated cover to cover (Russian original copyright: Nauka, 90 Profsoyuznaya ul., Moscow 117864) and has been published by Pergamon since 1958.

Translation Editors:

Professor G. HERRMANN, Stanford University, CA, USA
R. C. GLASS, City University, London, UK

Panel of Translators:

P. CURTIS, R. C. GLASS, D. LOUVISH, E. L. SHORT

PRIKLADNAYA MATEMATIKA I MEKHANIKA

Russian Academy of Sciences

Editorial Board

V. V. RUMYANTSEV (Editor-in-Chief)
Yu. P. GUPALO (Deputy Editor)

F. L. CHERNOUS'KO
G. G. CHERNYI
I. G. GORYACHEVA
S. S. GRIGORYAN
A. Yu. ISHLINSKII
N. N. KRASOVSKII

A. G. KULIKOVSKII
N. F. MOROZOV
Yu. S. OSIPOV
L. V. OVSYANNIKOV
S. A. SHESTERIKOV
G. A. TIRSKII

Editorial Advisory Board

L. D. AKULENKO
V. M. ALEKSANDROV
S. A. AMBARTSUMYAN
I. I. BLEKHMAM
V. V. BOLOTIN
A. L. GOL'DENVEIZER
R. V. GOL'DSHTEIN
E. I. GRIGOLYUK
D. D. IVLEV
A. V. KARAPETYAN
V. B. KOLMANOVSKII
V. V. KOZLOV
A. N. KRAIKO
G. A. LYUBIMOV

A. P. MARKEYEV
V. M. MATROSOV
V. I. MOSSAKOVSKII
D. E. OKHOTSIMSKII
G. I. PETRASHEN'
B. E. POBEDRYA
G. Ya. POPOV
V. V. PUKHNACHEV
V. L. RVACHEV
V. N. RUBANOVSII
Yu. D. SHMYGLEVSKII
G. Yu. STEPANOV
V. V. SYCHEV
V. F. ZHURAVLEV

Publishing Offices: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK.
Tel. (01865) 843000. Fax. (01865) 843010.

Advertising Information. Advertising orders and enquiries can be sent to: **USA, Canada and South America:** Mr Tino de Carlo, The Advertising Department, Elsevier Science Inc., 655 Avenue of the Americas, New York, NY 10010-5107, USA; phone: (+1) (212) 633 3815; fax: (+1) (212) 633 3820; e-mail: t.decarlo@elsevier.com. **Japan:** The Advertising Department, Elsevier Science K.K., 9-15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561-5033; fax: (+81) (3) 5561 5047. **Europe and ROW:** Rachel Leveson-Gower, The Advertising Department, Elsevier Science Ltd., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) (1865) 843565; fax: (+44) (1865) 843976; e-mail: r.leveson-gower@elsevier.co.uk.

© 2002 Elsevier Science Ltd. All rights reserved.

Periodicals postage paid at Rahway, New Jersey, *Journal of Applied Mathematics and Mechanics* (ISSN 0021-8928) is published bimonthly in February, April, June, August, October and December by Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK. The annual subscription in the USA is \$2861.00.

Journal of Applied Mathematics and Mechanics is circulated by Mercury International Limited, 365 Blair Road, Avenel, NJ 07001, USA.

POSTMASTER: Please send address corrections to: *Journal of Applied Mathematics and Mechanics*, c/o Customer Services, Elsevier Science, Inc., 655 Avenue of the Americas, New York, NY 10010, USA.