

JOURNAL OF COMPUTATIONAL PHYSICS

Editor

Gretar Tryggvason

Worcester Polytechnic Institute, Worcester, Massachusetts

Associate Editors

Michael Baines
*University of Reading
Reading, United Kingdom*

Pierre Degond
*Centre National de la
Recherche Scientifique
Toulouse, France*

Annick Pouquet
*National Center for
Atmospheric Research
Boulder, Colorado*

Eli Turkel
*Tel Aviv University
Tel Aviv, Israel*

Alvin Bayliss
*Northwestern University
Evanston, Illinois*

Alex Friedman
*Lawrence Livermore
National Laboratory
Livermore, California*

Tamar Schlick
*New York University
New York, New York*

Evgenii V. Vorozhtsov
*Institute of Theoretical and
Applied Mechanics
Novosibirsk, Russia*

John P. Boyd
*University of Michigan
Ann Arbor, Michigan*

Dana A. Knoll
*Los Alamos National
Laboratory
Los Alamos, New Mexico*

Berend Smit
*Universiteit van
Amsterdam,
Amsterdam,
The Netherlands*

Pieter Wesseling
*Delft University of
Technology Delft,
The Netherlands*

Shiyi Chen
*The Johns Hopkins University
Baltimore, Maryland*

William R. Martin
*University of Michigan
Ann Arbor, Michigan*

Piotr K. Smolarkiewicz
*National Center for
Atmospheric Research
Boulder, Colorado*

Takashi Yabe
*Tokyo Institute of
Technology,
Tokyo, Japan*

Phillip Colella
*Lawrence Berkeley
National Laboratory
Berkeley, California*

Parviz Moin
*Stanford University
Stanford, California*

John Strain
*University of California
Berkeley, California*

Stéphane Zaleski
*Université Pierre et Marie
Curie
Paris, France*

Editors Emeriti: Jeremiah U. Brackbill
John Killeen
Phil L. Roe

Aims and scope of the journal: The mission of the *Journal of Computational Physics* is to publish material that will assist in the reliable and accurate solution of scientific problems by numerical computation.

Publication information: *Journal of Computational Physics* (ISSN 0021-9991). For 2004, volumes 193–201 are scheduled for publication. Subscription prices are available upon request from the Publisher or from the Regional Sales Office nearest you or from the journal's website (<http://www.elsevier.com/locate/jcp>). Further information is available on this journal and other Elsevier products through Elsevier's website: (<http://www.elsevier.com>). Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

Orders, claims, and journal enquiries: please contact the Customer Service Department at the Regional Sales Office nearest you:

Orlando: Elsevier, Customer Service Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800, USA; phone: (+1) (877) 8397126 [toll free number for US customers], or (+1) (407) 3454020 [customers outside US]; fax: (+1) (407) 3631354; e-mail: usjcs@elsevier.com

Amsterdam: Elsevier, Customer Service Department, PO Box 211, 1000 AE Amsterdam, The Netherlands; phone: (+31) 20 4853757; fax: (+31) 20 4853432; e-mail: nlinfo-f@elsevier.com

Tokyo: Elsevier, Customer Service Department, 4F Higashi-Azabu, 1-Chome Bldg, 1-9-15 Higashi-Azabu, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5037; fax: (+81) (3) 5561 5047; e-mail: jp.info@elsevier.com

Singapore: Elsevier, Customer Service Department, 3 Killiney Road, #08-01 Winsland House I, Singapore 239519; phone: (+65) 6349 0222; fax: (+65) 6733 1510; e-mail: asiainfo@elsevier.com

Advertising information: Advertising orders and enquiries can be sent to: **USA, Canada and South America:** Mr Tino DeCarlo, The Advertising Department, Elsevier Inc., 360 Park Avenue South, New York, NY 10010-1710, USA; phone: (+1) (212) 633 3815; fax: (+1) (212) 633 3820; e-mail: t.decarlo@elsevier.com. **Japan:** The Advertising Department, Elsevier K.K., 4F Higashi-Azabu, 1-Chome Bldg, 1-9-15 Higashi-Azabu, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5037; fax: (+81) (3) 5561 5047; e-mail: jp.info@elsevier.com. **Europe and ROW:** Commercial Sales Department, Elsevier Ltd., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) 1865 843016; fax: (+44) 1865 843976; e-mail: media@elsevier.com

US mailing notice: *Journal of Computational Physics* (ISSN 0021-9991) is published monthly by Elsevier B.V. (P.O. Box 211, 1000 AE Amsterdam, The Netherlands). Annual subscription price in the USA US\$ 4439 (valid in North, Central and South America), including air speed delivery. Application to mail at periodical postage rate is pending at Jamaica, NY 11431.

USA POSTMASTER: Send address changes to *Journal of Computational Physics*, Publications Expediting, Inc., 200 Meacham Ave, Elmont, NY 11003. **AIRFREIGHT AND MAILING** in the USA by Publications Expediting Inc., 200 Meacham Avenue, Elmont, NY 11003.

Authors in Japan please note: Upon request, Elsevier Japan will provide authors with a list of people who can check and improve the English of their paper (*before submission*). Please contact our Tokyo office: Elsevier K.K., 4F Higashi-Azabu, 1-Chome Bldg, 1-9-15 Higashi-Azabu, Minato-ku, Tokyo 106-0044; phone: (03)-5561-5037; fax: (03)-5561-5045.

© The paper used in this publication meets the requirements of ANSI/NISO Z39.48-1992 (Permanence of Paper)