JOURNAL OF COMPUTATIONAL PHYSICS

Editor

Gretar Tryggvason Worcester Polytechnic Institute, Worcester, Massachusetts

Associate Editors

George Karniadakis

Rhode Island

Laboratory

Barry Koren

of Technology

Parviz Moin

Computer Science

Dana A. Knoll

Los Alamos National

Los Alamos, New Mexico

Centre for Mathematics and

Amsterdam, The Netherlands

Petros Koumoutsakos

Swiss Federal Institute

Zürich, Switzerland

William R. Martin

Ann Arbor, Michigan

Stanford University

Stanford, California

University of Michigan

Brown University Providence,

Stanley J. Osher University of California Los Angeles, California

Annick Pouquet National Center for Atmospheric Research Boulder, Colorado

Jianxian Qiu Nanjing University Nanjing, P.R. China

Tamar Schlick New York University New York, New York

John Shadid Sandia National Laboratories Albuquerque, USA

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

John Strain University of California Berkeley, California Huazhong Tang Peking University Peking, P. R. China

Tao Tang The Hong Kong Baptist University Kowloon Tong, Hong Kong

Eli Turkel Tel Aviv University Tel Aviv, Israel

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

Takashi Yabe Tokyo Institute of Technology, Tokyo, Japan

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 2008, volume 227 is 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: (877) 8397126 or (800) 6542452 [toll free numbers for US customers]; (+1) (407) 3454020 or (+1) (407) 3454000 [customers outside US]; fax: (+1) (407) 3631354 or (+1) (407) 3639661; e-mail: usjcs@elsevier.com or elspcs@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: 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. Europe, USA, Canada and ROW: Advertising orders and enquiries can be sent to: e-mail: commercialsales@elsevier.com. Miss Katrina Barton, phone: (+44) (0) 20 7611 4117; fax: (+44) (0) 20 7611 4463.

US mailing notice: Journal of Computational Physics (ISSN 0021-9991) is published semimonthly in January, March, May, July, September, November and monthly in February, April, June, August, October and December by Elsevier Inc. (P.O. Box 211, 1000 AE Amsterdam, The Netherlands). Annual subscription price in the USA US\$ 5,434 (valid in North, Central and South America), including air speed delivery. Periodical postage rate paid at Rahway, NJ and additional mailing offices.

USA POSTMASTER: Send change of address to *Journal of Computational Physics*, Elsevier, 6277 Sea Habor Drive, Orlando, FL 32887-4800. AIRFREIGHT AND MAILING in the USA by Mercury International Limited, 365, Blair Road, Avenel, NJ 07001.

Language services: Authors who require information about language editing and copyediting services pre- and post-submission please visit http://www. elsevier.com/locate/languagepolishing or contact authorsupport@elsevier.com for more information. Please note Elsevier neither endorses nor takes responsibility for any products, goods or services offered by outside vendors through our services or in any advertising. For more information please refer to our Terms & Conditions http://www.elsevier.com/termsandconditions

Upon acceptance of an article. Authors will be asked to transfer copyright (for more information on copyright see www.elsevier.com.permissions). This transfer will ensure the widest possible dissemination of information. A letter will be sent to the corresponding Author confirming receipt of the manuscript. A form facilitating transfer of copyright will be provide.

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

Rémi Abgrall Université Bordeaux 1 Talence, France

Alvin Bayliss Northwestern University Evanston, Illinois

John P. Boyd University of Michigan Ann Arbor, Michigan

Shiyi Chen The Johns Hopkins University Baltimore, Maryland

Haecheon Choi Seoul National University Seoul, S. Korea

Ron Fedkiw Stanford University Stanford, California

Alex Friedman Lawrence Livermore National Laboratory Livermore, California