
VOLUME 69 NUMBER 232



OCTOBER 2000

MATHEMATICS OF COMPUTATION

AMERICAN MATHEMATICAL SOCIETY

EDITED BY

David W. Boyd
James H. Bramble
Susanne C. Brenner
Richard P. Brent
Joe P. Buhler
Carsten Carstensen
Arjeh M. Cohen
Ronald F. A. Cools
Howard Elman
Richard S. Falk
Andrew J. Granville
Daniel W. Lozier
Zhi-Quan Luo
Roswitha März
Harald Niederreiter
Ricardo Horacio Nochetto
Stanley Osher
Haesun Park
Joseph E. Pasciak
Lothar Reichel
René Schoof
Chi-Wang Shu
Frank Stenger
Denis Talay
Nico M. Temme
Vidar Thomée
Lars B. Wahlbin, *Managing Editor*
Joseph D. Ward
Hugh C. Williams

PROVIDENCE, RHODE ISLAND USA

ISSN 0025-5718

Available electronically at
www.ams.org/mcom/

Mathematics of Computation

This journal publishes research articles in computational mathematics. Areas covered include numerical analysis, with emphasis on the mathematical analysis and development of methods, computational number theory and algebra, and related fields. Table errata and reviews of books in areas related to computational mathematics are also included.

Submission information. See **Information for Authors** at the end of this issue.

Publisher Item Identifier. The Publisher Item Identifier (PII) appears at the top of the first page of each article published in this journal. This alphanumeric string of characters uniquely identifies each article and can be used for future cataloging, searching, and electronic retrieval.

Postings to e-MATH. Articles are posted to e-MATH individually soon after proof is returned from authors and before appearing in an issue.

Subscription information. *Mathematics of Computation* is published quarterly. Beginning in January 1996 *Mathematics of Computation* is accessible from www.ams.org/publications/. Subscription prices for Volume 69 (2000) are as follows: for paper delivery, \$345 list, \$276 institutional member, \$311 corporate member, \$224 member of CBMS organizations; \$207 individual member; for electronic delivery, \$311 list, \$249 institutional member, \$280 corporate member, \$202 member of CBMS organizations, \$187 individual member. Upon request, subscribers to paper delivery of this journal are also entitled to receive electronic delivery. If ordering the paper version, add \$12 for surface delivery outside the United States and India; \$18 to India. Expedited delivery to destinations in North America is \$17; elsewhere \$56.

Back number information. For back issues see the *AMS Catalog of Publications*.

Subscriptions and orders should be addressed to the American Mathematical Society, P.O. Box 845904, Boston, MA 02284-5904. *All orders must be accompanied by payment.* Other correspondence should be addressed to P.O. Box 6248, Providence, RI 02940-6248.

Copying and reprinting. Material in this journal may be reproduced by any means for educational and scientific purposes without fee or permission with the exception of reproduction by services that collect fees for delivery of documents and provided that the customary acknowledgment of the source is given. This consent does not extend to other kinds of copying for general distribution, for advertising or promotional purposes, or for resale. Requests for permission for commercial use of material should be addressed to the Assistant to the Publisher, American Mathematical Society, P.O. Box 6248, Providence, RI 02940-6248. Requests can also be made by e-mail to reprint-permission@ams.org.

Excluded from these provisions is material in articles for which the author holds copyright. In such cases, requests for permission to use or reprint should be addressed directly to the author(s). (Copyright ownership is indicated in the notice in the lower right-hand corner of the first page of each article.)

Mathematics of Computation is published quarterly by the American Mathematical Society at 201 Charles Street, Providence, RI 02904-2213. Periodicals postage is paid at Providence, Rhode Island. Postmaster: Send address changes to *Mathematics of Computation*, American Mathematical Society, P. O. Box 6248, Providence, RI 02940-6248.

© 2000 by the American Mathematical Society. All rights reserved.

This journal is indexed in *Mathematical Reviews*, *Science Citation Index*®, *Science Citation Index*™-Expanded, *ISI Alerting Services*™, *CompuMath Citation Index*®, and *Current Contents*®/Physical, Chemical & Earth Sciences.

⊗ The paper used in this book is acid-free and falls within the guidelines established to ensure permanence and durability.

10 9 8 7 6 5 4 3 2 1 05 04 03 02 01 00