

---

VOLUME 83 NUMBER 287



MAY 2014

---

# MATHEMATICS OF COMPUTATION

---

A M E R I C A N M A T H E M A T I C A L S O C I E T Y

---

**EDITED BY**

Remi Abgrall  
Daniele Boffi  
Susanne C. Brenner, *Managing Editor*  
Daniela Calvetti  
Zhiming Chen  
Ronald F. A. Cools  
Vivette Girault  
Nicholas I. M. Gould  
Ivan Graham  
Douglas Hardin  
Fred J. Hickernell  
Gregor Kemper  
Boris N. Khoromskij  
Stig Larsson  
Christian Lubich  
Gunter Malle  
James McKee  
Michael J. Mossinghoff  
Stanley Osher  
Cheryl E. Praeger  
Christoph Schwab  
Jie Shen  
Zuwei Shen  
Igor E. Shparlinski  
Chi-Wang Shu  
Andrew V. Sutherland  
Daniel B. Szyld  
Mark van Hoeij  
Hans Volkmer  
Barbara Wohlmuth  
Zhimin Zhang

---

PROVIDENCE, RHODE ISLAND USA

---

ISSN 0025-5718 (print)

ISSN 1088-6842 (online)

*Available electronically at*  
**[www.ams.org/mcom/](http://www.ams.org/mcom/)**

MATHEMATICS OF COMPUTATION  
CONTENTS

Vol. 83, No. 287

May 2014

Andrea Bonito, Jean-Luc Guermond, and Bojan Popov, Stability analysis of explicit entropy viscosity methods for non-linear scalar conservation equations .....	1039
Bernardo Cockburn and Wujun Zhang, An a posteriori error estimate for the variable-degree Raviart-Thomas method .....	1063
Blanca Ayuso de Dios, Michael Holst, Yunrong Zhu, and Ludmil Zikatanov, Multilevel preconditioners for discontinuous Galerkin approximations of elliptic problems with jump coefficients .....	1083
Afaf Bouharguane and Rémi Carles, Splitting methods for the nonlocal Fowler equation .....	1121
Shaohua Pan, Sangho Kum, Yongdo Lim, and Jein-Shan Chen, On the generalized Fischer-Burmeister merit function for the second-order cone complementarity problem .....	1143
Jinyan Fan, Accelerating the modified Levenberg-Marquardt method for nonlinear equations .....	1173
Peter Kritzer, Friedrich Pillichshammer, and Henryk Woźniakowski, Multivariate integration of infinitely many times differentiable functions in weighted Korobov spaces .....	1189
Gradimir V. Milovanović and Miodrag M. Spalević, Kronrod extensions with multiple nodes of quadrature formulas for Fourier coefficients .....	1207
Makoto Matsumoto, Mutsuo Saito, and Kyle Matoba, A computable figure of merit for quasi-Monte Carlo point sets .....	1233
Masanori Sawa and Yuan Xu, On positive cubature rules on the simplex and isometric embeddings .....	1251
Irénee Briquel, Felipe Cucker, Javier Peña, and Vera Roshchina, Fast computation of zeros of polynomial systems with bounded degree under finite-precision .....	1279
G. W. Wasilkowski, Average case tractability of approximating $\infty$ -variate functions .....	1319
Hal Schenck, Alexandra Seceleanu, and Javid Validashti, Syzygies and singularities of tensor product surfaces of bidegree $(2, 1)$ .....	1337
Christoph Aistleitner and Markus Hofer, Probabilistic discrepancy bound for Monte Carlo point sets .....	1373
Mark W. Coffey, Series representation of the Riemann zeta function and other results: Complements to a paper of Crandall .....	1383
Pierre Lezowski, Computation of the Euclidean minimum of algebraic number fields .....	1397

*(Continued on inside back cover)*



0025-5718(201405)83:287;1-L

(Continued from back cover)

<b>Masaaki Harada and Tsuyoshi Miezaki, On the existence of extremal Type II <math>\mathbb{Z}_{2^k}</math>-codes</b> .....	1427
<b>Kevin Ford, Florian Luca, and Pieter Moree, Values of the Euler <math>\phi</math>-function not divisible by a given odd prime, and the distribution of Euler-Kronecker constants for cyclotomic fields</b> .....	1447
<b>Aristides Kontogeorgis, Constructing class invariants</b> .....	1477
<b>Gabriele Nebe and Richard Parker, On extremal even unimodular 72-dimensional lattices</b> .....	1489
<b>Lajos Hajdu and Volker Ziegler, Distinct unit generated totally complex quartic fields</b> .....	1495
<b>Enric Nart, Local computation of differentials and discriminants</b> .....	1513
<b>Domingo Gómez-Pérez, Alina Ostafe, and Igor Shparlinski, Algebraic entropy, automorphisms and sparsity of algebraic dynamical systems and pseudorandom number generators</b> .....	1535