Editorial Committee

- EUGENE ISAACSON, Chairman, New York University, Courant Institute of Mathematical Sciences, 251 Mercer Street, New York, New York 10012

 Assistant to the Chairman: CHARLOTTE W. JOHN
- James H. Bramble, Department of Mathematics, Cornell University, Ithaca, New York 14850
- Walter Gautschi, Computer Sciences Department, Purdue University, Lafayette, Indiana 47907
- DONALD GOLDFARB, Department of Computer Sciences, School of Engineering, The City College of the City University of New York, 139th Street & Convent Avenue, New York, New York 10031
- ALSTON S. HOUSEHOLDER, Department of Mathematics, Ayres Hall, The University of Tennessee, Knoxville, Tennessee 37916
- HEINZ-OTTO KREISS, Computer Science Department, University of Uppsala, Uppsala, Sturegaten 4, Sweden
- YUDELL L. LUKE, Department of Mathematics, University of Missouri at Kansas City, Kansas City, Missouri 64110
- JAMES N. LYNESS, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, Illinois 60439
- JAMES W. DANIEL, Department of Mathematics, University of Texas at Austin, Austin, Texas 78712
- Beresford Parlett, Department of Computer Science, University of California, Berkeley, California 94720
- PHILIP RABINOWITZ, Department of Applied Mathematics, The Weizmann Institute of Science, Rehovot, Israel
- DANIEL SHANKS, Naval Ship Research and Development Center, Washington, D.C. 20034
- HANS J. STETTER, Institut für Numerische Mathematik, Technische Hochschule Wien, A-1040 Wien, Karlsplatz 13, Austria
- JOHN W. WRENCH, Jr., Naval Ship Research and Development Center, Washington, D.C. 20034

Information for Subscribers

The journal is published quarterly in one volume per year, with issues numbered serially since Volume 1, Number 1. The subscription price is \$20.00. All back volumes are available. For Volumes 1-19 (1943-1965), prices are \$20.00 per volume, subsequent volumes are \$24.00.

Unpublished Mathematical Tables

The editorial office of the journal maintains a repository of Unpublished Mathematical Tables (UMT). When a table is deposited in the UMT repository a brief summary of its contents is published in the section *Reviews and Descriptions of Tables and Books*. Upon request, the chairman of the editorial committee will supply copies of any table for a nominal cost per page.

Subscriptions, address changes, business communications and payments should be sent to:

P. O. Box 6248
Providence, Rhode Island 02940

Mathematics of Computation

Volume 25, Number 113 January, 1971

CODEN: MCMPAF

Published by the American Mathematical Society

PROVIDENCE, RHODE ISLAND

Mathematics of Computation

TABLE OF CONTENTS

JANUARY 1971

Least Squares Methods for 2mth Order Elliptic Boundary-Value Problems J. H. Bramble & A. H. Schatz	1
On the Effects of Scaling of the Peaceman-Rachford Method OLOF B. WIDLUND	33
An Interior a Priori Estimate for Parabolic Difference Operators and an Application	43
The Calculation of Fourier Coefficients by the Möbius Inversion of the Poisson Summation Formula. Part II. Piecewise Continuous Functions and Functions with Poles near the Interval [0,1] J. N. Lyness	59
On the Error in the Numerical Integration of Chebyshev Polynomials D. Nicholson, P. Rabinowitz, N. Richter & D. Zeilberger	79
Adjusted Forms of the Fourier Coefficient Asymptotic Expansion and Applications in Numerical Quadrature J. N. Lyness	87
Existence of Quadrature Formulae with Almost Equal Weights K. Salkauskas	105
An Implementation of Christoffel's Theorem in the Theory of Orthogonal Polynomials	111
Practical Throw-Back Interpolation F. D. Burgoyne	115
Formulas for Bivariate Hyperosculatory Interpolation	
Herbert E. Salzer	119
Error Analysis of the Algorithm for Shifting the Zeros of a Polynomial by Synthetic Division G. W. STEWART III	135
Whittaker's Cardinal Function in Retrospect J. McNamee, F. Stenger & E. L. Whitney	141
Strongly Asymmetric Sequences Generated by Four Elements FRANTIŠEK FIALA	155
Diophantine Approximation of Ternary Linear Forms T. W. Cusick	163
On Hadamard Matrices Constructible by Circulant Submatrices	
C. H. YANG	181
Reviews and Descriptions of Tables and Books	187

Table Errata Erdélyi, Magnus, Oberhettinger & Tricomi 471, Erdélyi, Magnus, Oberhettinger & Tricomi 472, Gradshteyn & Ryzhik 473, Gray 474, Jarden 475, Magnus & Oberhettinger 476, Magnus, Oberhettinger & Soni 477.	199
CORRIGENDUM STEWART	203
Difficulties beyond our control have caused a delay in publishing the late 1 and the early 1971 issues. It is expected that the journals will be issued on sche before the end of 1971.	