

## CLASSIFICATION OF REVIEWS

- |  |  |
|--|--|
| A. Arithmetical Tables, Mathematical Constants | O. Actuarial Science                               |
| B. Powers                                      | P. Engineering                                     |
| C. Logarithms                                  | Q. Astronomy                                       |
| D. Circular Functions                          | R. Geodesy   |
| E. Hyperbolic and Exponential Functions        | S. Physics, Geophysics, Crystallography            |
| F. Theory of Numbers                           | T. Chemistry                                       |
| G. Higher Algebra                              | U. Navigation                                      |
| H. Numerical Solution of Equations             | V. Aerodynamics, Hydrodynamics, Ballistics         |
| I. Finite Differences, Interpolation           | W. Economics and Social Sciences                   |
| J. Summation of Series                         | X. Numerical Analysis and Applied Mathematics      |
| K. Statistics                                  | Y. Biological Science                              |
| L. Higher Mathematical Functions               | Z. Calculating Machines and Mechanical Computation |
| M. Integrals                                   |  |
| N. Interest and Investment                     |  |

---

### Information for Contributors

Manuscripts should be typewritten double-spaced in the format used by the journal. For journal abbreviations, see *Mathematical Reviews*, v. 28, Index. An author should submit the original and one copy of the manuscript and retain one copy. The author may suggest an appropriate editor for his paper. It is recommended that the author acquaint himself with the pertinent material contained in "Information for Contributors to Mathematics of Computation" and "Manual for Authors", both of which are available upon request from the American Mathematical Society. All contributions intended for publication and all books for review should be addressed to Eugene Isaacson, Chairman, Editorial Committee, Mathematics of Computation, New York University, Courant Institute of Mathematical Sciences, 251 Mercer Street, New York, New York 10012. Beginning with the January, 1965 issue, institutions sponsoring research reported in the journal are assessed page charges.

### Microcard Edition

Volumes 1-10 (1943-1956), Nos. 1-56 are now available on Microcards and may be purchased from the Microcard Foundation, Box 2145, Madison, Wisconsin 53705.

# Mathematics of Computation

## TABLE OF CONTENTS

APRIL 1967

Minimising Truncation Error in Finite Difference Approximations to Ordinary Differential Equations. . . . .	M. R. OSBORNE	133
The Numerical Integration of Ordinary Differential Equations. . . . .	C. W. GEAR	146
Comments on a Floating-Point Version of Nordsieck's Scheme for the Numerical Integration of Differential Equations	H. R. LEWIS, JR. & E. J. STOVALL, JR.	157
Numerical Quadrature and Asymptotic Expansions	J. N. LYNES & B. W. NINHAM	162
A Starting Method for Solving Nonlinear Volterra Integral Equations	J. T. DAY	179
Confluent Expansions. . . . .	JERRY L. FIELDS	189
Chebyshev Approximations for the Natural Logarithm of the Gamma Function . . . . .	W. J. CODY & K. E. HILLSTROM	198
The Cyclotomic Numbers of Order Eighteen with Applications to Difference Sets . . . . .	L. D. BAUMERT & H. FREDRICKSEN	204
TECHNICAL NOTES AND SHORT PAPERS		
On Convergence Rates for Line Overrelaxation. . . . .	JOHN GARY	220
Canonical Decomposition of Hessenberg Matrices	BERESFORD PARLETT	223
An Elimination Method for Computing the Generalized Inverse	LEOPOLD B. WILLNER	227
An Algorithm for Certain Double Sums of Polynomial Series. . . . .	R. LANGEL	230
A Note on the Summation of the Generalized Hypergeometric Functions	ARUN VERMA	232
The Fast Fourier Transform Recursive Equations for Arbitrary Length Records. . . . .	G. D. BERGLAND	236
A Simple "Filon-Trapezoidal" Rule. . . . .	E. O. TUCK	239
Systematic Computations on Amicable Numbers	J. ALANEN, O. ORE & J. STEMPLER	241
Primes of the Form $n^4 + 1$ . . . . .	M. LAL	245
The Generation of Minimal Triangle Graphs. . . . .	ROBERT BOWEN	248
Generation of Triangulations of the Sphere	ROBERT BOWEN & STEPHEN FISK	250
Conversion of Modular Numbers to their Mixed Radix Representation by a Matrix Formula. . . . .	J. SCHÖNHEIM	253
REVIEWS AND DESCRIPTIONS OF TABLES AND BOOKS. . . . .		258
ONDREJKA 16, LAL 17, TAKAHASHI & SIBUYA 18, DIEHL & JORDAN 19, JONES, LAL & BLUNDON 20, BAUMERT & FREDRICKSEN 21, JANSSON 22, KATSURA 23, MITRINOVIĆ & MITRINOVIĆ 24, FETTIS & CASLIN 25, KOROBOCHKIN & FILIPPOV 26, KILPATRICK, KATSURA & INOUE 27, BARK, BOL'SHEV, KUZNETSOV & CHERENKOV 28, DAVID, KENDALL & BARTON 29, MEYER 30, MITROPOL'SKIĬ 31, PEARSON & HARTLEY 32, FETTIS & CASLIN 33, FETTIS & CASLIN 34, AIZENSHTADT, KRYLOV & METEL'SKIĬ 35, DITKIN 36, HUNTER, KIRK, SENIOR & WITTENBERG 37, NOSOVA & TUMARKIN 38, TÖLKE 39, PEARSON & FELLINGER 40, KALMÁR 41, ASPLUND 42, HALANAY 43, VOLYNSKIĬ & BUKHMAN 44, GOLDE 45, MOISEWITSCH 46, DENMAN, HELLER & PANGONIS 47, NEMCHINOV 48, CESCHINO & KUNTZMANN 49, PETROVSKI 50, SCARBOROUGH 51, WENDROFF 52, FLORES 53, GEORGE 54, STUART 55		
TABLE ERRATA. . . . .		293
ABRAMOWITZ & STEGUN 407, GRADSHTEYN & RYZHIK 408, BEYER 409, NBS APPLIED MATHEMATICS SERIES 410		
CORRIGENDA. . . . .		296
LANDER & PARKIN, PETRYSHYN		