VOLUME XXXII

INDEX OF PAPERS BY AUTHORS

Author	*Title*	*Page*
ANSHEL, MICHAEL	Vector Groups and the Equality Problem for Vector Addition Systems	614
BABUŠKA, I. & OSBORN, J. E.	Numerical Treatment of Eigenvalue Problems for Differential Equations with Discontinuous Coefficients	991
BANEGAS, ALEXANDRA	Fast Poisson Solvers for Problems with Sparsity	441
BARRODALE, I., DELVES, L. M. & MASON, J. C.	Linear Chebyshev Approximation of Complex-Valued Functions	853
BARROW, DAVID L.	On Multiple Node Gaussian Quadrature Formulae	431
BARROW, D. L., CHUI, C. K., SMITH, P. W. & WARD, J. D,	Unicity of Best Mean Approximation by Second Order Splines with Variable Knots	1131
BAYLISS, ALVIN	A Double Shooting Scheme for Certain Unstable and Singular Boundary Value Problems	61
BAYS, CARTER & HUDSON, RICHARD H.	On the Fluctuations of Littlewood for Primes of the Form $4n \pm 1$	281
BAYS, CARTER & HUDSON, RICHARD H.	Details of the First Region of Integers x with $\pi_{3,2}(x) < \pi_{3,1}(x)$	571
BENNETT, J. M.	See: FRASER, W. & BENNETT, J. M.	421
BENTON, T. C. & KNOBLE, H. D.	Common Zeros of Two Bessel Functions	533
BLAIR, J. M., EDWARDS, C. A. & JOHNSON, J. H.	Rational Chebyshev Approximations for the Bickley Functions $Ki_n(x)$	876
BOYD, DAVID W.	Pisot and Salem Numbers in Intervals of the Real Line	1244
BRAMBLE, JAMES H. & SCOTT, RIDGWAY	Simultaneous Approximation in Scales of Banach Spaces	947
BUNTING, PAUL W., van LEEUWEN, JAN & TAMARI, DOV	Deciding Associativity for Partial Multiplication Tables of Order 3	593
BURNS, ANNE M.	A Necessary Condition for the Stability of a Difference Approximation to a Hyperbolic System of Partial Differential Equations	707
CASH, J. R.	An Extension of Olver's Method for the Numerical Solution of Linear Recurrence Relations	497
CHAN, C.	See: RIDDELL, J. & CHAN, C.	630
CHIN, R. C. Y. & HEDSTROM, G. W.	A Dispersion Analysis for Difference Schemes: Tables of Generalized Airy Functions	1163
CHOW, SHUI-NEE, MALLET-PARET, JOHN & YORKE, JAMES A.	Finding Zeroes of Maps: Homotopy Methods That Are Constructive with Probability One	887
CHRISTIANSEN, J. & RUSSELL, R. D.	Error Analysis for Spline Collocation Methods with Application to Knot Selection	415
CHUI, C. K.	See: BARROW, D. L., CHUI, C. K., SMITH, P. W. & WARD, J. D.	1131
CIARLET, PHILIPPE G.	Interpolation Error Estimates for the Reduced Hsieh-Clough-Tocher Triangle	335
CIMENT, MELVYN & LEVENTHAL, STEPHEN H.	A Note on the Operator Compact Implicit Method for the Wave Equation	143
COLEMAN, JOHN P. & MOHAMED, JULIE	On de Vogelaere's Method for $y'' = f(x, y)$	751
CRANDALL, R. E.	On the "$3x + 1$" Problem	1281
DELVES, L. M.	See: BARRODALE, I., DELVES, L. M. & MASON, J. C.	853
DIAMOND, HAROLD G.	Stability of Rounded Off Inverses Under Iteration	227

Author	Title	Page
DIAZ Y DIAZ, F.	On Some Families of Imaginary Quadratic Fields	637
DiDONATO, A. R.	An Approximation for $\int_x^\infty e^{-t^2/2}t^p\,dt$, $x > 0$, p real	271
DOTSON, W. G., JR.	An Iterative Process for Nonlinear Monotonic Nonexpansive Operators in Hilbert Space	223
DOUGLAS, JIM, JR., DUPONT, TODD & WHEELER, MARY F.	A Quasi-Projection Analysis of Galerkin Methods for Parabolic and Hyperbolic Equations	345
DOWNS, T.	See: O'NEILL, C. J. & DOWNS, T.	1144
DREZNER, Z.	Computation of the Bivariate Normal Integral	277
DUPONT, TODD	See: DOUGLAS, JIM, JR., DUPONT, TODD & WHEELER, MARY F.	345
EDWARDS, C. A.	See: BLAIR, J. M., EDWARDS, C. A. & JOHNSON, J. H.	876
EDWARDS, M. J.	See: ZAKIAN, V. & EDWARDS, M. J.	519
EISENBEIS, H., FREY, G. & OMMERBORN, B.	Computation of the 2-Rank of Pure Cubic Fields	559
ERNVALL, R. & METSÄNKYLÄ, T.	Cyclotomic Invariants and E-Irregular Primes	617
FATUNLA, SIMEON OLA.	An Implicit Two-Point Numerical Integration Formula for Linear and Nonlinear Stiff Systems of Ordinary Differential Equations	1
FISCHER, J. & McKAY, J.	The Nonabelian Simple Groups G, $\|G\| < 10^6$—Maximal Subgroups	1293
FRASER, W. & BENNETT, J. M.	A Method of Virtual Displacements for the Degenerate Discrete l_1 Approximation Problem	421
FREY, A. E., HALL, C. A. & PORSCHING, T. A.	Some Results on the Global Inversion of Bilinear and Quadratic Isoparametric Finite Element Transformations	725
FREY, G.	See: EISENBEIS, H., FREY, G. & OMMERBORN, B.	559
GAFFNEY, P. W.	To Compute the Optimal Interpolation Formula	763
GALÁNTAI, AURÉL	The Comparison of Numerical Methods for Solving Polynomial Equations	391
GAUTSCHI, WALTER & SLAVIK, JOSEF	On the Computation of Modified Bessel Function Ratios	865
GIROIRE, J. & NEDELEC, J. C.	Numerical Solution of an Exterior Neumann Problem Using a Double Layer Potential	973
GODWIN, H. J.	A Note on Congruent Numbers	293
GOLDBERG, MOSHE & TADMOR, EITAN	Scheme-Independent Stability Criteria for Difference Approximations of Hyperbolic Initial-Boundary Value Problems. I	1097
GORDON, WILLIAM J. & WIXOM, JAMES A.	Shepard's Method of "Metric Interpolation" to Bivariate and Multivariate Interpolation	253
GREENSTADT, JOHN	Revision of a Derivative-Free Quasi-Newton Method	201
GRINSTEAD, CHARLES M.	On a Method of Solving a Class of Diophantine Equations.	936
GUPTA, G. K.	Implementing Second-Derivative Multistep Methods Using the Nordsieck Polynomial Representation	13
GUPTA, HANSRAJ	Finite Differences of the Partition Function	1241
HADJIDIMOS, APOSTOLOS	Accelerated Overrelaxation Method	149
HALD, OLE & MAUCERI DEL PRETE, VINCENZA	Convergence of Vortex Methods for Euler's Equations	791
HALD, OLE H.	The Inverse Sturm-Liouville Problem and the Rayleigh-Ritz Method	687
HALL, C. A.	See: FREY, A. E., HALL, C. A. & PORSCHING, T. A.	725
HARTEN, AMIRAM	The Artificial Compression Method for Computation of Shocks and Contact Discontinuities: III. Self-Adjusting Hybrid Schemes	363
HEDSTROM, G. W.	See: CHIN, R. C. Y. & HEDSTROM, G. W.	1163
HENDY, M. D.	See: JEANS, N. S. & HENDY, M. D.	
HICKS, D. L.	Stability Analysis of WONDY (A Hydrocode Based on the the Artificial Viscosity Method of von Neumann and Richtmyer) for a Special Case of Maxwell's Law	1123

Author	*Title*	*Page*
HOLTE, R.	See: WILLIAMS, H. C. & HOLTE, R.	905
HOUSTIS, E. N. & PAPATHEODOROU, T. S.	A Collocation Method for Fredholm Integral Equations of the Second Kind	159
HOWLAND, JAMES LUCIEN	The Resultant Iteration for Determining the Stability of a Polynomial	779
HUDSON, RICHARD H.	See: BAYS, CARTER & HUDSON, RICHARD H.	281
HUDSON, RICHARD H.	See: BAYS, CARTER & HUDSON, RICHARD H.	571
ISERLES, ARIEH	A-Stability and Dominating Pairs	19
JEANS, N. S. & HENDY, M. D.	Determining the Fundamental Unit of a Pure Cubic Field Given Any Unit	925
JELTSCH, ROLF	Complete Characterization of Multistep Methods with an Interval of Periodicity for Solving $y'' = f(x, y)$	1108
JOHNSON, J. H.	See: BLAIR, J. M., EDWARDS, C. A. & JOHNSON, J. H.	876
JOHNSON, WELLS	On the p-Divisibility of the Fermat Quotients	297
KAUFMAN, EDWIN H., JR., LEEMING, DAVID J. & TAYLOR, G. D.	A Combined Remes-Differential Correction Algorithm for Rational Approximation	233
KEARFOTT, BAKER	A Proof of Convergence and an Error Bound for the Method of Bisection in R^n	1147
KELLER, H. B. & PEREYRA, V.	Symbolic Generation of Finite Difference Formulae	955
KELLOGG, R. BRUCE & TSAN, ALICE	Analysis of Some Difference Approximations for a Singular Perturbation Problem Without Turning Points	1025
KING, J. THOMAS & SERBIN, STEVEN M.	Computational Experiments and Techniques for the Penalty Method with Extrapolation	111
KISHORE, MASAO	Odd Integers N With Five Distinct Prime Factors for Which $2 - 10^{-12} < \sigma(N)/N < 2 + 10^{-12}$	303
KNOBLE, H. D.	See: BENTON, T. C. & KNOBLE, H. D.	533
KRAMARZ, LUIS	Global Approximations to Solutions of Initial Value Problems	35
LAM, BINH	On the Convergence of a Quasi-Newton Method for Sparse Nonlinear Systems	447
LEEMING, DAVID J.	See: KAUFMAN, EDWIN H., JR., LEEMING, DAVID J. & TAYLOR, G. D.	233
van LEEUWEN, JAN	See: BUNTING, PAUL W., van LEEUWEN, JAN & TAMARI, DOV	593
LEHMER, D. H. & MASLEY, J. M.	Table of the Cyclotomic Class Numbers $h^*(p)$ and Their Factors for $200 < p < 521$	577
LEVENTHAL, STEPHEN H.	See: CIMENT, MELVYN & LEVENTHAL, STEPHEN H.	143
LING, CHIH-BING	Further Evaluation of Howland Integrals	900
McALLISTER, DAVID F. & ROULIER, JOHN A.	Interpolation by Convex Quadratic Splines	1154
McCABE, J. H.	A Further Correspondence Property of M Fractions	1303
McDONOUGH, JAMES	See: MAJDA, ANDREW, McDONOUGH, JAMES & OSHER, STANLEY	1041
McKAY, J.	See: FISCHER, J.	1293
MAJDA, ANDREW, McDONOUGH, JAMES & OSHER, STANLEY	The Fourier Method for Nonsmooth Initial Data	1041
MALLET-PARET, JOHN	See: CHOW, SHUI-NEE, MALLET-PARET, JOHN & YORKE, JAMES A.	887
MANSFIELD, LOIS	A Clough-Tocher Type Element Useful for Fourth Order Problems Over Nonpolygonal Domains	135
MASLEY, J. M.	See: LEHMER, D. H. & MASLEY, J. M.	577
MASON, J. C.	See: BARRODALE, I., DELVES, L. M. & MASON, J. C.	853
MAUCERI DEL PRETE, VINCENZA	See: HALD, OLE & MAUCERI DEL PRETE, VINCENZA	791
METSÄNKYLÄ, T.	See: ERNVALL, R. & METSÄNKYLÄ, T.	617

Author	Title	Page
MIRANKER, W. L. & van VELDHUIZEN, M.	The Method of Envelopes	453
MOHAMED, JULIE	See: COLEMAN, JOHN P. & MOHAMED, JULIE	751
MONEGATO, GIOVANNI	Positivity of the Weights of Extended Gauss-Legendre Quadrature Rules	243
MONEGATO, GIOVANNI	Some Remarks on the Construction of Extended Gaussian Quadrature Rules	247
NEDELEC, J. C.	See: GIROIRE, J. & NEDELEC, J. C.	973
NEVANLINNA, OLAVI	On the Convergence of Difference Approximations to Nonlinear Contraction Semigroups in Hilbert Spaces	321
NICOLAIDES, R. A.	On the Observed Rate of Convergence of an Iterative Method Applied to a Model Elliptic Difference Equation	127
NICOLAIDES, R. A.	On Multigrid Convergence in the Indefinite Case	1082
OMMERBORN, B.	See: EISENBEIS, H., FREY, G. & OMMERBORN, B.	559
O'NEILL, C. J. & DOWNS, T.	A Numerical Accuracy Consideration in Polynomial Deflation	1144
OSBORN, J. E.	See: BABUŠKA, I. & OSBORN, J. E.	991
OSHER, STANLEY	See: MAJDA, ANDREW, McDONOUGH, JAMES & OSHER, STANLEY	1041
PAPATHEODOROU, T. S.	See: HOUSTIS, E. N. & PAPATHEODOROU, T. S.	159
PARRY, CHARLES J.	On the Class Number of Relative Quadratic Fields	1261
PEREYRA, V.	See: KELLER, H. B. & PEREYRA, V.	955
PEXTON, ROBERT L. & STEIGER, ARNO D.	Roots of Two Transcendental Equations as Functions of a Continuous Real Parameter	511
POLLARD, J. M.	Monte Carlo Methods for Index Computation (mod p)	918
PORSCHING, T. A.	See: FREY, A. E., HALL, C. A. & PORSCHING, T. A.	725
RAKOTCH, E.	Improved Error Estimates for Numerical Solutions of Symmetric Integral Equations	399
RIDDELL, J. & CHAN, C.	Some Extremal 2-Bases	630
ROULIER, JOHN A.	See: McALLISTER, DAVID F. & ROULIER, JOHN A.	1154
ROWEN, LOUIS HALLE & SCHILD, URI	A Scalar Expression for Matrices With Symplectic Involution	607
RUSSELL, R. D.	See: CHRISTIANSEN, J. & RUSSELL, R. D.	415
SCHATZ, A. H. & WAHLBIN, L. B.	Maximum Norm Estimates in the Finite Element Method on Plane Polygonal Domains. Part 1	73
SCHILD, URI	See: ROWEN, LOUIS HALLE & SCHILD, URI	607
SCHMIDT, PAUL W.	Evaluation of the Integral $\int_0^\infty (t^{2\alpha-1} J_\nu(x\sqrt{1+t^2})/(1+t^2)^{\alpha+\beta-1})\, dt$	265
SCHMIDT, PAUL W.	An Asymptotic Approximation for a Type of Fourier Integral	1171
SCHNABEL, ROBERT B.	Minimum Norm Symmetric Quasi-Newton Updates Restricted to Subspaces	829
SCHONFELDER, J. L.	Chebyshev Expansions for the Error and Related Functions	1232
SCOTT, RIDGWAY	See: BRAMBLE, JAMES H. & SCOTT, RIDGWAY	947
SERBIN, STEVEN M.	See: KING, J. THOMAS & SERBIN, STEVEN M.	111
SHAMPINE, L. F.	Limiting Precision in Differential Equation Solvers. II: Sources of Trouble and Starting a Code	1115
SHANTARAM, R.	See: STEVENS, R. S. & SHANTARAM, R.	635
SHIPPEE, D. E.	Four New Factors of Fermat Numbers	941
SLAVIK, JOSEF	See: GAUTSCHI, WALTER & SLAVIK, JOSEF	865
SMITH, P. W.	See: BARROW, D. L., CHUI, C. K., SMITH, P. W. & WARD, J. D.	1131
SMYTH, W. F.	The Construction of Rational Iterating Functions	811
STEIGER, ARNO D.	See: PEXTON, ROBERT L. & STEIGER, ARNO D.	511
STEVENS, R. S. & SHANTARAM, R.	Computer-Generated van der Waerden Partitions	635
STOTHERS, W. W.	Free Subgroups of the Free Product of Cyclic Groups	1274
TADMOR, EITAN	See: GOLDBERG, MOSHE & TADMOR, EITAN	1097

Author	*Title*	*Page*
TAKÁCS, LAJOS	A Sum of Binomial Coefficients	1271
TAMARI, DOV	See: BUNTING, PAUL W., van LEEUWEN, JAN & TAMARI, DOV	593
TAYLOR, G. D.	See: KAUFMAN, EDWIN H., JR., LEEMING, DAVID J. & TAYLOR, G. D.	233
TOINT, PH. L.	Some Numerical Results Using a Sparse Matrix Updating Formula in Unconstrained Optimization	839
TSAN, ALICE	See: KELLOGG, R. BRUCE & TSAN, ALICE	1025
USMANI, RIAZ A.	Discrete Variable Methods for a Boundary Value Problem with Engineering Applications	1087
VAUGHAN, THERESA P.	A Generalization of the Simple Continued Fraction Algorithm	537
van VELDHUIZEN, M.	See: MIRANKER, W. L. & van VELDHUIZEN, M.	453
WAGSTAFF, SAMUEL S., JR.	The Irregular Primes to 125000	583
WAHLBIN, L. B.	See: SCHATZ, A. H. & WAHLBIN, L. B.	73
WALKER, P. L.	On an Integral Summable to $2\xi(s)/s(s-1)$	1311
WANG, PAUL S.	An Improved Multivariate Polynomial Factoring Algorithm	1215
WARD, J. D.	See: BARROW, D. L., CHUI, C. K., SMITH, P. W. & WARD, J. D.	1131
WATANABE, DANIEL S.	Block Implicit One-Step Methods	405
WHEELER, MARY F.	See: DOUGLAS, JIM, JR., DUPONT, TODD & WHEELER, MARY F.	345
WILLIAMS, H. C.	Some Primes with Interesting Digit Patterns	1306
WILLIAMS, H. C. & HOLTE, R.	Some Observations on Primality Testing	905
WINOGRAD, S.	On Computing the Discrete Fourier Transform	175
WIXOM, JAMES A.	See: GORDON, WILLIAM J. & WIXOM, JAMES A.	253
WOLKOWICZ, H. & ZLOBEC, S.	Calculating the Best Approximate Solution of an Operator Equation	1183
YORKE, JAMES A.	See: CHOW, SHUI-NEE, MALLET-PARET, JOHN & YORKE, JAMES A.	887
ZAKIAN, V. & EDWARDS, M. J.	Tabulation of Constants for Full Grade I_{MN} Approximants	519
ZASSENHAUS, HANS	A Remark on the Hensel Factorization Method	287
ZLÁMAL, MILOŠ	Superconvergence and Reduced Integration in the Finite Element Method	663
ZLOBEC, S.	See: WOLKOWICZ, H. & ZLOBEC, S.	1183

SUBJECT CLASSIFICATION SYSTEM FOR INDEX OF REVIEWS

The following subject classification system is used for the yearly index of reviews. Individual reviews in the quarterly issues are assigned index classification numbers in simplified form.

1.00 Biography and Bibliography (History)

2.00 Selected Topics in Numerical Analysis

- 2.05 *Approximation Theory*
  - 2.05.1 *Least Squares, Curve Fitting, Harmonic Analysis*
  - 2.05.2 *Chebyshev (Best) Approximation*
  - 2.05.3 *Interpolation, Extrapolation*
  - 2.05.4 *Inverse Interpolation*
  - 2.05.5 *Rational Approximation*
  - 2.05.6 *Splines*
- 2.10 *Numerical Integration*
  - 2.10.1 *One-Dimensional*
  - 2.10.2 *Multi-Dimensional*
  - 2.10.3 *Monte Carlo*
- 2.15 *Numerical Differentiation*
- 2.20 *Roots of Equations*
- 2.25 *Evaluation of Series*
- 2.30 *Continued Fractions*
- 2.35 *Iteration Methods, Acceleration Techniques*
- 2.40 *Differences, Divided Differences*
- 2.45 *Algorithms, General Theory*
- 2.50 *Inequalities*
- 2.55 *Stability of Computation, Significance Arithmetic*
- 2.60 *Complexity of Computation*

3.00 Linear Algebra

- 3.05 *Matrices*
- 3.10 *Linear Equations*
  - 3.10.1 *Error Analysis*
- 3.15 *Eigenvalues and Eigenvectors*
  - 3.15.1 *Error Analysis*
- 3.20 *Matrix Inversion and Pseudo-Inverses*
  - 3.20.1 *Error Analysis*
- 3.25 *Linear and Nonlinear Programming, Theory of Games*
  - 3.25.1 *Error Analysis*
- 3.30 *Determinants*
- 3.35 *Sparse Matrices*

4.00 Ordinary Differential Equations

- 4.05 *Initial Value Problems*
  - 4.05.1 *Analytic Methods*
    - 4.05.1.1 *Error Analysis*
  - 4.05.2 *One-Step Methods*
    - 4.05.2.1 *Error Analysis*
  - 4.05.3 *Multistep Methods*
    - 4.05.3.1 *Error Analysis*
- 4.10 *Linear Boundary Value and Eigenvalue Problems*
  - 4.10.1 *Analytic Methods*
    - 4.10.1.1 *Error Analysis*
  - 4.10.2 *Initial Value (Trial and Error or Shooting) Methods*
    - 4.10.2.1 *Error Analysis*

4.10.3 *Finite Difference (Nonshooting) Methods*
4.10.3.1 *Error Analysis*
4.10.4 *Finite Element Methods*
4.10.4.1 *Error Analysis*
4.15 *Nonlinear Boundary Value and Eigenvalue Problems*
4.15.1 *Analytic Methods*
4.15.1.1 *Error Analysis*
4.15.2 *Initial Value (Trial and Error or Shooting) Methods*
4.15.2.1 *Error Analysis*
4.15.3 *Finite Difference (Nonshooting) Methods*
4.15.3.1 *Error Analysis*

5.00 Partial Differential Equations

5.05 *Initial Value Problems*
5.05.1 *Analytic Methods*
5.05.1.1 *Error Analysis*
5.05.2 *Explicit Difference Methods*
5.05.2.1 *Error Analysis*
5.05.3 *Implicit Difference Methods, Iterative Schemes*
5.05.3.1 *Error Analysis*
5.05.4 *Finite Element and Other Approximation Methods*
5.05.4.1 *Error Analysis*
5.10 *Boundary Value Problems*
5.10.1 *Analytic Methods*
5.10.1.1 *Error Analysis*
5.10.2 *Finite Difference Methods, Iterative Schemes*
5.10.2.1 *Error Analysis*
5.10.3 *Finite Element and Other Approximation Methods*
5.10.3.1 *Error Analysis*
5.15 *Eigenvalue Problems*
5.15.1 *Analytic Methods*
5.15.1.1 *Error Analysis*
5.15.2 *Finite Difference Methods, Iterative Schemes*
5.15.2.1 *Error Analysis*
5.15.3 *Finite Element and Other Approximation Methods*
5.15.3.1 *Error Analysis*
5.20 *Mixed Initial and Boundary Value Problems*
5.20.1 *Analytic Methods*
5.20.1.1 *Error Analysis*
5.20.2 *Explicit Difference Methods*
5.20.2.1 *Error Analysis*
5.20.3 *Implicit Difference Methods, Iterative Schemes*
5.20.3.1 *Error Analysis*
5.20.4 *Finite Element and Other Approximation Methods*
5.20.4.1 *Error Analysis*

6.00 Other Functional Equations

6.05 *Difference Equations*
6.10 *Difference-Differential Equations*
6.15 *Integral Equations*
6.20 *Integro-Differential Equations*
6.25 *Convolution Equations*
6.30 *Variational Equations*
6.35 *Abstract Operator Equations*
6.40 *Stochastic Differential Equations*

7.00 Special Functions

7.05 *Mathematical Constants, Special Polynomials (Nonorthogonal) and Numbers: Bernoulli, Euler, Stirling, Binomial Coefficients, Factorials*
7.10 *Elementary Functions, Powers and Roots*
7.15 *Gamma Functions, Psi Functions, Zeta Functions and Related Functions*
7.20 *Incomplete Gamma Functions*

7.20.1 *Exponential Integral, Cosine and Sine Integrals and Related Functions*
7.20.2 *Error Functions, Fresnel Integrals and Related Functions*
7.25 *Confluent Hypergeometric Functions*
7.25.1 *Parabolic Cylinder Functions*
7.25.2 *Coulomb Wave Functions*
7.30 *Bessel Functions*
7.35 *Lommel Functions, Struve Functions, Anger-Weber Functions and Associated Bessel Functions*
7.40 *Legendre Functions*
7.45 *Gaussian Hypergeometric Functions*
7.50 *Orthogonal Polynomials and Functions*
7.55 *Expansions in Series of Orthogonal Polynomials, Bessel Functions, Other Functions*
7.60 *Elliptical Integrals and Functions, Weierstrass Elliptic Integrals, Related Functions*
7.65 *Mathieu Functions*
7.70 *Spheroidal Wave Functions, Other Wave Functions*
7.75 *Generalized Hypergeometric Functions of a Single Variable*
7.80 *Generalized Hypergeometric Functions of More Than One Variable*
7.85 *Basic Hypergeometric Functions*
7.90 *Integral Transforms*
7.95 *Numerical Tables of Integrals and Transforms*
7.100 *Numerical Tables of Infinite Series*
7.105 *Handbooks of Mathematical Tables and Formulae*

8.00 Probability and Statistics

8.05 *Random Numbers*
8.05.1 *Tables*
8.10 *Monte Carlo, Markov Chains*
8.15 *Multivariate Analysis*
8.20 *Regression Analysis*
8.25 *Analysis of Variance*
8.30 *Time Series Analysis*
8.35 *Nonparametric Analysis*
8.40 *Sequential Analysis*
8.45 *Classical Statistics*
8.50 *Handbooks of Tables and Formulae*

9.00 Number Theory

9.05 *Mersenne, Fermat, Perfect and Related Numbers*
9.10 *Number-Theoretic Functions and Tables*
9.15 *Binomial Congruences, Primitive Roots, Residues, etc.*
9.20 *Primes and Their Distribution*
9.25 *Factorization*
9.30 *Forms and Diophantine Equations*
9.35 *Continued Fractions and Diophantine Approximation*
9.40 *Normal Numbers and Distribution of Digits*
9.45 *Modular Computation*

10.00 Algebra and Combinatorial Theory

10.05 *Groups, Rings, Fields, Algebras*
10.10 *Finite Fields*
10.15 *Irreducible Polynomials*
10.20 *Arrays, Latin Squares*
10.25 *Projective Planes, Block Designs, Difference Sets*
10.30 *Permutations, Combinatorial Identities*
10.35 *Graph Theory*

11.00 Geometry

11.05 *Coordinate Conversion Tables*
11.10 *Polyhedra and Polytopes*
11.15 *Graph Theory*

12.00 Computers and Other Aids to Computation

12.05 *Digital Computers*

12.05.1 *Coding, Programming and Software*
12.05.2 *Design and Hardware*
12.05.3 *Computer Aided Instruction*
12.10 *Analog Computers*
12.10.1 *Design and Hardware*
12.15 *Digital-Analog (Hybrid) Computers*
12.15.1 *Coding, Programming and Software*
12.15.2 *Design and Hardware*
12.20 *Mechanical Aids to Computation—Slide Rules, Desk Calculators, Others*
12.25 *Nomographs*

13.00 Applications

13.05 *Physical and Chemical Sciences*
13.05.1 *Weights and Measures Tables*
13.10 *Astronomy, Astrophysics*
13.10.1 *Navigation Tables*
13.15 *Engineering Sciences*
13.15.1 *Engineering Tables*
13.20 *Earth Sciences, Atmospheric Sciences, Fluid Dynamics*
13.20.1 *Triangulation and Geodetic Tables*
13.25 *Biology and the Behavioral Sciences*
13.30 *Economics and the Social Sciences*
13.35 *Information Theory, Automata, Logic Control Theory, Dynamic Programming, Cybernetics*
13.40 *Management Problems, Data Analysis and Processing*
13.45 *Actuarial Science*
13.45.1 *Actuarial and Financial Tables*
13.50 *Humanities, Linguistics*
13.55 *Logic*

14.00 Miscellaneous

14.05 *Mathematical Research, Mathematical Education*

INDEX OF REVIEWS BY AUTHOR OF WORK REVIEWED

Author	Review Number	Classification	Page
ARSENIN, V. Y.	21	See: TIKHONOV, A. N. & ARSENIN, V. Y.	1320
ATKIN, A. O. L.	5	9.00	315
BAILLIE, ROBERT	29	9.00	1326
BAJPAI, A. C., CALUS, I. M. & FAIRLEY, J. A.	2	3.00, 4.00	311
BEARD, JACOB T. B., JR. & WEST, KAREN I.	25	10.00	1324
BRENT, RICHARD P.	1	2.30, 7.05	311
CALUS, I. M.	2	See: BAJPAI, A. C., CALUS, I. M. & FAIRLEY, J. A.	311
COLLATZ, L., MEINARDUS, G. & WETTERLING, W., Editors	30	10.35	1327
DESCLOUX, J. & MARTI, J., Editors	27	2.00	1325
DEVITT, J. S.	14	9.00	942
EDWARDS, HAROLD M.	15	9.00	943
ERNVALL, REIJO	11	9.00	656
FAIRLEY, J. A.	2	See: BAJPAI, A. C., CALUS, I. M. & FAIRLEY, J. A.	311
FITZGIBBON, W. E. & WALKER, H. F., Editors	23	5.00	1323
GLOWINSKI, R., LIONS, J. L. & TRÉMOLIÈRES, R.	4	5.00, 6.30	313
GOOS, G. & HARTMANIS, J., Editors	3	3.15	312
GUTKNECHT, MARTIN, HENRICI, PETER, LÄUCHLI, PETER & SCHWARZ, HANS-RUDOLF	7	3.00, 4.00	651
HALL, G. & WATT, J. M., Editors	22	4.00, 12.00	1322
HARTMANIS, J.	3	See: GOOS, G. & HARTMANIS, J., Editors	312
HELLER, RALPH	24	7.30	1324
HENRICI, PETER	7	See: GUTKNECHT, MARTIN, HENRICI, PETER, LÄUCHLI, PETER & SCHWARZ, HANS-RUDOLF	651
JACOBS, D. A. H., Editor	26	2.05, 2.10, 3.00, 4.00, 5.00, 6.15	1325
KARLIN, SAMUEL, MICCHELLI, CHARLES A., PINKUS, ALLAN & SCHOENBERG, I. J.	20	2.05	1318
LÄUCHLI, PETER	7	See: GUTKNECHT, MARTIN, HENRICI, PETER, LÄUCHLI, PETER & SCHWARZ, HANS-RUDOLF	651
LEECH, JOHN	12	9.00	657
LEVINE, NORMAN	13	See: SALZER, HERBERT E. & LEVINE NORMAN	942
LIONS, J. L.	4	See: GLOWINSKI, R., LIONS, J. L. & TRÉMOLIÈRES, R.	313
MARTI, J.	27	See: DESCLOUX, J. & MARTI, J., Editors	1325
MEINARDUS, G.	30	See: COLLATZ, L., MEINARDUS, G. & WETTERLING, W., Editors	1327
MICCHELLI, CHARLES A.	20	See: KARLIN, SAMUEL, MICCHELLI, CHARLES A., PINKUS, ALLAN & SCHOENBERG, I. J.	1318
ODEN, J. T. & REDDY, J. N.	8	4.10.4, 5.10.3, 5.20.4	652

Author	Review Number	Classification	Page
PINKUS, ALLAN	20	See: KARLIN, SAMUEL, MICCHELLI, CHARLES A., PINKUS, ALLAN & SCHOENBERG, I. J.	1318
REDDY, J. N.	8	See: ODEN, J. T. & REDDY, J. N.	652
te RIELE, HERMAN J. J.	16	9.00	944
te RIELE, HERMAN J. J.	17	9.00	945
te RIELE, HERMAN J. J.	18	9.00	945
SALZER, HERBERT E. & LEVINE, NORMAN	13	7.55	942
SCHOENBERG, I. J.	20	See: KARLIN, SAMUEL, MICCHELLI, CHARLES A., PINKUS, ALLAN & SCHOENBERG, I. J.	1318
SCHWARZ, HANS-RUDOLF	7	See: GUTKNECHT, MARTIN, HENRICI, PETER, LÄUCHLI,PETER & SCHWARZ, HANS-RUDOLF	651
SHALLIT, JEFFREY	10	7.05, 10.30	656
SIGILLITO, V. G.	9	5.10, 5.20	656
SPÄTH, HELMUTH	19	2.05	1317
STETTER, HANS J.	6	2.00, 3.00, 4.00	651
TIKHONOV, A. N. & ARSENIN, V. Y.	21	3.10, 6.15	1320
TRÉMOLIÈRES, R.	4	See: GLOWINSKI, R., LIONS, J. L. & TRÉMOLIÈRES, R.	313
WALKER, H. F.	23	See: FITZGIBBON, W. E. & WALKER, H.F., Editors	1323
WATT, J. M.	22	See: HALL, G. & WATT, J. M., Editors	1322
WEST, KAREN I.	25	See: BEARD, JACOB T. B., JR. & WEST, KAREN I.	1324
WETTERLING, W.	30	See: COLLATZ, L., MEINARDUS, G. & WETTERLING, W., Editors	1327
ZWILLINGER, DAN	28	10.35	1325

INDEX OF REVIEWS BY SUBJECT OF WORK REVIEWED

Author	Review Number	Title	Page
2.00 Selected Topics in Numerical Analysis			
DESCLOUX, J. & MARTI, J., Editors	27	Numerical Analysis	1325
STETTER, HANS J.	6	Numerik für Informatiker—Computergerechte numerische Verfahren. Eine Einfuhrüng	651
2.05 Approximation Theory			
JACOBS, D. A. H., Editor	26	The State of the Art in Numerical Analysis	1325
KARLIN, SAMUEL, MICCHELLI, CHARLES A., PINKUS, ALLAN & SCHOENBERG, I. J.	20	Studies in Spline Functions and Approximation Theory	1318
SPÄTH, HELMUTH	19	Spline-Algorithmen zur Konstruktion glatter Kurven und Flächen	1317
2.10 Numerical Integration			
JACOBS, D. A. H., Editor	26	The State of the Art in Numerical Analysis	1325
2.30 Continued Fractions			
BRENT, RICHARD P.	1	γ and e^{γ} to 20700D and Their Regular Continued Fractions to 20000 Partial Quotients	311
3.00 Linear Algebra			
BAJPAI, A. C., CALUS, I. M. & FAIRLEY, J. A.	2	Numerical Methods for Engineers and Scientists	311

Author	Review Number	Title	Page
GUTKNECHT, MARTIN, HENRICI, PETER, LÄUCHLI, PETER & SCHWARZ, HANS-RUDOLF	7	Heinz Rutishauser: Vorlesungen über numerische Mathematik, Vols. 1 and 2	651
JACOBS, D. A. H., Editor	26	The State of the Art in Numerical Analysis	1325
STETTER, HANS J.	6	Numerik für Informatiker—Computergerechte numerische Verfahren. Eine Einführung	651
3.10 Linear Equations			
TIKHONOV, A. N. & ARSENIN, V. Y.	21	Solutions of Ill-Posed Problems	1320
3.15 Eigenvalues and Eigenvectors			
GOOS, G. & HARTMANIS, J., Editors	3	Matrix Eigensystem Routines—EISPACK Guide	312
4.00 Ordinary Differential Equations			
BAJPAI, A. C., CALUS, I. M. & FAIRLEY, J. A.	2	Numerical Methods for Engineers and Scientists	311
GUTKNECHT, MARTIN, HENRICI, PETER, LÄUCHLI, PETER & SCHWARZ, HANS-RUDOLF	7	Heinz Rutishauser: Vorlesungen über numerische Mathematik, Vols. 1 and 2	651
HALL, G. & WATT, J. M., Editors	22	Modern Numerical Methods for Ordinary Differential Equations	1322
JACOBS, D. A. H., Editor	26	The State of the Art in Numerical Analysis	1325
STETTER, HANS J.	6	Numerik für Informatiker—Computergerechte numerische Verfahren. Eine Einführung	651
4.10.4 Finite Element Methods			
ODEN, J. T. & REDDY, J. N.	8	An Introduction to the Mathematical Theory of Finite Elements	652
5.00 Partial Differential Equations			
FITZGIBBON, W. E. & WALKER, H. F., Editors	23	Nonlinear Diffusion	1323
GLOWINSKI, R., LIONS, J. L. & TRÉMOLIÈRES, R.	4	Analyse Numérique de Inéquations Variationnelles, Vol. 1; Applications aux Phénomènes Stationnaires et d'Évolution, Vol. 2	313
JACOBS, D. A. H., Editor	26	The State of the Art in Numerical Analysis	1325
5.10 Boundary Value Problems			
SIGILLITO, V. G.	9	Explicit A Priori Inequalities With Applications to Boundary Value Problems	656
5.10.3 Finite Element and Other Approximation Methods			
ODEN, J. T. & REDDY, J. N.	8	An Introduction to the Mathematical Theory of Finite Elements	652
5.20 Mixed Initial and Boundary Value Problems			
SIGILLITO, V. G.	9	Explicit A Priori Inequalities With Applications to Boundary Value Problems	656
5.20.4 Finite Element and Other Approximation Methods			
ODEN, J. T. & REDDY, J. N.	8	An Introduction to the Mathematical Theory of Finite Elements	652
6.00 Other Functional Equations			
6.15 Integral Equations			
JACOBS, D. A. H., Editor	26	The State of the Art in Numerical Analysis	1325
TIKHONOV, A. N. & ARSENIN, V. Y.	21	Solutions of Ill-Posed Problems	1320
6.30 Variational Equations			
GLOWINSKI, R., LIONS, J. L. & TRÉMOLIÈRES, R.	4	Analyse Numérique de Inéquations Variationnelles, Vol. 1; Applications aux Phénomènes Stationnaires et d'Évolution, Vol. 2	313

Author	Review Number	Title	Page
7.00 Special Functions			
7.05 Mathematical Constants, Special Polynomials (Nonorthogonal) and Numbers: Bernoulli, Euler, Stirling, Binomial Coefficients, Factorials			
BRENT, RICHARD P.	1	γ and e^{γ} to 20700D and Their Regular Continued Fractions to 20000 Partial Quotients	311
SHALLIT, JEFFREY	10	Table of Bell Numbers to $B(400)$	656
7.30 Bessel Functions			
HELLER, RALPH	24	25D Table of the First One Hundred Values of $j_{0,s}, J_1(j_{0,s}), j_{1,s}, J_0(j_{1,s}) = J_0(j'_{0,s+1}), j'_{1,s}, J_1(j'_{1,s})$	1324
7.55 Expansions in Series of Orthogonal Polynomials, Bessel Functions, Other Functions			
SALZER, HERBERT E. & LEVINE, NORMAN	13	Tables of $2^{-r+1}\ {}_rC(r-k)/2$	942
9.00 Number Theory			
ATKIN, A. O. L.	5	The Number of Subgroups of the Classical Modular Group of Index N	315
BAILLIE, ROBERT	29	Solutions of $\varphi(n) = \varphi(n+1)$ for Euler's Function	1326
DEVITT, J. S.	14	Some Tables for Aliquot Sequences	942
EDWARDS, HAROLD M.	15	Fermat's Last Theorem. A Genetic Introduction to Algebraic Number Theory	943
ERNVALL, REIJO	11	E-Irregular Primes and Related Tables	656
LEECH, JOHN	12	Five Tables Relating to Rational Cuboids	657
te RIELE, HERMAN J. J.	16	Unitary Aliquot Sequences	944
te RIELE, HERMANN J. J.	17	Further Results on Unitary Aliquot Sequences	945
te RIELE, HERMAN J. J.	18	A Theoretical and Computational Study of Generalized Aliquot Sequences	945
10.00 Algebra and Combinatorial Theory			
BEARD, JACOB T. B., JR. & WEST, KAREN I.	25	Factorization Tables for Binomials over $GF(q)$	1324
10.30 Permutations, Combinatorial Identities			
SHALLIT, JEFFREY	10	Table of Bell Numbers to $B(400)$	656
10.35 Graph Theory			
COLLATZ, L., MEINARDUS, G. & WETTERLING, W., Editors	30	Numerische Methoden bei Optimierungsaufgaben, Band 3, Optimierung bei graphentheoretischen und genzzahliger Problemen	1327
ZWILLINGER, DAN	28	Magic Labellings	1325
12.00 Computers and Other Aids to Computation			
HALL, G. & WATT, J. M., Editors	22	Modern Numerical Methods for Ordinary Differential Equations	1322

INDEX OF TABLE ERRATA

No.	Author	Title	Page
548	ABRAMOWITZ, MILTON & STEGUN, IRENE A., Editors	Handbook of Mathematical Functions with Formulas, Graphs, and Mathematical Tables	317
549	BEYER, W. A. & WATERMAN, M. S.	Decimals and Partial Quotients of Euler's Constant and ln 2	317
550	GRADSHTEYN, I. S. & RYZHIK, I. M.	Tables of Integrals, Series, and Products	318
551	GRAY, A., MATHEWS, G. B. & MACROBERT, T. M.	A Treatise on Bessel Functions and Their Applications to Physics	318

No.	Author	Title	Page
552	HART, JOHN F., CHENEY, E. W., LAWSON, CHARLES L., MAEHLY, HANS J., MESZTENYI, CHARLES K., RICE, JOHN R., THACHER, HENRY G., JR. & WITZGALL, CHRISTOPH	Computer Approximations	319
554	KRAITCHIK, M.	Théorie des Nombres, t. 3, Analyse Diophantine et Applications aux Cuboides Rationnels	661
555	KRAITCHIK, M.	Sur les Cuboides Rationnels	661
553	MAGNUS, W., OBERHETTINGER, F. & SONI, R. P.	Formulas and Theorems for the Special Functions of Mathematical Physics	319

INDEX OF CORRIGENDA

Author	Title	Page
JELTSCH, ROLF	Taylor Series Coefficients of the Jacobian Functions by Alois Schett	1328
JELTSCH, ROLF	Multistep Methods Using Higher Derivatives and Damping at Infinity by Rolf Jeltsch	1328
SHANKS, DANIEL	Gauss's Ternary Form Reduction and the 2-Sylow Subgroup	1328

INDEX OF MICROFICHE SUPPLEMENTS

Author	Title	MOC Issue
BABUŠKA, I. & OSBORN, J. E.	Numerical Treatment of Eigenvalue Problems for Differential Equations with Discontinuous Coefficients	October
BLAIR, J. M., EDWARDS, C. A. & JOHNSON, J. H.	Rational Chebyshev Approximations for the Bickley Functions $Ki_n(x)$	July
CHIN, R. C. Y & HEDSTROM, G. W.	A Dispersion Analysis for Difference Schemes: Tables of Generalized Airy Functions	October
KISHORE, MASAO	Odd Integers N With Five Distinct Prime Factors for Which $2 - 10^{-12} < \sigma(N)/N < 2 + 10^{-12}$	January
LEHMER, D. H. & MASLEY, J. M.	Table of the Cyclotomic Class Numbers $h^*(p)$ and Their Factors for $200 < p < 521$	April and October
PEXTON, ROBERT L. & STEIGER, ARNO D.	Roots of Two Transcendental Equations as Functions of a Continuous Real Parameter	April