

# VOLUMES XXXIV AND XXXV

## INDEX OF PAPERS BY AUTHORS

<i>Author</i>	<i>Title</i>	<i>Page</i>
AGRAWAL, M. K., COATES, J. H., HUNT, D. C. & van der POORTEN, A. J.	Elliptic Curves of Conductor 11.....	991
ALFELD, PETER	A Method of Skipping the Transient Phase in the Solution of Separably Stiff Ordinary Initial Value Problems.....	1173
ALLASIA, G. & BONARDO, F.	On the Numerical Evaluation of Two Infinite Products.....	917
ANAND, INDU MATI	Numerical Stability of Nested Dissection Orderings.....	1235
BABUŠKA, I., OSBORN, J. & PITKÄRANTA, J.	Analysis of Mixed Methods Using Mesh Dependent Norms.....	1039
BAILLIE, ROBERT & WAGSTAFF, SAMUEL S., JR.	Lucas Pseudoprimes.....	1391
BAKER, GARTH A. & DOUGALIS, VASSILIOS A.	On the $L^\infty$ -Convergence of Galerkin Approximations for Second-Order Hyperbolic Equations.....	401
BERGER, ALAN E., SOLOMON, JAY M., CIMENT, MELVYN, LEVENTHAL, STEPHEN H. & WEINBERG, BERNARD C.	Generalized OCI Schemes for Boundary Layer Problems.....	695
BONARDO, F.	See: ALLASIA, G. & BONARDO, F.....	917
de BOOR, CARL & SWARTZ, BLAIR	Collocation Approximation to Eigenvalues of an Ordinary Differential Equation: The Principle of the Thing.....	679
BOYD, DAVID W.	Reciprocal Polynomials Having Small Measure.....	1361
BOYD, JOHN P.	The Rate of Convergence of Hermite Function Series.....	1309
BRAMBLE, JAMES H. & SAMMON, PETER H.	Efficient Higher Order Single Step Methods for Parabolic Problems: Part I.....	655
BRENT, RICHARD P.	The First Occurrence of Certain Large Prime Gaps.....	1435
BRENT, RICHARD P. & McMILLAN, EDWIN M.	Some New Algorithms for High-Precision Computation of Euler's Constant.....	305
BRILLHART, JOHN	Note on Irreducibility Testing.....	1379
BULTHEEL, ADHEMAR	Recursive Algorithms for the Matrix Padé Problem.....	875
CASH, J. R.	A Note on Olver's Algorithm for the Solution of Second-Order Linear Difference Equations.....	767
CHAR, BRUCE W.	On Stieltjes' Continued Fraction for the Gamma Function.....	547
CIMENT, MELVYN	See: BERGER, ALAN E., SOLOMON, JAY M., CIMENT, MELVYN, LEVENTHAL, STEPHEN H. & WEINBERG, BERNARD C.....	695
COATES, J. H.	See: AGRAWAL, M. K., COATES, J. H., HUNT, D. C. & van der POORTEN, A. J.....	991
COOPER, G. J. & SAYFY, A.	Additive Methods for the Numerical Solution of Ordinary Differential Equations.....	1159
CORLISS, GEORGE F.	Integrating ODE's in the Complex Plane—Pole Vaulting.....	1181
CORMACK, G.	See: WILLIAMS, H. C., CORMACK, G. & SEAH, E.....	567
CORMACK, G. V. & WILLIAMS, H. C.	Some Very Large Primes of the Form $k \cdot 2^m + 1$ .....	1419
CRANDALL, MICHAEL G. & MAJDA, ANDREW	Monotone Difference Approximations for Scalar Conservation Laws.....	1
CRUZ, ANDRÉS & SESMA, JAVIER	Modulus and Phase of the Reduced Logarithmic Derivative of the Cylindrical Bessel Function.....	1317
DICKINSON, BRADLEY W.	Solution of Linear Equations With Rational Toeplitz Matrices	227
DOUGALIS, VASSILIOS A.	See: BAKER, GARTH A. & DOUGALIS, VASSILIOS A.....	401
DUPONT, TODD & SCOTT, RIDGWAY	Polynomial Approximation of Functions in Sobolev Spaces.....	441

<i>Author</i>	<i>Title</i>	<i>Page</i>
ENGQUIST, BJORN & OSHER, STANLEY	Stable and Entropy Satisfying Approximations for Transonic Flow Calculations.....	45
ERICSSON, THOMAS & RUHE, AXEL	The Spectral Transformation Lanczos Method for the Numerical Solution of Large Sparse Generalized Symmetric Eigenvalue Problems.....	1251
EVANS, JOHN W., GRAGG, WILLIAM B. & LeVEQUE, RANDALL J.	On Least Squares Exponential Sum Approximation With Positive Coefficients.....	203
FATUNLA, SIMEON OLA	Numerical Integrators for Stiff and Highly Oscillatory Dif- ferential Equations.....	373
FERGUSON, WARREN E., JR.	The Construction of Jacobi and Periodic Jacobi Matrices With Prescribed Spectra.....	1203
FETTIS, HENRY E.	On Some Trigonometric Integrals.....	1325
FRANSEN, ARNE & WRIGGE, STAFFAN	High-Precision Values of the Gamma Function and of Some Related Coefficients.....	553
GATTESCHI, LUIGI	On Some Orthogonal Polynomial Integrals.....	1291
GOLDSTEIN, CHARLES I.	Variational Crimes and $L^\infty$ Error Estimates in the Finite Ele- ment Method.....	1131
GOSTIN, GARY B.	A Factor of $F_{17}$ .....	975
GRAGG, WILLIAM B.	See: EVANS, JOHN W., GRAGG, WILLIAM B. & LeVEQUE, RANDALL J. ....	203
GUY, RICHARD K. & SELFRIDGE, J. L.	Corrigendum to "What Drives an Aliquot Sequence?".....	319
HACKBUSCH, WOLFGANG	Convergence of Multi-Grid Iterations Applied to Difference Equations.....	425
HAGIS, PETER, JR.	Outline of a Proof That Every Odd Perfect Number Has at Least Eight Prime Factors.....	1027
HILL, EDWARD, JR.	See: SHRAGER, RICHARD I. & HILL, EDWARD, JR.....	529
HORNER, T. S.	Recurrence Relations for the Coefficients in Chebyshev Series Solutions of Ordinary Differential Equations.....	893
HOWARD, F. T.	A Special Class of Bell Polynomials.....	977
HUNT, D. C.	See: AGRAWAL, M. K., COATES, J. H., HUNT, D. C. & van der POORTEN, A. J. ....	991
ISAACS, GODFREY L.	Exponential Laws for Fractional Differences.....	933
JAMES, RODNEY	The Groups of Order $p^6$ ( $p$ an Odd Prime).....	613
JOHNSON, CLAES & NEDELEC, J. CLAUDE	On the Coupling of Boundary Integral and Finite Element Methods.....	1063
KARLSEN, LASSE K.	Computation of Steady Shocks by Second-Order Finite-Dif- ference Schemes.....	391
KATTI, C. P.	Five-Diagonal Sixth Order Methods for Two-Point Boundary Value Problems Involving Fourth Order Differential Equations.....	1177
KING, RICHARD F.	An Efficient One-Point Extrapolation Method for Linear Con- vergence.....	1285
LAMBIN, PH.	See: VIGNERON, J. P. & LAMBIN, PH.....	1299
LARKIN, F. M.	Root-Finding by Fitting Rational Functions.....	803
LEON, JEFFREY S.	On an Algorithm for Finding a Base and a Strong Generating Set for a Group Given by Generating Permutations.....	941
LEVENTHAL, STEPHEN H.	See: BERGER, ALAN E., SOLOMON, JAY M., CIMENT, MELVYN, LEVENTHAL, STEPHEN H. & WEINBERG, BERNARD C.....	695
LeVEQUE, RANDALL J.	See: EVANS, JOHN W., GRAGG, WILLIAM B. & LeVEQUE, RANDALL J.....	203
LEVIN, DAVID	On Accelerating the Convergence of Infinite Double Series and Integrals.....	1331
LUNDIN, L. R.	A Cardinal Function Method of Solution of the Equation $\Delta u = u - u^3$ .....	747
LUSKIN, MITCHELL	A Finite Element Method for First-Order Hyperbolic Systems	

<i>Author</i>	<i>Title</i>	<i>Page</i>
LYNCH, ROBERT E. & RICE, JOHN R.	A High-Order Difference Method for Differential Equations...	333
LYNESS, J. N. & MONEGATO, G.	Quadrature Error Functional Expansions for the Simplex When the Integrand Function Has Singularities at Vertices	213
McMILLAN, EDWIN M.	See: BRENT, RICHARD P. & McMILLAN, EDWIN M.....	305
MacLEAN, D. W.	Residue Classes of the Partition Function.....	313
MAHER, DAVID P.	Existence Theorems for Transforms Over Finite Rings With Applications to 2-D Convolution.....	757
MAJDA, ANDREW	See: CRANDALL, MICHAEL G. & MAJDA, ANDREW.....	1
MAKROGLOU, ATHENA	Convergence of a Block-By-Block Method for Nonlinear Volterra Integro-Differential Equations.....	783
MANTEUFFEL, T. A.	An Incomplete Factorization Technique for Positive Definite Linear Systems.....	473
MARSAGLIA, GEORGE	Generating Random Variables With a $t$ -Distribution.....	235
MARTI, J. T.	On the Convergence of an Algorithm Computing Minimum- Norm Solutions of Ill-Posed Problems.....	521
MARTINS, M. MADALENA	On an Accelerated Overrelaxation Iterative Method for Li- near Systems With Strictly Diagonally Dominant Matrix...	1269
MEEK, D.	A Mean Value Theorem for Linear Functionals.....	797
MEINARDUS, GÜNTER & TAYLOR, G. D.	Optimal Partitioning of Newton's Method for Calculating Roots.....	1221
MIEL, GEORGE J.	Majorizing Sequences and Error Bounds for Iterative Methods	185
MINOLI, DANIEL	Inductive Formulae for General Sum Operations.....	543
MINOLI, DANIEL	Issues in Nonlinear Hyperfect Numbers.....	639
MONEGATO, G.	See: LYNESS, J. N. & MONEGATO, G.....	213
NEDELEC, J. CLAUDE	See: JOHNSON, CLAES & NEDELEC, J. CLAUDE.....	1063
NETA, BENY	On Determination of Best Possible Constants in Integral Ine- qualities Involving Derivatives.....	1191
NICKEL, LAURA	See: NOLL, CURT & NICKEL, LAURA	
NOCEDAL, JORGE	Updating Quasi-Newton Matrices With Limited Storage.....	773
NOLL, CURT & NICKEL, LAURA	The 25th and 26th Mersenne Primes.....	1387
OSBORN, J.	See: BABUŠKA, I., OSBORN, J. & PITKÄRANTA, J.....	1039
OSHER, STANLEY	See: ENGQUIST, BJORN & OSHER, STANLEY.....	45
PAIGE, C. C.	Error Analysis of Some Techniques for Updating Orthogonal Decompositions.....	465
PARTER, SEYMOUR V.	On the Roles of "Stability" and "Convergence" in Semi- discrete Projection Methods for Initial-Value Problems.....	127
PASCIAK, JOSEPH E.	Spectral and Pseudo Spectral Methods for Advection Equa- tions.....	1081
PHILIP, J. R.	The Convergence and Partial Convergence of Alternating Series.....	907
PITKÄRANTA, J.	See: BABUŠKA, I., OSBORN, J. & PITKÄRANTA, J.	
PITKÄRANTA, JUHANI	Local Stability Conditions for the Babuška Method of Lagrange Multipliers.....	1113
PLESKEN, WILHELM & POHST, MICHAEL	On Maximal Finite Irreducible Subgroups of $GL(n, Z)$ III. The Nine Dimensional Case.....	245
PLESKEN, WILHELM & POHST, MICHAEL	On Maximal Finite Irreducible Subgroups of $GL(n, Z)$ IV. Remarks on Even Dimensions With Applications to $n = 8$	259
PLESKEN, WILHELM & POHST, MICHAEL	On Maximal Finite Irreducible Subgroups of $GL(n, Z)$ V. The Eight Dimensional Case and a Complete Description of Dimensions Less Than Ten.....	277
POHST, MICHAEL	See: PLESKEN, WILHELM & POHST, MICHAEL.....	245
POHST, MICHAEL	See: PLESKEN, WILHELM & POHST, MICHAEL.....	259
POHST, MICHAEL	See: PLESKEN, WILHELM & POHST, MICHAEL.....	277
POMERANCE, CARL, SELFRIDGE, J. L. & WAGSTAFF, SAMUEL S., JR.	The Pseudoprimes to $25 \cdot 10^9$ .....	1003

<i>Author</i>	<i>Title</i>	<i>Page</i>
van der POORTEN, A. J.	See: AGRAWAL, M. K., COATES, J. H., HUNT, D. C. & van der POORTEN, A. J.....	991
RABINOWITZ, PHILIP	The Exact Degree of Precision of Generalized Gauss-Kronrod Integration Rules.....	1275
RICE, JOHN R.	See: LYNCH, ROBERT E. & RICE, JOHN R.....	333
RUHE, AXEL	See: ERICSSON, THOMAS & RUHE, AXEL.....	1251
SALZER, HERBERT E.	Misstatements in Milne-Thomson, Calculus of Finite Differences, Macmillan, London, 1933.....	323
SAMMON, PETER H.	See: BRAMBLE, JAMES H. & SAMMON, PETER H.....	655
SAYFY, A.	See: COOPER, G. J. & SAYFY, A.....	1159
SCHATZ, ALFRED H.	A Weak Discrete Maximum Principle and Stability of the Finite Element Method in $L_\infty$ on Plane Polygonal Domains. I.....	77
SCHONFELDER, J. L.	Very High Accuracy Chebyshev Expansions for the Basic Trigonometric Functions.....	237
SCOTT, RIDGWAY	See: DUPONT, TODD & SCOTT, RIDGWAY.....	441
SEAH, E.	See: WILLIAMS, H. C., CORMACK, G. & SEAH, E.....	567
SELFRIDGE, J. L.	See: GUY, RICHARD K. & SELFRIDGE, J. L.....	319
SELFRIDGE, J. L.	See: POMERANCE, CARL, SELFRIDGE, J. L. & WAGSTAFF, SAMUEL S., JR.....	1003
SERBIN, STEVEN M.	On Factoring a Class of Complex Symmetric Matrices Without Pivoting.....	1231
SESMA, JAVIER	See: CRUZ, ANDRÉS & SESMA, JAVIER.....	1317
SETZER, BENNETT	The Determination of all Imaginary, Quartic, Abelian Number Fields With Class Number 1.....	1383
SHANNO, D. F.	On Variable-Metric Methods for Sparse Hessians.....	499
SHRAGER, RICHARD I. & HILL, EDWARD, JR.	Nonlinear Curve-Fitting in the $L_1$ and $L_\infty$ Norms.....	529
SIDI, AVRAM	Analysis of Convergence of the $T$ -Transformation for Power Series.....	833
SIDI, AVRAM	Numerical Quadrature and Nonlinear Sequence Transformations; Unified Rules for Efficient Computation of Integrals with Algebraic and Logarithmic Endpoint Singularities.....	851
SKEEL, ROBERT D.	Iterative Refinement Implies Numerical Stability for Gaussian Elimination.....	817
SOLOMON, JAY M.	See: BERGER, ALAN E., SOLOMON, JAY M., CIMENT, MELVYN, LEVENTHAL, STEPHEN H. & WEINBERG, BERNARD C.....	695
STOKES, A. N.	A Stable Quotient-Difference Algorithm.....	515
STYNES, MARTIN	On Faster Convergence of the Bisection Method for All Triangles.....	1195
SWARTZ, BLAIR	Compact, Implicit Difference Schemes for a Differential Equation's Side Conditions.....	733
SWARTZ, BLAIR	See: de BOOR, CARL & SWARTZ, BLAIR .....	679
TAYLOR, G. D.	See: MEINARDUS, GÜNTER & TAYLOR, G. D.	
TEMPLER, MARK	On the Primality of $k! + 1$ and $2 * 3 * 5 * \dots * p + 1$ .....	303
THOMÉE, VIDAR	Negative Norm Estimates and Superconvergence in Galerkin Methods for Parabolic Problems.....	93
TRETTER, MARIETTA J. & WALSTER, G. W.	Further Comments on the Computation of Modified Bessel Function Ratios.....	937
TROESCH, B. A.	The Shooting Method Applied to a Cyclic Inequality.....	175
VIGNERON, J. P. & LAMBIN, PH.	Gaussian Quadrature of Integrands Involving the Error Function.....	1299
WAGSTAFF, SAMUEL S., JR.	$p$ -Divisibility of Certain Sets of Bernoulli Numbers.....	647
WAGSTAFF, SAMUEL S., JR.	See POMERANCE, CARL, SELFRIDGE, J. L. & WAGSTAFF, SAMUEL S., JR.....	1003
WAGSTAFF, SAMUEL S., JR.	See: BAILLIE, ROBERT & WAGSTAFF, SAMUEL S., JR....	

<i>Author</i>	<i>Title</i>	<i>Page</i>
WALSTER, G. W.	See: TRETTER, MARIETTA J. & WALSTER, G. W.....	937
WEINBERG, BERNARD C.	See: BERGER, ALAN E., SOLOMON, JAY M., CIMENT, MELVYN, LEVENTHAL STEPHEN H. & WEINBERG, BERNARD C.....	695
WERSCHULZ, ARTHUR G.	Computational Complexity of One-Step Methods for Sys- tems of Differential Equations.....	155
WILKER, PETER	An Efficient Algorithmic Solution of the Diophantine Equa- tion $u^2 + 5v^2 = m$ .....	1347
WILLETT, MICHAEL	Arithmetic in a Finite Field.....	1353
WILLIAMS, H. C.	Improving the Speed of Calculating the Regulator of Certain Pure Cubic Fields.....	1423
WILLIAMS, H. C.	See: CORMACK, G. V. & WILLIAMS, H. C.....	1419
WILLIAMS, H. C., CORMACK, G. & SEAH, E.	Calculation of the Regulator of a Pure Cubic Field.....	567
WINTHER, RAGNAR	A Conservative Finite Element Method for the Korteweg-de Vries Equation.....	23
WINTHER, RAGNAR	Initial Value Methods for Parabolic Control Problems.....	115
WRIGGE, STAFFAN	See: FRANSEN, ARNE & WRIGGE, STAFFAN.....	553

## 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 Application**
  - 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

<i>Author</i>	<i>Review Number</i>	<i>Classification</i>	<i>Page</i>
de BOOR, CARL	1	2.05.6	325
BREZINSKI, CLAUDE	2	2.35	326
BUNCH, J. R.	10	See: DONGARRA, J. J., BUNCH, J. R., MOLER, C. B. & STEWART, G. W.	1033
CASLIN, JAMES C.	4	See: FETTIS, HENRY E. & CASLIN, JAMES C.	328
CONDE, S. & KALLA, S. L.	6	7.45	330
CONDE, S. & KALLA, S. L.	7	7.45	330
CONDE, SALVADOR	13	7.30	1437
CONDE, SALVADOR & KALLA, SHYAM L.	5	7.30	329
DAVIS, PHILIP J.	14	3.05	1438
DONGARRA, J. J., BUNCH, J. R., MOLER, C. B. & STEWART, G. W.	10	3.10, 3.20	1033
DUFF, I. S. & STEWART, G. W., Editors	15	3.00, 3.25	1439
EVANS, R. J.	12	9.10	1036
FETTIS, HENRY E. & CASLIN, JAMES C.	4	7.20	328
FRIED, ISAAC	3	3.00, 4.00, 5.00, 13.15	327
GILEWICZ, J.	11	2.05.5	1034
JABLON, CLAUDE & SIMON, JEAN CLAUDE	16	13.05	1439
KALLA, S. L.	6	See: CONDE, S. & KALLA, S. L.	330
KALLA, S. L.	7	See: CONDE, S. & KALLA, S. L.	330
KALLA, SHYAM L.	5	See: CONDE, SALVADOR & KALLA, SHYAM L.	329
MacLEAN, D. W.	8	9.10, 9.15	330
MÄKI, SIRPA	20	9.10	1442
MOLER, C. B.	10	See: DONGARRA, J. J., BUNCH, J. R., MOLER, C. B. & STEWART, G. W.	1033
PARTER, SEYMOUR V., Editor	18	5.00	1441
te RIELE, H. J. J.	19	7.15	1442
SIMON, JEAN CLAUDE	16	See: JABLON, CLAUDE & SIMON, JEAN CLAUDE	1439
STEWART, G. W.	10	See: DONGARRA, J. J., BUNCH, J. R., MOLER, C. B. & STEWART, G. W.	1033
STEWART, G. W.	15	See: DUFF, I. S. & STEWART, G. W., Editors	1439
WENDLAND, W. L.	17	5.00	1440
YAKOWITZ, SIDNEY J.	9	8.00	651

## INDEX OF REVIEWS BY SUBJECT OF WORK REVIEWED

<i>Author</i>	<i>Review Number</i>	<i>Title</i>	<i>Page</i>
<b>2.00 Selected Topics in Numerical Analysis</b>			
2.05 <i>Approximation Theory</i>			
2.05.5 <i>Rational Approximation</i>			
GILEWICZ, J.	11	Approximants de Padé	1034
2.05.6 <i>Splines</i>			
de BOOR, CARL	1	A Practical Guide to Splines	325
2.35 <i>Iteration Methods, Acceleration Techniques</i>			
BREZINSKI, CLAUDE	2	Algorithmes d'Accélération de la Con- vergence Etude Numérique	326

<i>Author</i>	<i>Review Number</i>	<i>Title</i>	<i>Page</i>
<b>3.00 Linear Algebra</b>			
DUFF, I. S. & STEWART, G. W., Editors	15	Sparse Matrix Proceedings	1439
FRIED, ISAAC	3	Numerical Solution of Differential Equations	327
3.05 <i>Matrices</i>			
DAVIS, PHILIP J.	14	Circulant Matrices	1438
3.10 <i>Linear Equations</i>			
DONGARRA, J. J., BUNCH, J. R., MOLER, C. B. & STEWART, G. W.	10	LINPACK User's Guide	1033
3.20 <i>Matrix Inversion and Pseudo-Inverses</i>			
DONGARRA, J. J., BUNCH, J. R., MOLER, C. B. & STEWART, G. W.	10	LINPACK User's Guide	1033
3.25 <i>Linear and Nonlinear Programming, Theory of Games</i>			
DUFF, I. S. & STEWART, G. W., Editors	15	Sparse Matrix Proceedings	1439
<b>4.00 Ordinary Differential Equations</b>			
FRIED, ISAAC	3	Numerical Solution of Differential Equa- tions	327
<b>5.00 Partial Differential Equations</b>			
FRIED, ISAAC	3	Numerical Solution of Differential Equa- tions	327
PARTER, SEYMOUR V., Editor	18	Numerical Methods for Partial Differential Equations	1441
WENDLAND, W. L.	17	Elliptic Systems in the Plane	1440
<b>7.00 Special Functions</b>			
7.15 <i>Gamma Functions, Psi Functions, Zeta Functions and Related Functions</i>			
te RIELE, H. J. J.	19	Tables of the First 15,000 Zeros of the Riemann Zeta Function to 28 Signifi- cant Figures, and Related Quantities	1442
7.20 <i>Incomplete Gamma Functions</i>			
FETTIS, HENRY E. & CASLIN, JAMES C.	4	Ten-Place Tables of the Voigt and Growth Functions	328
7.30 <i>Bessel Functions</i>			
CONDE, SALVADOR	13	Raices de Ecuaciones Trascendentes con Productos Cruzados de Funciones de Bessel de Diferentes Ordenes	1437
CONDE, SALVADOR & KALLA, SHYAM L.	5	Tables of Bessel Functions and Roots of Related Transcendental Equations	329
7.45 <i>Gaussian Hypergeometric Functions</i>			
CONDE, S. & KALLA, S. L.	6	A Table of Gauss' Hypergeometric Func- tion ${}_2F_1(a, b; c; x)$	330
CONDE, S. & KALLA, S. L.	7	On the Zeros of ${}_2F_1(a, b; c; x)$	330
<b>8.00 Probability and Statistics</b>			
YAKOWITZ, SIDNEY J.	9	Computational Probability and Simulation	651
<b>9.00 Number Theory</b>			
9.10 <i>Number-Theoretic Functions and Tables</i>			
EVANS, R. J.	12	Table of Cyclotomic Numbers of Order Twenty-Four	1036
MacLEAN, D. W.	8	Residue Classes of the Partition Function	330
MÄKI, SIRPA	20	The Determination of Units in Real Cyclic Sextic Fields	1442
9.15 <i>Binomial Congruences, Primitive Roots, Residues, etc.</i>			
MacLEAN, D. W.	8	Residue Classes of the Partition Function	330
<b>13.00 Applications</b>			
13.05 <i>Physical and Chemical Sciences</i>			
JABLON, CLAUDE & SIMON, JEAN CLAUDE	16	Applications des Modèles Numérique en Physique	1439
13.15 <i>Engineering Sciences</i>			
FRIED, ISAAC	3	Numerical Solution of Differential Equa- tions	327

## INDEX OF TABLE ERRATA

<i>No.</i>	<i>Author</i>	<i>Title</i>	<i>Page</i>
571	DICKSON, L. E.	Finiteness of the Odd Perfect and Primitive Abundant Numbers With $n$ Distinct Prime Factors	652
566	FETTIS, HENRY E. & CASLIN, JAMES C.	Ten-Place Tables of the Voigt and Growth Functions	331
572	GRADSHTEYN, I. S. & RYZHIK, I. M.	Table of Integrals, Series, and Products	1444
567	HOBSON, E. W.	The Theory of Spherical and Ellipsoidal Harmonics	331
568	JORDAN, C.	Sur la Résolution des Equations les Unes par les Autres	331
569	MAGNUS, W., OBERHETTINGER, F. & SONI, R. P.	Formulas and Theorems for the Special Functions of Mathematical Physics	332
573	MORRISON, MICHAEL A. & BRILLHART, JOHN	A Method of Factoring and the Factorization of $F_7$	1444
570	SPIEGEL, M. R.	Mathematical Handbook of Formulas and Tables	332

## INDEX OF CORRIGENDA

<i>Author</i>	<i>Title</i>	<i>Page</i>
ENGQUIST, BJORN & OSHER, STANLEY	Stable and Entropy Satisfying Approximations for Transonic Flow Calculations	652
KROGH, FRED T.	Recurrence Relations for Computing With Modified Divided Differences	1445
WRENCH, J. W., JR.	MTE 542, Math. Comp., v. 31, 1977, p. 807	332

## INDEX OF MICROFICHE SUPPLEMENTS

<i>Author</i>	<i>Title</i>	<i>MOC Issue</i>
PLESKEN, WILHELM & POHST, MICHAEL	On Maximal Finite Irreducible Subgroups of $GL(n, Z)$ V. The Eight Dimensional Case and a Complete Description of Dimensions Less Than Ten	January