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- NUMERICAL STUDIES OF COUPLED TIME-DEPENDENT EQUATIONS FOR THE EARTH'S UPPER ATMOSPHERE: A METHOD EMPLOYING A SELF-DIFFUSION COEFFICIENT. G. J. Bailey, *Department of Applied Mathematics and Computing Science, University of Sheffield, Sheffield S10 2TN, ENGLAND.*
- ON THE PROBLEM OF UNSTABLE PIVOTS IN THE INCOMPLETE LU-CONJUGATE GRADIENT METHOD. David S. Kershaw, *L-477, Lawrence Livermore Laboratory, P. O. Box 808, Livermore, CA 94550, USA.*
- A FUNCTIONAL RELATION AND AN ACCELERATION PROCEDURE FOR CALCULATING THE VOLTAGE RESPONSE OF JOSEPHSON JUNCTIONS. W. L. Miranker and K. Bandes, *Department of Mathematical Sciences, IBM Thomas J. Watson Research Center, Yorktown Heights, NY 10598, USA.*
- A DISCRETE ORDINATES SOLUTION OF THE FOKKER-PLANCK EQUATION CHARACTERIZING CHARGED PARTICLE TRANSPORT. Thomas A. Mehlhorn, *Division 4247, Sandia Laboratories, Albuquerque, NM 87185,* and James J. Duderstadt, *Department of Nuclear Engineering, The University of Michigan, Ann Arbor, MI 48109, USA.*
- THE EFFECT OF CELL REYNOLDS NUMBER ON THE COMPUTATION OF A BOUNDARY LAYER. G. W. Hedstrom, *Lawrence Livermore Laboratory, P.O. Box 808, Livermore, CA 94550,* and Albert Osterheld, *Department of Physics, Stanford University, Stanford, CA 94305, USA.*
- AN AUTOMATIC ERROR-CONTROL TECHNIQUE FOR COMPUTATION OF EIGENLENGTHS. P. Nelson, Jr., *Department of Physics, Texas Tech University, Lubbock, TX 79409,* and A. K. Ray, *Quantum Theory Project, University of Florida, Gainesville, FL 32611, USA.*
- THE SPONTANEOUS GENERATION OF THE SINGULARITY IN A SEPARATING LAMINAR BOUNDARY LAYER. L. L. van Dommelen and S. F. Shen, *Sibley School of Mechanical and Aerospace Engineering, 246 Upson Hall, Cornell University, Ithaca, NY 14853, USA.*
- A FLUX PRESERVING METHOD OF COUPLING FIRST AND SECOND ORDER EQUATIONS TO SIMULATE THE FLOW OF PLASMA BETWEEN THE PROTONOSPHERE AND THE IONOSPHERE. E. R. Young and P. G. Richards, *Space Physics Research Laboratory, University of Michigan, 2455 Hayward, Ann Arbor, MI 48109,* and D. G. Torr, *Regis College Research Center, Weston, MA 02193, USA.*
- APPLICATION OF HERMITE APPROXIMATION TO A BOUNDARY VALUE PROBLEM. R. E. Grundy and G. M. Phillips, *Mathematical Institute, University of St. Andrews, Fife KY16 9SS, SCOTLAND.*
- ON QUANTAL BOUND STATE SOLUTIONS AND POTENTIAL ENERGY SURFACE FITTING. A COMPARISON OF THE FINITE ELEMENT, NUMEROV-COOLEY, AND FINITE DIFFERENCE METHODS. David J. Malik, Joseph Eccles, and Don Secrest, *School of Chemical Sciences, University of Illinois, Urbana, IL 61801, USA.*
- IMPLEMENTING HAMILTON'S LAW OF VARYING ACTION WITH SHIFTED LEGENDRE POLYNOMIALS. Donald L. Hitzl, *Dept. 52-56, Bldg. 201, Lockheed Palo Alto Research Laboratory, 3251 Hanover Street, Palo Alto, CA 94304, USA.*