

TABLE OF CONTENTS

<u>Joseph Stoer</u> , "Extrapolation Methods for the Solution of Initial Value Problems and their Practical Realization".....	1
<u>Fred T. Krogh</u> , "Changing Stepsize in the Integration of Differential Equations Using Modified Divided Differences".....	22
<u>J.C. Butcher</u> , "The Order of Differential Equation Methods".....	72
<u>Dale G. Bettis</u> , "Equations of Condition for High Order Runge-Kutta-Nyström Formulas".....	76
<u>Roy Danchick</u> , "On the Non-Equivalence of Maximum Polynomial Degree Nordsieck-Gear and Classical Methods ".....	92
<u>Bernard E. Howard</u> , "Phase Space Analysis in Numerical Integration of Ordinary Differential Equations ".....	107
<u>Paul R. Beaudet</u> , "Multi-Off-Grid Methods in Multi-Step Integration of Ordinary Differential Equations ".....	128
<u>Hays Moore</u> , "Comparison of Numerical Integration Techniques for Orbital Applications".....	149
<u>D.B. Frazho, W.F. Powers, R.P. Canale</u> , "Numerical Integration Aspects of a Nutrient Utilization Ecological Problem".....	167
<u>C.E. Velez and P.J. Cefola, A.C. Long, and K.S. Nimitz</u> "Calculation of Precision Satellite Orbits with Nonsingular Elements (VOP Formulation)"	183
<u>J. Baumgarte and E. Stiefel</u> , "Examples of Transformations Improving the Numerical Accuracy of the Integration of Differential Equations"	207
<u>R. Broucke</u> , "Computation of Solar Perturbations with Poisson Series".....	237
<u>R.H. Miller</u> , "Numerical Difficulties with the Gravitational N-Body Problem".....	260
<u>Roland Wielen</u> , "On the Numerical Integration of the N-Body Problem for Star Clusters".....	276
<u>Guy Janin</u> , "A Variable Order Method for the Numerical Integration of the Gravitational N-Body Problem".....	291
<u>Avram Hayli</u> , "The Method of the Doubly Individual Step for N-Body Computations"	304
<u>Afaq Ahmad and Leon Cohen</u> , "Integration of the N Body Gravitational Problem by Separation of the Force into a Near and a Far Component".....	313

<u>Leon Cohen and Afaq Ahmad</u> , "Numerical Experiments on the Statistics of the Gravitational Field".....	337
<u>Haywood Smith, Jr.</u> , "Integration Errors and their Effects on Macroscopic Properties of Calculated N-Body Systems".....	360
<u>L.J. Gallaher and I.E. Perlin</u> , "Use of Green's Functions in the Numerical Solution of Two-Point Boundary Value Problems".....	374
<u>P.J. Firnett and B.A. Troesch</u> , "Shooting-Splitting Method for Sensitive Two-Point Boundary Value Problems".....	408
<u>Frank Stenger</u> , "On the Convergence and Error of the Bubnov-Galerkin Method".....	434
<u>Myron Lecar, Rudolf Loeser, and Jerome R. Cherniack</u> , "Numerical Integration of Gravitational N-Body Systems with the Use of Explicit Taylor Series".....	451
<u>Otis Graf</u> , "Multirevolution Methods for Orbit Integration".....	471

