

CONTENTS

<u>R E BARNHILL and J H BROWN</u> : Nonconforming finite elements for curved regions	1
<u>H BRUNNER</u> : The approximate solution of linear and nonlinear first-kind integral equations of Volterra type	15
<u>J C BUTCHER</u> : A class of implicit methods for ordinary differential equations	28
<u>W J CODY</u> : An overview of software development for special functions	38
<u>L COLLATZ</u> : Approximation methods for expanding operators	49
<u>G DAHLQUIST</u> : Error analysis for a class of methods for stiff non-linear initial value problems	60
<u>R FLETCHER</u> : Conjugate gradient methods for indefinite systems	73
<u>P W GAFFNEY and M J D POWELL</u> : Optimal interpolation	90
<u>W GAUTSCHI</u> : Advances in Chebyshev Quadrature	100
<u>W M GENTLEMAN</u> : Row elimination for solving sparse linear systems and least squares problems	122
<u>P E GILL and W MURRAY</u> : Nonlinear least squares and nonlinearly constrained optimization	134
<u>J W JEROME</u> : Existence and approximation of weak solutions of the Stefan problem with nonmonotone nonlinearities	148
<u>C L LAWSON</u> : On the discovery and description of mathematical programming algorithms	157
<u>O L MANGASARIAN</u> : Solution of linear complementarity problems by linear programming	166
<u>J K REID</u> : Sparse in-core linear programming	176
<u>H J STETTER</u> : Towards a theory for discretizations of stiff differential systems	190