

C O N T E N T S

	Page
M.BORSBOOM: About the (In)accuracy of Low-Order Conservative Discretization Schemes	1
M.O.BRISTEAU, B.MANTEL, R.GLOWINSKI, J.PERIAUS, C.POULETTEY, G.S.SINGH: Implicit and Semi-Implicit Methods for the Compressible Navier-Stokes Equations	9
U.BROCKMEIER, N.K.MITRA, M.FIEBIG: Multigrid Marker- and-Cell (Sola) Algorithm for Threedimensional Flow Computation	23
U.BULGARELLI, G.GRAZIANI, D.MANSUTTI, R.PIVA: A Reduced Implicit Scheme, via Discrete Stream Function Generation, for unsteady Navier-Stokes Equations in General Curvilinear Coordinates	31
R.CARCAILLET, S.R.KENNON, G.S.DULIKRAVICH: Generation of Optimum Three-Dimensional Computational Grids.	39
T.CARTAGE, M.DEVILLE: Improved Time Marching Schemes for Navier-Stokes Equations using Chebyshev-Tau Approximation	47
J.J.CHATTOT, CH.KOECK, E.ELSAESSER: Solution of the Euler Equations for Missiles Configurations	55
D.S.CHAUSSEE, G. BLOM, J. WAI: Numerical Simulation of Viscous Supersonic Flow over a Generic Fighter Configuration	63
W.N.DAWES: A Pre-Processed Implicit Algorithm for 3-D Viscous Compressible Flow	70
A.EBERLE, O. SCHÄFER: High Order Characteristic Flux Averaging for the Solution of the Euler Equations .	78
L.-E.ERIKSSON: Euler Solutions on 0-0 Grids around Wings using Local Refinement	86
P.ESPPOSITO, J.C.FRANJAUD, J.M.HERVOUET: Transonic Viscous Flows, Study of a New Turbulence Model for Acoustic Applications.	97
B.FORTUNATO, M.NAPOLITANO: Numerical Solutions of 3-D Compressible Internal Flows using a Nonisentropic Implicit Lambda Method	105
W.FRITZ: Numerical Simulation of 2-D Inviscid and Viscous Flow Fields around Complex Geometries.	113
K.HANNEMANN, N.GILBERT, D.SCHWAMBORN, W.GENTZSCH: A Finite Difference Galerkin Method for the Solution of the Navier-Stokes Equations.	121

H.-W.HAPPEL: Application of a 2-D Time-Marching Euler Code to Transonic Turbomachinery Flow	129
H.HENKE, D.HÄNEL: Artificial Damping in Approximate Factorization Methods.	137
R.S.HIRSH, CH.E.SCHEMM: A Numerical Model for Ocean Mesoscale Predictions.	145
P.KIEHM, N.K.MITRA, M.FIEBIG: Numerical Study of confined 2-D and 3-D Laminar Flows around a Circular Cylinder	153
J.R.KIGHTLEY: The Conjugate Gradient Method applied to Turbulent Flow Calculations.	161
CH.KLINGENBERG: Hyperbolic Conservation Laws in Two Dimensions: Some Theoretical and Numerical Results .	169
K.Z.KORCZAK, A.T.PATERA: An Isoparametric Spectral Element Method and its Application to Incompressible Two-Dimensional Flow in Complex Geometry	177
W.KORDULLA: Experiences with an Unfactored Implicit Predictor-Corrector Method	185
R.KRASNY: A Numerical Method for Vortex Sheet Roll-up	193
H.C.KU, T.D.TAYLOR, D.T. HATZIAVRAMIDIS: Pseudospectral Method for Solution of Transient Laminar Natural Convection in a Partially Filled Liquid Container	201
U.KÜSTER: Boundary Procedures for the Euler Equations	209
C.M.KWONG: Numerical Experiments with a Total Variation Diminishing (TVD) MacCormack Scheme.	217
E.LAURIEN, L.KLEISER: Numerical Simulation of Transition Control in Boundary Layers	225
E.v.LAVANTE, D. CLAES: Efficient Numerical Method for Transonic Flow Simulations	233
A.M.LIFSHITS, V.N.SHTERN: Gauss Method in Nonlinear Stability Problems.	241
R.LÖHNER, K.MORGAN, L.KONG: Unstructured Multigrid Methods for the Compressible Euler Equations	248
P.LÜCKING: Partially-Parabolic Calculations of Three-Dimensional Viscous Flow through Turbomachinery Cascades	255

F.MONNOYER: Second-Order Three-Dimensional Laminar Boundary Layers	263
B.MÜLLER, D.RUES: Implicit Finite-Difference Simulation of Separated Hypersonic Flow over an indented Nosettip	271
H.-G.PAAP, J.HAEUSER, D.EPPEL: Automatic Grid Doubling for Composite Meshes	279
J. QUAZZANI, R.PEYRET, A.ZAKARIA,: Stability of Collocation-Chebychev Schemes with Application to the Navier-Stokes Equations.	287
M.M.RAI: A Simulation of Rotor-Stator Interaction using the Euler Equations and patched Grids	295
A.RANDRIAMAMPIANINA, P.BONTOUX, R.ROUX, P. ARGOUL: Multistep Methods for Spectral Tau-Chebyshev Approximation Application to Rotating and Buoyancy Driven Internal Flows	302
A.RIZZI, C.J.Purcell: Numerical Experiment with Inviscid Vortex-Stretched Flow around a Cranked Delta Wing: Supersonic Speed	310
N.SATOBUKA, K.MORINISHI, H.TOKUNAGA: Numerical Solution of the Euler Equations using Rational Runge-Kutta Method.	319
TH.L.v.STIJN, F.T.M.NIEUWSTADT: Large Eddy Simulation of Atmospheric Turbulence	327
M.A.SCHMATZ: Calculation of Strong Viscous/Inviscid Interactions on Airfoils by Zonal Solutions of the Navier-Stokes Equations	335
D.SCHWAMBORN, W.GENTZSCH: A Finite Volume Method for Incompressible Euler Solutions.	343
T.TAKAGI, K.MIKI: An Approach to Thermal-Hydraulic Analysis of Complicated Piping by Domain Decomposition and Overlapping Technique.	351
E.A.THORNTON, R.RAMAKRISHNAN: Finite Element Computations for High Speed 3-D Inviscid Flows	359
E.VENKATAPATHY, C.K.LOMBARD: Application of Patched Meshes to Viscous and Inviscid Flows.	367
H.VOLKERT, U.SCHUMANN: Development of an Atmospheric Mesoscale Model - Setting up the Version in Terrain Following Coordinates.	375
C.WEILAND: A Split-Matrix Method for the Integration of the Quasi-Conservative Euler-Equations	383

J.Y.YANG: Higher-Order Flux Difference Splitting Schemes for the Euler Equations using Upstream Interpolations	391
H.C.YEE: On Symmetric and Upwind TVD Schemes	399

SHORT REPORT ON THE GAMM-WORKSHOP

The Efficient Use of Vector Computers with Emphasis on Computational Fluid Dynamics (W.SCHÖNAUER, W.GENTZSCH)	408
---	-----