

93-3341	The Three-Dimensional v-q Method for Incompressible Viscous Flows W.Jia and Y.Nakamura.....	490
93-3342	On the Pressure Neumann Problem in the Navier-Stokes Equations D.Peshkin and R.Cooper.....	501
93-3343	Numerical Vorticity Capturing for Vortex-Solid Body Interaction Problems C.Wang, J.Steinhoff and Y.Wenren.....	506
93-3344	Segmented Multigrid Domain Decomposition Solutions for Three-Dimensional Viscous Recirculating Flows K.Srinivasan and S.Rubin.....	516
93-3345	An Adaptive Projection Method for the Incompressible Euler Equations A.Almgren, P.Colella and L.Howell.....	530
93-3346	Triangular Spectral Elements for Incompressible Fluid Flow C.Mavriplis and J.Van Rosendale.....	540
Grid Generation Methods (51-CFD-9)		
93-3347	Proven Angular Bounds and Stretched Triangulations with the Frontal Delaunay Method J-D.Muller.....	546
93-3348	Matching Semistructured and Unstructured Grids for Navier-Stokes Calculations R.Lohner.....	555
93-3349	A Three-Dimensional Delaunay Unstructured Grid Generator and Flow Solver for Bodies in Relative Motion R.Noack and D.Bishop.....	565
93-3350	Moving Body Overset Grid Methods for Complete Aircraft Tiltrotor Simulations R.Meakin.....	576
Scientific Visualization Methods (52-CFD-10)		
93-3351	A Graphically Interactive Approach to Structured and Unstructured Surface-Grid Quality Analysis J.Stewart and J.Abolhassani.....	589
93-3352	Visual Grid Quality Assessment for Three-Dimensional Unstructured Meshes R.Haimes, S.Connell and S.Veermeersch.....	598

93-3353	Techniques for the Visual Evaluation of Computation Grids K.Parmley, J.Dannenhofer and N.Weatherill.....	606
Multigrid Methods (67-CFD-11)		
93-3354	Multigrid Methods and High-Order Finite Difference for Flow in Transition C.Liu and Z.Liu.....	615
93-3355	Multistage Schemes for the Euler and Navier-Stokes Equations with Optimal Smoothing J.Lynn and B.Van Leer.....	642
93-3356	A New Residual Smoothing Method for Multigrid, Multistage Schemes Z.Zhu, C.Lacor, and C.Hirsch.....	657
93-3357	Multigrid Convergence of an Implicit Symmetric Relaxation Scheme S.Yoon and D.Kwak.....	666
93-3358	Implicit Multigrid Euler Solutions with Symmetric Total Variation Diminishing Dissipation D.Caughey.....	676
93-3359	Artificial Diffusion, Upwind Biasing, Limiters and Their Effect on Accuracy and Multigrid Convergence in Transonic and Hypersonic Flow A.Jameson.....	N/A
Time-Dependent Methods (68-CFD-12)		
93-3360	Time Accuracy and the Use of Implicit Methods T.Pulliam.....	685
93-3361	Multigrid Time-Accurate Integration of Navier-Stokes Equations A.Arnone, M-S.Liou and L.Povinelli.....	702
93-3362	Higher-Order Time-Accurate Scheme for Unsteady Three-Dimensional Flows K.Matsuno.....	703
93-3363	Virtual Zone Navier-Stokes Computations for Oscillating Control Surfaces G.Klopfer and S.Obayashi.....	711
93-3364	Numerical Simulation of Blast Flowfields Using MacCormack's Method Coupled with Kentzer's Characteristic-Based Boundary Conditions M.Visich, J.Hoffman and J.Wang.....	722

93-3365	Conservation Law for Moving and Transformed Grids Y.Tamura and K.Fujii	733
Numerical Methods I (69-CFD-13)		
93-3366	Line Relaxation Methods for the Solution of Two Dimensional and Three Dimensional Compressible Flows O. Hassan, E.Probert, K.Morgan, and J.Peraire.....	743
93-3367	The Effect of Grid Aspect Ratio on Convergence P.Buelow, S.Venkateswaran, and C.Merkle.....	751
93-3368	On Solving the Compressible Navier-Stokes Equations for Unsteady Flows at very Low Mach Numbers R.Pletcher and K-H.Chen.....	765
93-3369	A Projection Method for Combustion in the Zero-Mach Number Limit M.Lai, J.Bell and P.Colella	776
93-3370	An Eulerian/Lagrangian Coupling Procedure for Three- Dimensional Vortical Flows H.Felici and M.Drela	784
93-3371	Effects of Spatial Order of Accuracy on the Computation of Vortical Flowfields J.Ekaterinaris.....	797
Compressible Navier-Stokes Methods II (84-CFD-14)		
93-3372	Aspects of a High Resolution Scheme for the Navier- Stokes Equations R.Swanson and E.Turkel.....	805
93-3373	New Hybrid Dissipation Scheme for the Compressible Navier-Stokes Equations W.Calhoon Jr. and R.Norton.....	821
93-3374	Extension of State-Vector Splitting to the Navier Stokes Equations C.Gooch and H.Oksuzoglu.....	832
93-3375	Pseudospectral Simulation of Compressible Turbulence Using Logarithmic Variables J.Shebalin.....	841
93-3376	Multidomain Spectral Method for Viscous Compressible Flows D.Kopriva.....	852

93-3377	An Upwind-Biased Finite Volume Technique Solving Compressible Navier-Stokes Equations on Irregular Meshes: Applications to Supersonic Blunt-Body Flows and Shock Boundary Layer Interactions J.Essers, M.Delanaye, and P.Rogiest	861
---------	--	-----

Numerical Methods II (85-CFD-15)

93-3378	Direct and Iterative Algorithms for the Three Dimensional Euler Equations K.Vanden and D.Whitfield.....	1074
93-3379	Analysis of Implicit Second-Order Upwind Biased Stencils T.Roberts and G.Warren.....	870
93-3380	Conservative High-Order, Accurate Finite-Difference Methods for Curvilinear Grids M.Rai and S.Chakravarthy.....	880
93-3381	Some Aspects of High-Order Numerical Solutions of the Linear Convection Equation with Forced Boundary Conditions D.Zingg and H.Lomax	897
93-3382	Development of Non-Dissipative Numerical Schemes for Computational Aeroacoustics J.Thomas and P.Roe	906
93-3383	An Assessment of Spectral Nonoscillatory Schemes A.Suresh	917
93-3384	Development of a Grid-Supported Marker Particle Scheme for Interface Tracking H.Udaykumar and W.Shyy.....	929

Solution Adaptive Algorithms (100-CFD-17)

93-3385	A Three-Dimensional Adaptive Cartesian Grid Algorithm for Inviscid Compressible Flow R.Pember, J.Bell, P. Colella, W.Crutch field, and M.Welcome	948
93-3386	Three-Dimensional Automatic Cartesian Grid Generation for Euler Flows J.Melton, F. Enomoto and M.Berger	959
93-3387	Time-Accurate Simulation of a Self-Excited Oscillatory Supersonic External Flow with a Multiblock Solution Adaptive Mesh Algorithm C.Ingram, S.McRae, and R.Benson.....	970

93-3388	An Adaptive Finite Element Method for Turbulent Free Shear Flows Past Propellers D.Pelletier, F.Ilinca, and J-F.Hetu.....	978
93-3389	Grid Adaption Using Chimera Composite Overlapping Meshes K-H.Kao, M-S.Liou and C. Chow.....	990
93-3390	Adaptive Inviscid Flow Solutions for Aerospace Geometries on Efficiently Generated Unstructured Tetrahedral Meshes N.Weatherill, O.Hassan, M.Marchant and D. Marcum.....	1002
93-3391	A Simulation Technique for Two-Dimensional Unsteady Inviscid-Flows around Arbitrarily Moving and Deforming Bodies of Arbitrary Geometry S.Bayyuk, K.Powell, and B.van Leer.....	1013
Open Forum Papers I (86-CFD-16)		
	A 3-D Finite-Volume Scheme for the Euler Equations on Adaptive Tetrahedral Grids V.Parthasarathy and Y.Kallinderis.....	1025
	An Implicit Three-Dimensional Finite Element Solver for Unstructured Meshes H.Luo, J.Brown, R.Lohner and J.Cabello	1027
	Visualization of Internal Swirling Flows R.Potter, V.Watson and M.Hafez	1029
	Jacobian Approximations and Limiting Strategies for Implicit Upwind Discretizations on Unstructured Grids T.Currie.....	1031
	A Simple Multigrid Procedure for Explicit Time-Marching on Unstructured Grids T.Currie.....	1033
	An Upwind Multigrid Algorithm for Calculating Flows on Unstructured Grids D.Bonhaus.....	1035
	Unsteady Flow Simulation on a Parallel Computer M.Faden, S.Pokorny and K.Engel	1037
	GDCF: An Interactive Approach to Domain Connectivity Among Systems of Overset Grids K.McCann, R.Meakin	1039
	Time-Accurate Navier-Stokes Calculations with Multigrid Acceleration N.Melson, M.Sanetrik and H.Atkins.....	1041

An Acceleration Scheme for Time Accurate Calculations D Modiano and E.Murman	1043
A Novel Algorithm for the Solution of Compressible Euler Flow in Wave/Particle Split (WPS) Form D.Halt and R.Agarwal.....	1045
An Efficient Newton Algorithm for Pressure-Based Methods H.Yang and A.Przekwas.....	1047
Simulation of Flow Past Complex Geometries Using a Parallel Implicit Incompressible Flow Solver R.Ramamurti and R.Lohner	1049
An Implicit CFD Algorithm for Fluid-Structure Coupling in Bio-Fluid Devices H.Yang and V.Makhijani.....	1051

Open Forum Papers II (101-CFD-18)

Sensitivity Derivatives for Three-Dimensional Supersonic Euler Code Using Incremental Iterative Strategy V.Korivi, A.Taylor, G.Hou, P.Newman and H.Jones.....	1053
Preconditioned Domain Decomposition Scheme for Three-Dimensional Aerodynamic Sensitivity Analysis M.Eleshaky and O.Baysal.....	1055
A Method for Uniform Reporting of Grid Refinement Studies P.Roache.....	1057
Solution of Unsteady, Low Mach Number Flow Using a Preconditioned, MultiStage Scheme on an Unstructured Mesh J. Weiss and W.Smith.....	1059
Modeling Flow Between Concentric Vibrating Cylinders with an External Force Field D.Goldstein, T.Adachi and H.Izumi.....	1061
An Operator Splitting Method for Skewed Body-Fitted-Coordinates Z.Wang.....	1063
A Study of Higher Order Spatial Finite-Difference Formulations for the Incompressible Navier-Stokes D.Tafti.....	1065

Single Block Three-Dimensional Volume Grids About Complex Aerodynamic Vehicles S.Alter and K.Weilmuenster	1067
Implementation of a General Purpose Finite-Difference Algorithm on the CM-5 for Direct Numerical Simulations of Turbulence D.Tafti.....	1069
Advancing-Layers Method for Generation of Unstructured Viscous Grids S.Pirzadeh.....	1071
On a Fully Viscous Navier-Stokes Formulation for Approximate Factorization Schemes U.Kaul and R.Shreeve	1073