

May 2011

Eli Turkel, Ph.D.**LIST OF PUBLICATIONS****ARTICLES**

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42. M.E. Hayder, E. Turkel "On Absorbing Buffer Layers as Non-Reflecting Computational Boundaries," 34th AIAA Aerospace Sciences Meeting, AIAA paper 96-0273, 1996.
43. E. Turkel, V.N. Vatsa, R. Radespiel, "Preconditioning Methods for Low Speed Flow," 14th AIAA Applied Aerodynamics Conference, AIAA paper 96-2460, 1996.
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45. R.C. Swanson, R. Radespiel, E. Turkel, "Comparison of Several Dissipation Algorithms for Central Difference Schemes" AIAA paper 97-1945, 1997.
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49. M. Slavutin, I. Harari, E. Turkel "A PML Technique for FEM Acoustic Computation," 27th Israel Mechanical Engineering Conf., 307-309, 1998.
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58. V.N. Vatsa and E. Turkel "Assessment of Local Preconditioners for Steady State and Time Dependent Flows" 34th AIAA Fluid Dynamics Conference, Portland, OR AIAA paper 2004-2134, 2004.
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60. V.N. Vatsa and E. Turkel "Simulation of Synthetic Jets in Quiescent Air Using Unsteady Reynolds Averaged Navier-Stokes Equations" 22 AIAA Applied Aerodynamics Conference, Providence, RI AIAA paper 2004-4967, 2004.
61. R.C. Swanson, E. Turkel, C.-C. Rossow and V.N. Vatsa "Convergence Acceleration for Multistage Time-Stepping Schemes AIAA paper 2006-3525, 43rd AIAA Fluid Dynamics Conference, San Francisco, California, June 5-8, 2006.
62. E. Turkel, V.N. Vatsa, R.C. Swanson and C.-C. Rossow, "Convergence Acceleration for Three Dimensional Flow" Proceedings of ECCOMAS CFD 2006, Editors: P. Wesseling, E. Omate, J. Piaux Egmond aan Zee, The Netherlands, 2006, ISBN 90-9020970-0
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64. Y. Olshanksy and E. Turkel, "Solution for an Inverse Problem in Scattering Theory" Inverse Problems, Design and Optimization Symposium (IPDO), Miami, April 2007.
65. M. Medvinsky and E. Turkel "Local Absorbing Boundary Conditions for Elliptical Shaped Boundaries" Waves 2007, Reading, England, July 2007.
66. Y. Olshanksy and E. Turkel, "The Inverse Problem of an Impenetrable Sound-Hard Body in Acoustic Scattering" 6th Intl. Conf. on Inverse Problems in Engineering: Theory and Practice (ICIPE 2008) Journal of Physics: Conference Series, 2008.
67. E. Turkel and C. Swanson "A RK/Implicit Scheme for Solving the Compressible Navier-Stokes Equations" ContactForum KVAB, Modern Techniques for Solving Partial Differential Equations, Brussels, June 2008
68. M. Parsani, K. Van den Abeele, C. Lacor and E. Turkel "Simulation of Compressible Turbulent Flows with an Implicit LU-SGS Algorithm for High-Order Spectral Methods on Unstructured Grids" 19th AIAA Computational Fluid Dynamics conference, AIAA paper AIAA-2009-4143 San Antonio, TX, June 22-25, 2009.
69. Y. Olshanksy, I Stainvas and E. Turkel "Simultaneous Scatterer Shape Estimation and Far-Field Pattern Denoising" Waves 2009, Pau, France, June 15-19, 2009.

70. Y. Erlangga and E. Turkel "Iterative Schemes for High Order Discretization to the Exterior Helmholtz Equation" ICOSAHOM'09, Trondheim, Norway, June 22-26, 2009.
71. S. Tsynkov and E. Turkel "High Order Discretization for a Variable Coefficient Helmholtz Equation" ICOSAHOM'09, Trondheim, Norway, June 22-26, 2009, Trondheim, Norway
72. M. Parsani, G. Ghorbaniasl, C. Lacor and E. Turkel "An Implicit High-Order Spectral Difference Approach for Compressible Large Eddy Simulation", Proceedings of ECCOMAS CFD 2010, Lisbon, Portugal, June 14-17, 2010.
73. R. C. Swanson, E. Turkel and S. Yaniv, "Analysis of a RK/Implicit Smoother for Multigrid", ICCFD6, St. Petersburg, Russia, July 5-9, 2010.
74. F. Assous, M. Kray, F. Nataf and E. Turkel, "Time Reversed Absorbing Condition in Both Time and Frequency Domains" 1st International ICST Workshop on New Computational Methods for Inverse Problems (NCMIP), Paris, France, May 16, 2011.
75. S. Tsynkov and E. Turkel, "Interfaces in the Helmholtz Equation with High Order Accuracy", Waves 2011, Vancouver, BC, Canada, July 25-29, 2011.
76. F. Assous, M. Kray, F. Nataf and E. Turkel, "Time Reversed Absorbing Condition in the Time Domain", Waves 2011, Vancouver, BC, Canada, July 25-29, 2011.

Submitted

1. A. Shaus, E. Turkel and E. Piasezky "Quality Evaluation of Facsimiles of Hebrew First Temple Period Inscriptions", 10th IAPR International Workshop on Document Analysis Systems (DAS), March 27-29, 2012.
2. A. Shaus, E. Turkel and E. Piasezky "Creation of Facsimiles of Hebrew First Temple Period Inscriptions - Comparison of Existing Algorithms and a New Binarization Scheme", 10th IAPR International Workshop on Document Analysis Systems (DAS), March 27-29, 2012.
3. S. Faigenbaum, A. Shaus, B. Sober, E. Turkel and E. Piasezky, "Potential Contrast Evaluation - the Best of All Possible Images", 10th IAPR International Workshop on Document Analysis Systems (DAS), March 27-29, 2012.
4. O. Peles, S. Yaniv and E. Turkel, "Convergence Acceleration of Runge-Kutta Schemes Using RK/Implicit Smoother for Navier-Stokes Equations with SST Turbulence Model", 52nd Israel Annual Conference on Aerospace Sciences, February 29 - March 1, 2012.
5. E. Turkel, O. Peles and S. Yaniv, "Fast Iterative Methods for Navier-Stokes Equations with a SST Turbulence Model and Dual Time Steps", International Conference on Computational Fluid Dynamics (ICCFD7), Hawaii, July 9-13, 2012.
6. C.S. Swanson and E. Turkel, "Analysis of an Implicit Preconditioner for the Navier-Stokes Equations with a Multi-equation Turbulence, Model", 6th EUROPEAN CONGRESS ON COMPUTATIONAL METHODS IN APPLIED SCIENCES AND ENGINEERING (ECCOMAS 2012), Vienna, Austria, September 10-14, 2012.

Invited Lectures

1. "The Role of Applied Mathematics in Plasma Physics," SIAM Conference, Knoxville, Tennessee U.S.A., November, 1978.
2. "Order of Accuracy and Boundary Conditions for Large Scale Time Dependent Partial Differential Equations," Annual Computational Fluid Dynamics Lectures, Von Karman Institute for Fluid Dynamics - AGARD, Brussels, Belgium, March 1979.

3. "Boundary Conditions for Exterior Acoustic Problems," Third IMACS Conference, Allentown, Pennsylvania, U.S.A., June, 1979.
4. "Radiation Boundary Conditions for Fluid Flow," Symposium on Numerical Boundary Condition Procedures, Stanford, California, U.S.A., September, 1981.
5. "Runge-Kutta Methods for the Euler Equations," INRIA Workshop on Numerical Methods for the Euler Equations for Compressible Inviscid Fluids, Rocquencourt, France, December 1983.
6. "Navier-Stokes Equations on Supercomputers," U.S. - Israel Binational Workshop. The Impact of Supercomputers on the Next Decade of C.F.D., Jerusalem, Israel, December, 1984.
7. "Transport in Plasmas," Mathematical Aspects of Fluids and Plasma Dynamics, Departement de Recherche Sur La Fusion Controlee, Association Euratom, Paris, June 1985.
8. "Multigrid Methods and the Euler Equations," Workshop on Fast Algorithms for Aerodynamic Problems, Cornell University, Ithaca, N.Y., August 1986.
9. "Multigrid and Hyperbolic Equations," First Gentner Symposium in Mathematics Science and Computation, Never Ilan, Israel, March 1989.
10. "Preconditioning and the Limit of the Compressible to the Incompressible Flow Equations for Finite Difference Schemes," Cornell University, Ithaca, N.Y., November 1994.
11. "A Comparison of Preconditioning Methods," Conference on Numerical Methods for the Euler and Navier-Stokes Equations, Montreal, Canada, September 1995.
12. "Centered Space Discretizations for Computing Subsonic through Supersonic Flows," 27th Computational Fluid Dynamics Lecture Series, von Karman Institute for Fluid Dynamics, Brussels, Belgium, March, 1996.
13. "Runge-Kutta Schemes and Residual Smoothing," Advances in Computational Fluid Dynamics, Louisiana Tech University, Ruston, Louisiana, June 1996.
14. "Central Finite Difference Schemes for CFD," Concordia University, Montreal, Canada, August 1996.
15. "Numerical Difficulties Solving Time Harmonic Equations", Multiscale Computational Methods in Chemistry and Physics, Eilat, Israel, 2000
16. B. Muravin and E. Turkel "Solution of Dynamics Crack Interaction Problems by the Element Free Galerkin Method" Fifteenth Israel Symposium on Computational Mechanics October, 2003, Tel Aviv.
17. "High Order Numerical Methods for Differential Equations with Discontinuous Coefficients", Plenary talk, International Conference on Spectral and High-Order Methods (ICOSAHOM'04 - Plenum talk), June 21-25, 2004.
18. "Dual Time Stepping for Low Speed Flows", Conference on Mathematical and Numerical Aspects of Low Mach Number Flows, Porquerolles, France, June 21-25, 2004.
19. "Numerical Schemes and Nature", International Conference on Research Trends in PDE Modeling and Computation, Brown University, Providence, RI, November 7-8, 2004.
20. "Acceleration to a Steady State for the Navier-Stokes Equations", Lecciones Magistrales, IMDEA, Madrid, Feb 20, 2008.
21. "A RK/Implicit Scheme for Solving the Compressible Navier-Stokes Equations", ContactForum KVAB, Modern Techniques for Solving Partial Differential Equations, Brussels, 2008.
22. "On Preconditioning", Remembering Eugene Isaacson and Herb Keller, Courant Institute, December 4, 2009.

23. "Fast Iterative Methods", International Conference on Advances in Scientific Computing, Brown University, Providence, RI, December 6-8, 2009.
24. "Interfaces in the Helmholtz Equation with High Order Accuracy", International Conference in Honor of Saul Abarbanel's 80th Birthday, Tel Aviv University, Israel, June 28 - 29, 2011.