

Publications
Books

1. M. S. Petković, B. Neta, L. D. Petković, J. Džunić, *Multipoint Methods for Solving Nonlinear Equations*, Elsevier, 2012.
2. T. Jangveladze, Z. Kiguradze, B. Neta, *Numerical Solutions of Three Classes of Non-linear Parabolic Integro-differential Equations*, Elsevier, 2015.
3. B. Neta, *Partial Differential Equations*, Lambert Acad. Pub., 2016.

Publications
Books Edited

1. C. A. Kluever, B. Neta, C. D. Hall, and J. M. Hanson, *Spaceflight Mechanics 2000*, *Advances in the Astronautical Sciences*, Vol. 105, Univelt, Inc., San Diego, 2000.
2. K. T. Alfriend, B. Neta, K. Luu, and C. A. H. Walker, *Spaceflight Mechanics 2002*, *Advances in the Astronautical Sciences*, Vol. 112, Univelt, Inc., San Diego, 2002.
3. John H. Seago, B. Neta, Thomas J. Eller, and Frederic J. Pelletier, *Spaceflight Mechanics 2008*, *Advances in the Astronautical Sciences*, Vol. 130, Univelt, Inc., San Diego, 2008.

Publications
Lecture Notes and Solution Manuals

1. B. Neta, *Partial Differential Equations MA3132*, *Solution of Problems in Lecture Notes*, 1996.
2. B. Neta, *Numerical Solution of Partial Differential Equations MA3243* *Lecture Notes*, 1996.
3. B. Neta, *Numerical Solution of Partial Differential Equations*, *Solution of Problems in Lecture Notes*, 1996.
4. B. Neta, *Calculus of Variations MA4311*, *Solution Manual*, 1996

Publications
Publications in Refereed Journals

150. B. Neta, Analysis of Traub's Method for cubic polynomials, *Axioms*, **2024**, 13, 87, <https://doi.org/10.3390/axioms13020087>.

149. B. Neta, Comparison of several numerical solvers for a discretized nonlinear diffusion model with source terms, *Georgian Math. J.*, **31(2)**, (2024), 331–338.
148. B. Neta, On a fifth-order method for multiple roots of nonlinear equations, *Symmetry*, **15(9)**, (2023), 1694.
147. A. Cordero, B. Neta, J. R. Torregrosa, Reasons for stability in the construction of derivative-free multistep iterative methods, *Math. Meth. Appl. Sci.* (2023), 1-16, DOI 10.1002/mma.9367.
146. T. Jangveladze, Z. Kiguradze, M. Kratsashvili and B. Neta, Numerical solution for a nonlinear diffusion model with source terms, *Georgian Math. J.*, **30(4)**, (2023), 539–554. <https://doi.org/10.1515/gmj-2023-2016>
145. B. Neta, Basins of attraction for family of Popovski’s methods and their extension to multiple roots, *J. Numer. Anal. Approx. Th.*, **51**, (2022), 88–102.
144. A. Shokri, B. Neta, M. M. Khalsaraei, A new eight-step P-stable method for the numerical solution of the radial Schrödinger equation, *TWMS J. Pure Appl. Math.*, **13 No.2**, (2022), 133–143.
143. B. Neta, A note on Traub’s method for systems of nonlinear equations, *Mathematics*, **9**, (2021), 3073, doi.org/10.3390/math9233073.
142. A. Cordero, B. Neta, J. R. Torregrosa, Memorizing Schröder’s method as an efficient strategy for estimating roots of an unknown multiplicity, *Mathematics*, **9**, (2021), 2570, doi.org/10.3390/math9202570.
141. A. Shokri, B. Neta, M. M. Khalsaraei, M. M. Rashidi, H. M.-Sedight, A singularly P-stable multi-derivative predictor method for the numerical solution of second-order ordinary differential equations, *Mathematics*, **9** (2021), 806–827, <https://doi.org/10.3390/math9080806>.
140. C. Chun, B. Neta, An efficient derivative-free method for the solution of systems of equations, *Numer. Funct. Anal. Optim.*, **42**, (2021), 838–848.
139. B. Neta, A new derivative-free method to solve nonlinear equations, *Mathematics*, **9** (2021), 583–587, <https://doi.org/10.3390/math9060583>.
138. B. Neta, A new twelfth order trigonometrically-fitted Obrechhoff-like method for second order initial value problems, *J. Numer. Anal. Industrial Appl. Math. (JNAIAM)*, **15** No. 3-4, (2021), 53–70.
137. B. Neta, Basin attractors for derivative-free methods to find simple roots of nonlinear equations, *J. Numer. Anal. Approx. Th.*, **49**, (2020), 177–189.
136. C. Chun, B. Neta, Trigonometrically-fitted methods: a review, *Mathematics*, **7(12)**, (2019), 1197–1216.

135. M. Y. Lee, Y. I. Kim, B. Neta, A generic family of optimal sixteenth-order multiple-root finders and their dynamics underlying purely imaginary extraneous fixed points, *Mathematics*, **7**, (2019), 562–587. Doi:10.3390/math7060562
134. Y. H. Geum, Y. I. Kim, B. Neta, Developing an optimal class of generic sixteenth-order simple-root finders and investigating their dynamics, *Mathematics*, **7** (1), (2019), Article ID 8. Doi:10.3390/math7010008.
133. L. D. Petković, M. S. Petković, B. Neta, On generalized Halley-method for solving nonlinear equations, *Applicable Analysis and Discrete Mathematics*, **13**, (2019), 399–422.
132. C. Chun, B. Neta, Comparative study of methods of various orders for finding simple roots of nonlinear equations, *Journal of Applied Analysis and Computation*, **9**, (2019), 400–427.
131. C. Chun, B. Neta, Developing high order methods for the solution of systems of nonlinear equations, *Appl. Math. Comput.*, **342**, (2019), 178–190.
130. L. D. Petković, M. S. Petković, B. Neta, On optimal parameter of Laguerre’s zero-finding method, *International J. Computer Math.*, **96**, (2019), 692–707.
129. B. Neta, Dynamics of some one-point third-order methods for finding simple roots of nonlinear equations, *Comm. Numer. Anal.*, **2**, (2018), 111–130.
128. C. Chun, B. Neta, Comparative study of methods of various orders for finding repeated roots of nonlinear equations, *J. Computational and Applied Mathematics*, **340**, (2018), 11–42.
127. Y. H. Geum, Y. I. Kim, B. Neta, Constructing a family of optimal eighth-order modified Newton-type multiple-zero finders along with the dynamics behind their purely imaginary extraneous fixed points, *J. Comput. Appl. Math.*, **333**, (2018), 131–156.
126. M. S. Rhee, Y. I. Kim, B. Neta, An optimal eighth-order class of three-step weighted Newton’s methods and their dynamics behind the purely imaginary extraneous fixed points, *Int. J. Computer Math.*, **95**, (2018), 2174–2211.
125. C. Chun, B. Neta, How good are methods with memory for the solution of nonlinear equations, *SeMA J. (Boletín de la Sociedad Española de Matemática Aplicada)*, **74**, (2017), 613–625, DOI: 10.1007/s40324-016-0105-x.
124. C. Chun, B. Neta, Comparative study of eighth order methods for finding simple roots of nonlinear equations, *Numerical Algorithms*, **74**, (2017), 1169–1201.
123. Y. H. Geum, Y. I. Kim, B. Neta, A family of optimal quartic-order multiple-zero finders with a weight function of the principal k^{th} root of a derivative-to-derivative ratio and their basins of attraction, *Mathematics and Computers in Simulations*, **136**, (2017), 1–21.

122. M.-Y. Lee, Y. I. Kim, B. Neta, An optimal family of eighth-order simple-root finders with weight functions dependent on function-to-function ratios and their dynamics underlying extraneous fixed points, *J. Comput. Appl. Math.*, **317**, (2017), 31–54.
121. A. Cordero, J. R. Torregrosa, B. Neta, T. Lotfi, Real and complex dynamics of iterative methods, *Discrete Dyanamics in Nature and Society*, (2016), 4765286.
120. I. Petković, B. Neta, On an application of symbolic computation and computer graphics to root-finders: the case of multiple roots of unknown multiplicity, *J. Comput. Appl. Math.*, **308**, (2016), 215–230.
119. Y. H. Geum, Y. I. Kim, B. Neta, A sixth-order family of three-point modified Newton-like multiple-root finders and the dynamics behind their extraneous fixed points, *Applied Mathematics and Computation*, **283**, (2016), 120–140.
118. C. Chun, B. Neta, An analysis of Khattri’s 4th order family of methods, *Applied Mathematics and Computation*, **279**, (2016), 198–207.
117. B. Neta, C. Chun, M. Scott, Corrigendum to “Basins of attraction for optimal eighth order methods to find simple roots of nonlinear equations”, *Applied Mathematics and Computation*, **218**, (2016), 396–403.
116. C. Chun, B. Neta, The basins of attraction of Murakami’s fifth order family of methods, *Applied Numerical Mathematics*, **110**, (2016), 14–25.
115. C. Chun, B. Neta, Comparison of several families of optimal eighth order methods, *Applied Mathematics and Computation*, **274**, (2016), 762–773.
114. C. Chun, B. Neta, On the new family of optimal eighth order methods developed by Lotfi et al., *Numerical Algorithms*, **72**, (2016), 363–376.
113. Y. H. Geum, Y. I. Kim, B. Neta, A class of two-point sixth-order multiple-zero finders of modified double-Newton type and their dynamics, *Applied Mathematics and Computation*, **270**, (2015), 387–400.
112. C. Chun, B. Neta, Comparing the basins of attraction for Kanwar-Bhatia-Kansal family to the best fourth order method, *Applied Mathematics and Computation*, **266**, (2015), 277–292.
111. C. Chun, B. Neta, Basins of attraction for several third-order methods to find multiple roots of nonlinear equations, *Applied Mathematics and Computation*, **268**, (2015), 129–137.
110. C. Chun, B. Neta, An analysis of a King-based family of optimal eighth-order methods, *Amer. J. Algorithms and Computing*, **2**, (2015), 1–17.
109. Y. H. Geum, Y. I. Kim, B. Neta, On developing a higher-order family of double-Newton methods with a bivariate weighting function, *Applied Mathematics and Computation*, **254**, (2015), 277–290.

108. C. Chun, B. Neta, An analysis of a family of Maheshwari-based optimal eighth order methods, *Applied Mathematics and Computation*, **253**, (2015), 294–307.
107. C. Chun, B. Neta, Basins of attraction for Zhou-Chen-Song fourth order family of methods for multiple roots, *Mathematics and Computers in Simulations*, **109**, (2015), 74–91.
106. C. Chun, B. Neta, An analysis of a new family of eighth-order optimal methods, *Applied Mathematics and Computation*, **245**, (2014), 86–107.
105. B. Neta, C. Chun, Corrigendum to “On a family of Laguerre methods to find multiple roots of nonlinear equations”, *Applied Mathematics and Computation*, **248**, (2014), 693–696.
104. C. Chun, B. Neta, Basins of attraction for several optimal fourth order methods for multiple roots, *Mathematics and Computers in Simulations*, **103**, (2014), 39–59.
103. C. Chun, B. Neta, Sujin Kim, On Jarratt’s family of optimal fourth-order iterative methods and their dynamics, *Fractals*, **22**, (2014), 1450013, DOI:10.1142/S0218348X14500133.
102. B. Neta, C. Chun, M. Scott, Basins of attraction for optimal eighth order methods to find simple roots of nonlinear equations, *Applied Mathematics and Computation*, **227**, (2014), 567–592.
101. C. Chun, B. Neta, J. Kozdon, M. Scott, Choosing weight functions in iterative methods for simple roots, *Applied Mathematics and Computation*, **227**, (2014), 788–800.
100. M. S. Petković, B. Neta, L. D. Petković, J. Džunić, Multipoint methods for solving nonlinear equations: a survey, *Applied Mathematics and Computation*, **226**, (2014), 635–640.
99. B. Neta, C. Chun, M. Scott, On the development of iterative methods for Multiple Roots, *Applied Mathematics and Computation*, **224**, (2013), 358–361.
98. B. Neta, C. Chun, On a family of Laguerre methods to find multiple roots of nonlinear equations, *Applied Mathematics and Computation*, **219**, (2013), 10987–11004.
97. B. Neta, M. Scott, On a family of Halley-like methods to find simple roots of nonlinear equations, *Applied Mathematics and Computation*, **219**, (2013), 7940–7944.
96. T. Jangveladze, Z. Kiguradze, B. Neta, S. Reich, Finite element approximation of a nonlinear diffusion model with memory, *Numerical Algorithms*, **64**, (2013), 127–155.
95. B. Neta, M. Scott, C. Chun, Basins of attraction for several methods to find simple roots of nonlinear equations, *Applied Mathematics and Computation*, **218**, (2012), 10548–10556.

94. J. M. Lindquist, B. Neta, F. X. Giraldo, High-order Non-reflecting Boundary Conditions for Dispersive Waves in Polar Coordinates Using Spectral Elements, *Applied Mathematics and Computation*, **218**, (2012), 6666–6676.
93. C. Chun, M. Y. Lee, B. Neta, J. Džunić, On optimal fourth-order iterative methods free from second derivative and their dynamics, *Applied Mathematics and Computation*, **218**, (2012), 6427–6438.
92. B. Neta, M. Scott, C. Chun, Basin attractors for various methods for multiple roots, *Applied Mathematics and Computation*, **218**, (2012), 5043–5066, doi:10.1016/j.amc.2011.10.071.
91. B. Neta, C. Chun, M. Scott, A Note on the modified super-Halley method, *Applied Mathematics and Computation*, **218**, (2012), 9575–9577.
90. C. Chun, B. Neta, A new sixth-order scheme for nonlinear equations, *Applied Math. Letters*, **25**, (2012), 185–189, doi:10.1016/j.aml.2011.08.012.
89. Temur Jangveladze, Zurab Kiguradze, Beny Neta, Galerkin Finite Element Method for One Nonlinear Integro-Differential Model, *Applied Mathematics and Computation*, **217**, (2011), 6883–6892, doi:10.1016/j.amc.2011.01.053.
88. M. S. Petković, J. Džunić, B. Neta, Interpolatory multipoint methods with memory for solving nonlinear equations, *Applied Mathematics and Computation*, **218**, (2011), 2533–2541 .
87. M. Scott, B. Neta, C. Chun, Basin attractors for various methods, *Applied Mathematics and Computation*, **218**, (2011), 2584–2599 , DOI 10.1016/j.amc.2011.07.076.
86. C. Chun, B. Neta, P. Stanica, Third-order family of methods in Banach spaces, *Computers and Mathematics with Applications*, **61**, (2011), 1665–1675.
85. B. Neta, Extension of Murakami’s High order nonlinear solver to multiple roots, *International Journal of Computer Mathematics*, **8**, (2010), 1023–1031, DOI: 10.1080/00207160802272263.
84. J. M. Lindquist, B. Neta, F. X. Giraldo, A spectral element solution of the Klein-Gordon equation with high-order treatment of time and non-reflecting boundary, *Wave Motion*, **47**, (2010) 289–298, doi:10.1016/j.wavemoti.2009.11.007.
83. T. Jangveladze, Z. Kiguradze, B. Neta, Large time asymptotic and numerical solution of a nonlinear diffusion model with memory, *Computers and Mathematics with Applications*, **59**, (2010), 254–273, doi: 10.1016/j.camwa.2009.07.052.
82. S.G. Li, L. Z. Cheng, B. Neta, Some fourth-order nonlinear solvers with closed formulae for multiple roots, *Computers and Mathematics with Applications*, **59**, (2010), 126–135, doi: 10.1016/j.camwa.2009.08.066.
81. J. M. Lindquist, F. X. Giraldo, B. Neta, Klein-Gordon equation with advection on unbounded domains using spectral elements and high-order non-reflecting boundary conditions, *Applied Mathematics and Computation*, **217**, (2010), 2710–2723.

80. B. Neta, M. S. Petković, Construction of optimal order nonlinear solvers using inverse interpolation, *Applied Mathematics and Computation*, **217**, (2010), 2448-2455.
79. T. Jangveladze, Z. Kiguradze, B. Neta, Large time behavior of solutions and finite difference scheme to a nonlinear integro-differential equation, *Computers and Mathematics with Applications*, **57**, (2009), 799–811.
78. C. Chun and B. Neta, A third-order modification of Newton’s method for multiple roots, *Applied Mathematics and Computation*, **211**, (2009), 474-479.
77. J. R. Dea, F. X. Giraldo, B. Neta, High-Order Non-Reflecting Boundary Conditions for the Linearized 2-D Euler Equations: No Mean Flow Case, *Wave Motion*, **46**, (2009), 210–220, doi:10.1016/j.wavemoti.2008.11.002.
76. T. Jangveladze, Z. Kiguradze, B. Neta, Large Time Behavior of Solutions to a Nonlinear Integro-Differential System, *J. Math. Anal. Appl.*, **351**, (2009), 382–391, doi:10.1016/j.jmaa.2008.
75. C. Chun, H. J. Bae, B. Neta, New families of nonlinear third-order solvers for finding multiple roots, *Computers and Mathematics with Applications*, **57**, (2009), 1574–1582, doi: 10.1016/j.camwa.2008.10.070.
74. T. Jangveladze, Z. Kiguradze, B. Neta, Finite Difference Approximation of a Nonlinear Integro-Differential System, *Applied Mathematics and Computation*, **215**, (2009), 615-628, doi: 10.1016/j.amc.2009.05.061.
73. C. Chun and B. Neta, Certain improvements of Newton’s method with fourth-order convergence, *Applied Mathematics and Computation*, **215**, (2009), 821-828.
72. B. Neta, V.J. van Joolen, J. R. Dea, and D. Givoli, Application of high-order Higdon non-reflecting boundary conditions to linear shallow water models, *Communications in Numerical Methods in Engineering*, **24**, (2008), 1459–1466. doi:10.1002/cnm.1044.
71. B. Neta and A. N. Johnson, High order nonlinear solver for multiple roots, *Computers and Mathematics with Applications*, **55**, (2008), 2012–2017.
70. B. Neta, On Popovski’s method for nonlinear equations, *Applied Mathematics and Computation*, **201**, (2008), 710–715, doi:10.1016/j.amc.2008.01.012.
69. B. Neta and A. N. Johnson, High order nonlinear solver, *J. Computational Methods in Science and Engineering*, **8 No. 4-6**, (2008), 245–250.
68. B. Neta, New Third Order Nonlinear Solvers for Multiple Roots, *Applied Mathematics and Computation*, **202**, (2008), 162–170, doi:10.1016/j.amc.2008.01.031.
67. C. Chun and B. Neta, Some modification of Newton’s method by the method of undetermined coefficients, *Computers and Mathematics with Applications*, **56**, (2008), 2528–2538, doi:10.1016/j.camwa.2008.05.005.

66. B. Neta, P-stable High Order Super-Implicit and Obrechhoff Methods for Periodic Initial Value Problems, *Computers and Mathematics with Applications*, **54**,(2007), 117 – 126.
65. B. Neta, Variational Data Assimilation and Optimal Control, Introduction to a special issue of *Computers and Mathematics with Applications*, **52 (8-9)**, (2006), xiii – xv.
64. B. Neta, Variational Data Assimilation and Optimal Control, Editorial for a special issue of *Computers and Mathematics with Applications*, **52 (8-9)**, (2006), xvii – xxi.
63. V. van Joolen, B. Neta, and D. Givoli, High-Order Higdon-Like Boundary Conditions for Exterior Transient Wave Problems, *International Journal Numerical Methods in Engineering*, **63**, (2005), 1041–1068.
62. B. Neta, P-stable Symmetric Super-Implicit Methods for Periodic Initial Value Problems, *Computers and Mathematics with Applications*, **50**, (2005), 701 – 705.
61. V. van Joolen, B. Neta, and D. Givoli, A Stratified Dispersive Wave Model with High-Order Non-Reflecting Boundary Conditions, *Computers and Mathematics with Applications*, **48**, (2004), 1167–1180.
60. I. M. Navon, B. Neta, M.Y. Hussaini, A perfectly matched layer approach to the linearized shallow water equations models, *Monthly Weather Review*, **132 No.6**, (2004), 1369 – 1378.
59. V. van Joolen, B. Neta, and D. Givoli, High-Order Boundary Conditions for Linearized Shallow Water Equations with Stratification, Dispersion and Advection, *International Journal Numerical Methods in Fluids*, **46(4)**, (2004), 361–381.
58. B. Neta and T. Fukushima, Obrechhoff versus super-implicit methods for the solution of first and second order initial value problems, *Computers and Mathematics with Applications*, special issue on Numerical Methods in Physics, Chemistry and Engineering, T. E. Simos and G. Abdelas (guest editors), **45**, (2003), 383–390.
57. D. Givoli, B. Neta, High-Order Non-Reflecting Boundary Conditions for Dispersive Waves, *Wave Motion*, **37** (2003), 257–271.
56. D. Givoli, B. Neta, High-Order Non-Reflecting Boundary Scheme for Time-Dependent Waves, *J. Computational Physics*, **186**, (2003), 24–46.
55. D. Givoli, B. Neta, and Igor Patlashenko, Finite Element Solution of Exterior Time-Dependent Wave Problems with High-Order Boundary Treatment, *International Journal Numerical Methods in Engineering*, **58**, (2003), 1955–1983.
54. D. Givoli and B. Neta, High-Order Non-Reflecting Boundary Conditions for the Dispersive Shallow Water Equations, *J. Computational Applied Mathematics*, **158**, (2003), 49–60.

53. V. van Joolen, D. Givoli, and B. Neta, High-Order Non-Reflecting Boundary Conditions for Dispersive Waves in Cartesian, Cylindrical and Spherical Coordinate Systems, *International J. Computational Fluid Dynamics*, **17(4)**, (2003), 263–274.
52. B. Neta, Y. Lipowski, A New Scheme for Trajectory Propagation, *J. Astronautical Sciences*, **50**, (2002), 255–268.
51. B. Neta, S. Reich, and H. D. Victory, Galerkin Spectral Synthesis Methods for Diffusion Equations with General Boundary Conditions, *Annals of Nuclear Energy*, **29**, (2002), 913–927.
50. J. H. Gordis, and B. Neta, Fast transient analysis for locally nonlinear structures by recursive block convolution, *ASME J. Vibrations and Acoustics*, **123**, (2001) 545–547.
49. J. B. Knorr, and B. Neta, Plotting Circularly Polarized Field Patterns Using Processed NEC 4 Output Files, *Applied Computational Electromagnetic Society Newsletter*, **16**, No. 2, (2001), 26–33.
48. F. X. Giraldo and B. Neta, Stability Analysis for Eulerian and Semi-Lagrangian Finite Element Formulation of the Advection-Diffusion Equation, *Computers and Mathematics with Applications*, **38**, (1999), 97–112.
47. B. Neta, and D. Vallado, On Satellite Umbra/Penumbra Entry and Exit Positions, *J. Astronautical Sci.*, **46**, (1998), 91–103.
46. B. Neta, F. X. Giraldo and I. M. Navon, Analysis of the Turkel-Zwas Scheme for the Two-Dimensional Shallow Water Equations in Spherical Coordinates, *Journal of Computational Physics*, **133**, (1997), 102–112.
45. B. Neta, Parallelization of Satellite Motion Models, *SIAM News*, **30**, November 1997.
44. D. Cersovsky, E. Kleinschmidt, B. Neta and B. Mansager, Audio Detection Algorithms in Combat Simulations, *International J. Mathematical and Computer Modelling*, **23**, (1996), 65–72.
43. B. Neta, D. Barr, R. Weil, Combat Modelling and Neural Networks in Identification and Control, Special Issue of *International J. Mathematical and Computer Modelling*, **23**, (1996).
42. B. Neta, and J. B. Knorr, Running NEC4 on the Cray at N.P.S., *Applied Computational Electromagnetic Society Newsletter*, **11 No. 3**, (1996), 12–15.
41. L. C. Stone, S. B. Shukla, B. Neta, Parallel Satellite Orbit Prediction Using a Workstation Cluster, *International J. Computer and Mathematics with Applications*, **28**, (1994), 1–8.
40. B. Neta, L. Lustman, Parallel Conservative Scheme for Solving the Shallow Water Equations, *Monthly Weather Review*, **121**, (1993), 305–309.

39. A. Staniforth, R. T. Williams, B. Neta, Influences of Linear Depth Variations on Barotropic Kelvin and Poincaré Waves, *J. of the Atmospheric Sciences* , **50**, (1993), 929–940.
38. W. E. Phipps, B. Neta, D. A. Danielson, Parallelization of the Naval Space Surveillance Satellite Motion Model, *J. Astronautical Sciences*, **41**, (1993), 207–216.
37. L. Lustman, B. Neta, W. Gragg, Solution of Ordinary Differential Initial Value Problems on an INTEL Hypercube, *Computers and Mathematics with Applications*, **23**, (1992), 65–72.
36. B. Neta, Analysis of Finite Element and Finite Differences for Shallow Water Equations: A Review, *Mathematics and Computers in Simulation*, **34**, (1992), 141–161.
35. B. Neta, D. A. Danielson, Parallel Computing May Improve Space Surveillance, *ONR Naval Research Review*, **44**, (1992), 54.
34. L. Lustman, B. Neta, C. P. Katti, Solution of Linear Ordinary Differential Systems on an INTEL Hypercube, *SIAM J. on Scientific and Statistical Computing*, **12**, (1991), 1480–1485.
33. P. Nelson, C. P. Katti, B. Neta, Convergence of Inner-Outer Source Iterations with Finite Termination of the Inner Iterations, *J. of Integral Equations and Applications*, **2**, (1990), 147–174.
32. B. Neta, Special Methods for Problems whose Oscillatory Solution is Damped, *Applied Mathematics and Computation*, **31**, (1989), 161–169.
31. B. Neta, R. T. Williams, Rossby Wave Frequencies and Group Velocities for Finite Element and Finite Difference Approximations to the Vorticity-Divergence and the Primitive Forms of the Shallow Water Equations, *Monthly Weather Review*, **117**, (1989), 1439–1457.
30. B. Neta, I. M. Navon, Analysis of the Turkel-Zwas Scheme for the Shallow-Water Equations, *J. Computational Physics*, **81**, (1989), 277–299.
29. B. Neta, C. L. DeVito, The Transfer Function Analysis of Various Schemes for the Two Dimensional Shallow-Water equations, *Computers and Mathematics with Applications*, **16**, (1988), 111–137.
28. B. Neta, P. Nelson, An Adaptive Method for the Numerical Solution of a Fredholm Integral Equation of the Second Kind. Part I: Regular Kernels, *Applied Mathematics and Computation*, **21**, (1987), 171–184.
27. B. Neta, Several New Methods for Solving Equations, *International J. Computer Mathematics*, **23**, (1988), 265–282.

26. B. Neta, Computational Methods in Meteorological Flows, special issue of *Computers and Mathematics with Applications*, (1987).
25. M. M. Chawla, B. Neta, Families of Two-Step Fourth Order P-Stable Methods for Second Order Differential Equations, *J. Computational Applied Mathematics*, **15**, (1986), 213–223.
24. B. Neta, Families of Backward Differentiation Methods based on Trigonometric Polynomials, *International J. of Computer Mathematics*, **20**, (1986), 67–75.
23. B. P. Sommeijer, P. J. van der Houwen, B. Neta, Symmetric Linear Multistep Methods for Second Order Differential Equations with Periodic Solutions, *Applied Numerical Mathematics*, **2**, (1986), 69–77.
22. B. Neta, R. T. Williams, Stability and Phase Speed for Various Finite Element Formulations of the Advection Equation, *Computers and Fluids*, **14**, (1986), 393–410.
21. M. M. Chawla, P. S. Rao, B. Neta, Two-Step Fourth Order P-Stable Methods with Phase-Lag of Order Six for $y'' = f(t, y)$, *J. Computational and Applied Mathematics*, **16**, (1986), 233–236.
20. B. Neta, Hybrid Predictors and Correctors for Solving a Special Class of Second Order Differential Equations, *Congressus Numerantium*, **46**, (1985), 241–248.
19. B. Neta, J. O. Igwe, Finite Differences versus Finite Elements for Solving Nonlinear Integro-Differential Equations, *J. of Mathematical Analysis and Applications*, **112**, (1985), 607–618.
18. B. Neta, H. M. Tai, LU Factorization on Parallel Computers, *Computers and Mathematics with Applications*, **11**, (1985), 573–579.
17. B. Neta, Higher Order Hybrid Stormer-Cowell Methods for Ordinary Differential Equations, *Congressus Numerantium*, **42**, (1984), 251–264.
16. B. Neta, C. H. Ford, Families of Methods for Ordinary Differential Equations Based on Trigonometric Polynomials, *J. Computational and Applied Mathematics*, **10**, (1984), 33–38.
15. B. Neta, H. D. Victory, A Higher Order Method for Determining Nonisolated Solutions of a System of Nonlinear Equations, *Computing*, **32**, (1984), 163–166.
14. B. Neta, S. C. Lee, Hybrid Methods for a Special Class of Second-Order Differential Equations, *Congressus Numerantium*, **38**, (1983), 203–225.
13. B. Neta, H. D. Victory, A New Fourth Order Finite-Difference Method for Solving Discrete-Ordinate Slab Transport Equations, *SIAM J. on Numerical Analysis*, **20**, (1983), 94–105.

12. H. D. Victory, B. Neta, A Higher Order Method for Multiple Zeros of Nonlinear Functions, *International J. Computer Mathematics*, **12**, (1983), 329–335.
11. B. Neta, A New Family of Higher Order Methods for Solving Equations, *International J. Computer Mathematics*, **14**, (1983), 191–195.
10. B. Neta, Numerical Solution of a Nonlinear Integro-Differential Equation, *J. of Mathematical Analysis and Applications*, **89**, (1982), 598–611.
9. B. Neta, H. D. Victory, The Convergence Analysis for Sixth-Order Methods for Solving Discrete-Ordinate Slab Transport Equations, *Numerical Functional Analysis and Optimization*, **5**, (1982), 85–126.
8. B. Neta, H. D. Victory, On the Development of a Convergence Theory of Synthesis Methods for Solving Diffusion Equations, *Progress in Nuclear Energy*, **8**, (1981), 283–293.
7. B. Neta, On a Family of Multipoint Methods for Nonlinear Equations, *International J. Computer Mathematics*, **9**, (1981), 353–361.
6. B. Neta, Note on Error Analysis for the Spectral Synthesis Method with Interfaces, *Zeitschrift fur Angewandte Mathematik und Physik*, **32**, (1981), 603–608.
5. B. Neta, On 3 Inequalities, *Computers and Mathematics with Applications*, **6**, (1980), 301–304.
4. B. Neta, On Determination of Best-Possible Constants in Integrals Inequalities Involving Derivatives, *Mathematics of Computations*, **35**, (1980), 1191–1193.
3. B. Neta, A Sixth-Order Family of Methods for Nonlinear Equations, *International J. Computer Mathematics*, **7**, (1979), 157–161.
2. B. Neta, Finite Element Approximation of a Nonlinear Parabolic Problem, *Computers and Mathematics with Applications*, **4**, (1978), 247–255.
1. B. Neta, G. J. Fix, Finite Element Approximation of a Nonlinear Diffusion Problem, *Computers and Mathematics with Applications*, **3**, (1977), 287–298.

Refereed Conference Proceedings Articles

37. Jangveladze T., Kiguradze Z., Neta B., Investigation and numerical resolution of initial-boundary value problems with mixed boundary conditions for nonlinear integro-differential system, International Conference Continuum Mechanics and Related Problems of Analysis, September 9-14, 2011, Tbilisi, Georgia.

36. B. Neta, F. X. Giraldo, J. M. Lindquist, Spectral element solution of the Klein-Gordon equation on an infinite channel with high-order boundary treatment, Proc. 15th International Conference on Finite Elements in Flow Problems (FEF09), 1–3 April 2009, Chuo University, Tokyo, Japan.
35. Jangveladze T., Kiguradze Z., Neta B., Large Time Behavior of Solutions and Finite Difference Scheme to a Nonlinear Integro-Differential System, International Conference dedicated to 90th anniversary of Iv. Javakhishvili, Tbilisi State University (TSU), September, 26-28, 2008 and 40th anniversary of I. Vekua Institute of Applied Mathematics (VIAM), October, 7-9, 2008.
34. J.G. Taylor, B. Neta, and P.A. Shugart, An Analytical Model That Provides Insights into Various C² Architectures, especially those being considered for transformation systems, Proceedings of the 2004 Command and Control Research and Technology Symposium, San Diego, CA, June 2004.
33. D. Givoli, B. Neta, and V.J. van Joolen, Application of Higdon non-reflecting boundary conditions to shallow water models, in Proceedings ICOSAHOM 2004, Brown University, Providence, RI, 21-25 June (T. Hagstrom and T. Warburton)
32. V. van Joolen, B. Neta, and D. Givoli, High-Order Non-Reflecting Boundary Conditions for Dispersive Wave Problems in Stratified Media, *Proceeding of the Sixth International Conference on Computer Modelling and Experimental Measurements of Seas and Coastal Regions*, Cadiz, Spain, 23-25 June 2003, (C.A. Brebbia, D. Almorza and F. López–Aguayo, eds), pp. 73-82.
31. D. Givoli and B. Neta, High-Order Non-Reflecting Boundary Conditions for Dispersive Wave Problems, *Proceeding of the International Conference on Computational and Mathematical Methods in Science and Engineering*, Alicante, Spain, 20-25 September 2002.
30. B. Neta, Y. Ilan-Lipowski, A new scheme for trajectory propagation, *Proc. AIAA/AAS Astrodynamics Specialist Conference*, Quebec City, Quebec, Canada, July 31 - August 3, 2001, Paper Number AAS 01-446.
29. D. Mortari, and B. Neta, k -vector range searching techniques, *Proc. AAS/AIAA Space Flight Mechanics Meeting*, Clearwater, FL, January 23-26, 2000, Paper Number AAS 00-128.
28. J. R. Clynch, R. Franke and B. Neta, Improvements In Dynamic GPS Positions Using Track Averaging, Proc. ION Tech. Meeting, January 26-28, 2000, Anaheim, CA.
27. B. Neta and T. Fukushima, Obrechhoff versus super-implicit methods for the integration of keplerian orbits, *Proc. AIAA/AAS Astrodynamics Specialist Conference*, Denver, CO, August 14-17, 2000, Paper Number AIAA 2000-4029.

26. J. Gordis and B. Neta, An adaptive method for the numerical solution of Volterra integral equations, *Recent Advances in Applied and Theoretical Mathematics*, N. Mastrokakis, editor, World Scientific and Engineering Society International Conference, Athens, Greece, December 1-3, 2000, pp. 1–8.
25. D. Mortari, and B. Neta, Optimal best fitting of numerical data: Part II, *Proc. AAS/AIAA Space Flight Mechanics Meeting*, Breckenridge, CO, February 7-10, 1999, Paper Number AAS 99-183. *Advances in the Astronautical Sciences*, Vol. 102, R. H. Bishop et al (eds).
24. J. H. Gordis, and B. Neta, Fast transient analysis for locally nonlinear structures by recursive block convolution, *Proc. 70th Shock and Vibration Symposium*, Albuquerque, NM, November 15-19, 1999.
23. B. Neta, Trajectory Propagation Using Information on Periodicity, *Proc. AIAA/AAS Astrodynamics Specialist Conference*, Boston, MA, August 10-12, 1998, Paper Number AIAA 98-4577.
22. B. Neta, and D. Vallado, On Satellite Umbra/Penumbra Entry and Exit Positions, *Proc. AAS/AIAA Space Flight Mechanics Meeting*, Huntsville, AL, February 10-12, 1997, Paper Number AAS 97-155.
21. F. X. Giraldo and B. Neta, A Comparison of a Family of Eulerian and Semi-Lagrangian Finite Element Methods for the Advection-Diffusion Equation, in *Computer Modelling of Seas and Coastal Regions III*, J. R. Acinas and C. A. Brebbia (eds), Computational Mechanics Publications, Southampton, U. K., (1997), 217–229.
20. B. Neta, Parallel Version of Special Perturbations Orbit Propagator, *Proc. AAS/AIAA Astrodynamics Specialist Conference*, Sun Valley, ID, August 4-7, 1997, Paper Number 97-688.
19. B. Neta, C. P. Sagovac, D. A. Danielson, and J. R. Clynch, Fast Interpolation for Global Positioning System (GPS) Satellite Orbits, *Proc. AIAA/AAS Astrodynamics Specialist Conference*, San Diego, CA, July 29-31, 1996, Paper Number AIAA 96-3658.
18. D. J. Fonte, B. Neta, C. Sabol, D. A. Danielson and W. R. Dyar, Comparison of Orbit Propagators in the Research and Development Goddard Trajectory Determination System (R & D GTDS). Part I: Simulated Data, *Proc. AAS/AIAA Astrodynamics Specialist Conference*, Halifax, Nova Scotia, August 14-17, 1995, Paper Number AAS 95-431.
17. B. Neta, D. A. Danielson, S. Ostrom, S. K. Brewer, Performance of Analytic Orbit Propagator on a Hypercube and a Workstation Cluster, *Proc. AIAA/AAS Astrodynamics Specialist Conference*, in Scottsdale, AZ, August 1-3 (1994) Paper Number AIAA 94-3706.

16. B. Neta, R. Thanakij, Finite Element Approximation of the Shallow Water Equations on the MASPAR, in *Advances in Finite Element Analysis in Fluid Dynamics*, FED-Vol. 171, M. N. Dhaubhadel, M. S. Engleman, W. G. Habashi, (eds), (1993), 47–52.
15. B. Neta, Parallel Solution of Initial Value Problems, *Proc. Fourth International Colloquium on Differential Equations*, D. Bainov, V. Covachev, A. Dishliev (eds), Plovdiv, Bulgaria, 18-23 August 1993, **2**, (1993), 19–42.
14. W. Phipps, B. Neta, D. A. Danielson, Parallelization of the Naval Space Surveillance Center Satellite Motion Model, *Proc. of the 1993 Space Surveillance Workshop*, M.I.T. Lincoln Laboratory, Lexington, MA, March 30 - April 1, 1993, R. W. Miller, R. Sridharan (eds), **2**, (1993), 71–79.
13. B. Neta, Solution of Ordinary Differential Initial Value Problems on an INTEL Hypercube with Applications to Orbit Determination, *Proc. of the 1992 Space Surveillance Workshop*, M.I.T. Lincoln Laboratory, Lexington, MA, April 7-9, 1992, A. J. Coster and K. P. Schwan (eds), **1**, (1992), 205–208.
12. B. Neta and I. M. Navon, Analysis of the Turkel Zwas Scheme for the Shallow Water Equations on the Sphere, *Proc. 13th IMACS World Congress on Scientific Computation*, Dublin, Ireland, July 22-26, 1991, R. Vichnevetsky and J. J. H. Miller (eds), **1**, (1991), 305–306.
11. B. Neta, R. T. Williams, Analysis of Finite Element Methods for the Solution of the Vorticity-Divergence Form of the Shallow Water Equations, in *Numerical Methods in Fluid Dynamics*, *Proc. International Symposium on Computational Fluid Dynamics*, Nagoya, Japan, August 28-31, 1989 (M. Yasuhara, H. Daiguji, K. Oshima, eds), Japan Society of Comp. Fluid Dynamics, (1990), 402–407.
10. R. T. Williams, B. Neta, A Comparative Study of Finite Elements and Finite Differences for Weather Prediction, *Proc. Fifth International Symposium on Numerical Methods in Engineering*, Lausanne, Switzerland, September 11-15, 1989, R. Gruber, J. Periaux and R. P. Shaw, (eds), **1**, (1989), 659–669.
9. B. Neta, Analysis of Finite Element and Finite Differences for Shallow Water Equations, *Seminar on Finite Element Fluid Flow Analysis*, Chuo University, Tokyo, Japan, 24 August 1989.
8. B. Neta, Analysis of the Turkel-Zwas Scheme for the Shallow Water Equations, *Numerical and Applied Mathematics* W. F. Ames (ed) *Proc. 12th IMACS World Congress on Scientific Computation*, Paris, France, July 18-22, **1 sec. 3**, (1989), 257–264.
7. B. Neta, The Effect of Spatial Discretization on the Steady-State Solution of the Shallow Water Equations, *Computational Methods in Flow Analysis*, *Proc. International Conference on Computational Methods in Flow Analysis*, Okayama, Japan, September 4-8 (H. Niki and M. Kawahara, eds.), **2**, (1988), 1041–1048.

6. I. M. Navon and B. Neta, Application of Optimal Control Methods in Meteorology- 4-D Data Assimilation Problems, ICIAM-87: Proceedings of the First International Conference on Industrial and Applied Mathematics, James McKenna and Roger Temam (eds), SIAM, Philadelphia, (1988), 282-284.
5. B. Neta, R. T. Williams, Finite Elements versus Finite Differences for Fluid Flow Problems, *Proc. International Conf. Numer. Meth. Engrng: Theory and Applics Vol. II Transient Dynamic Anal. and Constitutive Laws for Engrng Materials*, G. N. Pande, J. Middleton (eds) Martinus Nijhoff Pub., (1987), T11, pp. 1-8.
4. B. Neta, R. T. Williams, D. E. Hinsman, Studies in a Shallow Water Fluid Model with Topography, in *Numerical Mathematics and Applications* (R. Vichnevetsky, J. Vignes, eds.), Elsevier Sci. Pub., (1986), 347-354.
3. B. Neta, Adaptive Method for the Numerical Solution of Fredholm Integral Equations of the Second Kind. Part II: Singular Kernels in Numerical Solution of Singular Integral Equations, *Proc. of an IMACS International Symposium*, Lehigh University, Bethlehem, PA, June 21-22, 1984, (A. Gerasoulis, R. Vichnevetsky, eds.), pp.68-72.
2. B. Neta, Higher Order Methods for Solving Algebraic Equations, *Proc. Southwestern Louisiana University Applied Analysis Conference*, (1982).
1. B. Neta, A New Iterative Method for the Solution of Systems of Nonlinear Equations, *Approximation Theory and Applications* (Z. Ziegler, ed.), Academic Press, (1981), pp. 249-263.