

CURRICULUM VITAE

Chi-Wang Shu

Theodore B. Stowell University Professor of Applied Mathematics

Division of Applied Mathematics

Brown University

Education:

- B.S. in Mathematics, University of Science and Technology of China, Hefei, China, July 1982.
- Ph.D. in Applied Mathematics, University of California at Los Angeles, Los Angeles, California, June 1986.

Thesis Title: Numerical Solutions of Conservation Laws

Thesis Advisor: Professor Stanley Osher

Professional appointments:

- 8/86-8/87: Post Doctoral Fellow, Institute for Mathematics and Its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.
- 9/87- present: Assistant Professor (9/87-12/91); Associate Professor (1/92-6/96); Professor (7/96-); Theodore B. Stowell University Professor of Applied Mathematics (7/08-present); Chairman (1/99-6/05), Division of Applied Mathematics, Brown University, Providence, Rhode Island.

Completed publications:

Books/monographs:

1. Numerical Methods in Applied Sciences, W. Cai, Z.-C. Shi, C.-W. Shu and J. Xu, editors, Science Press, New York and Beijing, 1996.
2. Advanced Numerical Approximation of Nonlinear Hyperbolic Equations, B. Cockburn, C. Johnson, C.-W. Shu and E. Tadmor (Editor: A. Quarteroni), Lecture Notes in Mathematics, volume 1697, Springer, 1998.
3. Discontinuous Galerkin Methods: Theory, Computation and Applications, B. Cockburn, G. Karniadakis and C.-W. Shu, editors, Lecture Notes in Computational Science and Engineering, volume 11, Springer, 2000.
4. High Order Numerical Methods for the Problems of Aerodynamics (in Russian), V.I. Pinchukov and C.-W. Shu, Publishing House of the Siberian Branch of the Russian

Academy of Sciences, Novosibirsk, Russia, 2000.

5. Recent Advances in Scientific Computing and Partial Differential Equations, S.Y. Cheng, C.-W. Shu and T. Tang, editors, Contemporary Mathematics, volume 330, American Mathematical Society, 2003.

6. Selected New Numerical Methods for Computational Fluid Dynamics (in Chinese), R.-X. Liu and C.-W. Shu, Science Press, Beijing, 2003.

7. Recent Advances in Computational Sciences, P. Jorgensen, X. Shen, C.-W. Shu and N. Yan, editors, World Scientific, 2008.

8. Numerical Solutions of Partial Differential Equations, S. Bertoluzza, S. Falletta, G. Russo and C.-W. Shu, Advanced Courses in Mathematics CRM Barcelona, Birkhäuser, Basel, 2009.

9. Advances in Mathematics and Its Applications, Y. Li, C.-W. Shu, R. Ye and K. Zuo, Editors, University of Science and Technology of China Press, Hefei, China, 2009.

10. Strong Stability Preserving Runge-Kutta and Multistep Time Discretizations, S. Gottlieb, D. Ketcheson and C.-W. Shu, World Scientific, Singapore, 2011.

Refereed chapters in books and proceedings:

1. B. Cockburn and C.-W. Shu, *A new class of non-oscillatory discontinuous Galerkin finite element methods for conservation laws*, Proceedings of the 7th International Conference of Finite Element Methods in Flow Problems, UAH Press, 1989, pp.977-986.

2. S. Osher and C.-W. Shu, *Recent progress on non-oscillatory shock capturing schemes*, in Recent Advances in Computational Fluid Dynamics, C. C. Chao, S. A. Orszag and W. Shyy, Editors, Lecture Notes in Engineering, v43 (1989), Springer-Verlag. pp.316-333.

3. S. Osher and C.-W. Shu, *Recent developments in non-oscillatory shock capturing methods*, in The Numerical Modelling of Nonlinear Stellar Pulsations, J.R. Buchler, editor, Kluwer Academic Publishers, 1989. pp.263- 267.

4. C. Quillen and C.-W. Shu, *Parallel implementation and application of high order ENO schemes*, in Modeling and Simulation Volume 23, Part 5, Proceedings of the 23rd Annual Pittsburgh Conference on Modeling and Simulation, W. Vogt and M. Mickle, editors, University of Pittsburgh, 1992. pp.2739-2746.

5. J. Jerome and C.-W. Shu, *Essentially Non-Oscillatory methods for two-dimensional hydrodynamic models*, in Proceedings of the International Workshop on Computational Electronics, Beckman Institute, University of Illinois, May 1992, pp.83-86.

6. C. Gardner, J. Jerome and C.-W. Shu, *The ENO method for the hydrodynamic model for semiconductor devices*, in High Performance Computing, 1993: Grand Challenges

in Computer Simulation, Adrian Tentner, editor, the Society for Computer Simulation, San Diego, 1993. pp.96-101.

7. G. Jiang and C.-W. Shu, *Stability of discontinuous Galerkin methods for general triangulations*, in Developments in Theoretical and Applied Mechanics, Volume XVII, edited by I.C. Jong and F.A. Akl, Louisiana Tech University and University of Arkansas, 1994, pp.227-234.

8. J. Jerome and C.-W. Shu, *Energy models for one-carrier transport in semiconductor devices*, in IMA Volumes in Mathematics and Its Applications, v59, W. Coughran, J. Cole, P. Lloyd and J. White, editors, Springer-Verlag, 1994, pp.185-207.

9. J. Jerome and C.-W. Shu, *Transport effect, hyperbolicity, and shock capturing algorithms for device simulations*, in Proceedings of the Third International Workshop on Computational Electronics, Portland, Oregon, May 18-20, 1994, pp.252-255.

10. D. Gottlieb and C.-W. Shu, *The resolution of the Gibbs phenomenon*, ICASE Research Quarterly, Vol. 3, No. 2, June 1994, pp.5-7.

11. C.-W. Shu, *Essentially non-oscillatory finite difference, finite volume and discontinuous Galerkin finite element methods for conservation laws*, in Proceedings of the Third International Colloquium on Numerical Analysis, Plovdiv, Bulgaria, August 1994. D. Bainov and V. Covachev, editors, VSP International Science Publishers, the Netherlands, 1995, pp.171-180.

12. C.-W. Shu, *On finite difference and finite element shock capturing methods for conservation laws*, in Numerical Methods in Applied Sciences, W. Cai, Z.-C. Shi, C.-W. Shu and J. Xu, editors, Science Press, New York and Beijing, 1996, pp.169-187.

13. J. Jerome and C.-W. Shu, *Energy transport systems for semiconductors: Analysis and simulation*, in World Congress of Nonlinear Analysts '92, V. Lakshmikantham, Editor, Walter de Gruyter, Berlin and New York, 1996, pp. 3835-3846.

14. C.-W. Shu and P.Wong, *A numerical study on the accuracy of Fourier spectral methods applied to the nonlinear Burgers equation*, in Proceedings of the Third International

Conference on Spectral and High Order Methods, A.V. Ilin and L.R. Scott, Editors, Houston Journal of Mathematics, 1996, pp. 131-138.

15. C. Hu and C.-W. Shu, *High order weighted ENO schemes for unstructured meshes: preliminary results*, Computational Fluid Dynamics 98, Invited Lectures, Minisymposia and Special Technological Sessions of the Fourth European Computational Fluid Dynamics Conference, K. Papailiou, D. Tsahalis, J. Periaux and D. Knorzer, Editors, John Wiley and Sons, v2, September 1998, pp.356-362.

16. C. Cercignani, I. Gamba, J. Jerome and C.-W. Shu, *A domain decomposition method:*

a simulation study, in Proceedings of 1998 Sixth International Workshop on Computational Electronics (IWCE-6), Osaka University, Japan, October 19-21, 1998, IEEE Catalog Number 98EX116, pp.174-177.

17. C.-W. Shu, *Essentially non-oscillatory and weighted essentially non-oscillatory schemes for hyperbolic conservation laws*, in *Advanced Numerical Approximation of Nonlinear Hyperbolic Equations*, B. Cockburn, C. Johnson, C.-W. Shu and E. Tadmor (Editor: A. Quarteroni), Lecture Notes in Mathematics, volume 1697, Springer, 1998, pp.325-432.

18. G.-Q. Chen, J. Jerome, C.-W. Shu and D. Wang, *Two carrier semiconductor device models with geometric structure*, Modeling and Computation for Applications in Mathematics, Science, and Engineering, J. Jerome, editor, Oxford University Press, 1998, pp.103-140.

19. C.-W. Shu, *High order ENO and WENO schemes for computational fluid dynamics*, in *High-Order Methods for Computational Physics*, T.J. Barth and H. Deconinck, editors, Lecture Notes in Computational Science and Engineering, volume 9, Springer, 1999, pp.439-582.

20. B. Cockburn, G. Karniadakis and C.-W. Shu, *The development of discontinuous Galerkin methods*, in *Discontinuous Galerkin Methods: Theory, Computation and Applications*, B. Cockburn, G. Karniadakis and C.-W. Shu, editors, Lecture Notes in Computational Science and Engineering, volume 11, Springer, 2000, Part I: Overview, pp.3-50.

21. B. Cockburn, J. Jerome and C.-W. Shu, *The utility of modeling and simulation in determining transport performance properties of semiconductors*, in *Discontinuous Galerkin Methods: Theory, Computation and Applications*, B. Cockburn, G. Karniadakis and C.-W. Shu, editors, Lecture Notes in Computational Science and Engineering, volume 11, Springer, 2000, Part II: Invited Papers, pp.147-156.

22. B. Cockburn, M. Luskin, C.-W. Shu and E. Suli, *Post-processing of Galerkin methods for hyperbolic problems*, in *Discontinuous Galerkin Methods: Theory, Computation and Applications*, B. Cockburn, G. Karniadakis and C.-W. Shu, editors, Lecture Notes in Computational Science and Engineering, volume 11, Springer, 2000, Part III: Contributed Papers, pp.291-300.

23. C. Hu, O. Lepsky and C.-W. Shu, *The effect of least square procedure for discontinuous Galerkin methods for Hamilton-Jacobi equations*, in *Discontinuous Galerkin Methods: Theory, Computation and Applications*, B. Cockburn, G. Karniadakis and C.-W. Shu, editors, Lecture Notes in Computational Science and Engineering, volume 11, Springer, 2000, Part III: Contributed Papers, pp.343-348.

24. J.-G. Liu and C.-W. Shu, *A numerical example on the performance of high order discontinuous Galerkin method for 2D incompressible flows*, in *Discontinuous Galerkin Methods: Theory, Computation and Applications*, B. Cockburn, G. Karniadakis and C.-W. Shu, editors, Lecture Notes in Computational Science and Engineering, volume 11, Springer, 2000, Part III: Contributed Papers, pp.369-374.

25. C.-W. Shu, *Different formulations of the discontinuous Galerkin method for the viscous terms*, in *Advances in Scientific Computing*, Z.-C. Shi, M. Mu, W. Xue and J. Zou, editors, Science Press, 2001, pp.144-155.
26. C.-W. Shu, *A survey of strong stability preserving high order time discretizations*, in *Collected Lectures on the Preservation of Stability under Discretization*, D. Estep and S. Tavener, editors, SIAM, 2002, pp.51-65.
27. J.A. Carrillo, I. Gamba, O. Muscato and C.-W. Shu, *Comparison of Monte Carlo and deterministic simulations of a silicon diode*, in *Transport in Transition Regimes*, N.B. Ben Abdallah, A. Arnold, P. Degond, I. Gamba, R. Glassey, C. Levermore and C. Ringhofer, editors, IMA Volumes in Mathematics and Its Applications, v135, Springer-Verlag, New York, 2003, pp.75-84.
28. C.-W. Shu, *An overview on high order numerical methods for convection dominated PDEs*, in *Hyperbolic Problems: Theory, Numerics, Applications*, T.Y. Hou and E. Tadmor, editors, Springer-Verlag, Berlin, 2003, pp.79-88.
29. Y.-T. Zhang and C.-W. Shu, *Third and fourth order weighted ENO schemes for Hamilton-Jacobi equations on 2D unstructured meshes*, in *Hyperbolic Problems: Theory, Numerics, Applications*, T.Y. Hou and E. Tadmor, editors, Springer-Verlag, Berlin, 2003, pp.941-950.
30. L.-L. Feng, C.-W. Shu and M. Zhang, *A hybrid cosmological hydrodynamic/N-body code based on the weighted essentially non-oscillatory scheme*, Proceedings of the Fifth Sino-Germany Workshop on Cosmology and Galaxy Formation: The Formation, Evolution and Distribution of Galaxies, Y.P. Jing and G. Borner, editors, Prog. in Astro. (Suppl) vol 21, (2003) p18-23.
31. Y.-T. Zhang, J. Shi, C.-W. Shu and Y. Zhou, *Resolution of high order WENO schemes and Navier-Stokes simulation of the Rayleigh-Taylor instability problem*, in *Computational Fluid and Solid Mechanics 2003*, K.J. Bathe, Editor, the Proceedings of the Second MIT Conference on Computational Fluid and Solid Mechanics, June 17-20, 2003, volume 1, pp.1216-1218, Elsevier Science, 2004.
32. B. Cockburn, F. Li and C.-W. Shu, *Discontinuous Galerkin methods for equations with divergence-free solutions: preliminary results*, in *Computational Fluid and Solid Mechanics 2003*, K.J. Bathe, Editor, the Proceedings of the Second MIT Conference on Computational Fluid and Solid Mechanics, June 17-20, 2003, volume 2, pp.1900-1902, Elsevier Science, 2004.
33. S. Chen, W. E and C.-W. Shu, *The heterogeneous multiscale method based on the discontinuous Galerkin and the finite volume methods for hyperbolic problems*, in *Computational Fluid and Solid Mechanics 2005*, Proceedings of the Third MIT Conference on Computational Fluid and Solid Mechanics, K.J. Bathe, Editor, Elsevier, 2005, pp.1072-1075.
34. M.J. Caceres, J.A. Carrillo, I.M. Gamba, A. Majorana and C.-W. Shu, *Deterministic kinetic solvers for charged particle transport in semiconductor devices*, in *Transport*

Phenomena and Kinetic Theory — Applications to Gases, Semiconductors, Photons, and Biological Systems, C. Cercignani and E. Gabetta, Editors, Birkhauser, 2007, pp.151-171.

35. J. Cheng and C.-W. Shu, *High order ENO conservative remapping method on staggered grids for ALE methods: a review and an alternative momentum remapping*, in Recent Progress in Scientific Computing, W. Liu, M. Ng and Z.-C. Shi, Editors, Science Press, Beijing, 2007, pp.40-56.

36. C.-W. Shu, *High order numerical methods for time dependent Hamilton-Jacobi equations*, in Mathematics and Computation in Imaging Science and Information Processing, S.S. Goh, A. Ron and Z. Shen, Editors, Lecture Notes Series, Institute for Mathematical Sciences, National University of Singapore, volume 11, World Scientific Press, Singapore, 2007, pp.47-91.

37. Y. Xia, L. Huang, S.C. Wong, M. Zhang, C.-W. Shu and W.H.K. Lam, *The follow the-crowd effect in a pedestrian flow model*, the Proceedings of the 12th International Conference of Hong Kong Society for Transportation Studies, Hong Kong, December 2007, pp.309-317.

38. C.-W. Shu, *Discontinuous Galerkin methods for convection dominated partial differential equations*, the Proceedings of the Third International Congress of Chinese Mathematicians, Hong Kong, December 2004. AMS/IP Studies in Advanced Mathematics, Volume 42, International Press / American Mathematical Society, 2008, pp.63-73.

39. C.-W. Shu, *Discontinuous Galerkin methods: general approach and stability*, Numerical Solutions of Partial Differential Equations, S. Bertoluzza, S. Falletta, G. Russo and C.-W. Shu, Advanced Courses in Mathematics CRM Barcelona, Birkhäuser, Basel, 2009, pp.149-201.

40. C.-W. Shu, *High order accurate numerical methods for convection dominated PDEs*, Advances in Mathematics and Its Applications, Y. Li, C.-W. Shu, R. Ye and K. Zuo, Editors, University of Science and Technology of China Press, Hefei, China, 2009, pp.139-153.

41. S. Noelle, Y. Xing and C.-W. Shu, *High-order well-balanced schemes*, Numerical Methods for Balance Laws, G. Puppo and G. Russo, editors, Quaderni di Matematica, volume 24, Seconda Università di Napoli, 2009, pp.1-66.

42. C.-W. Shu, *Discontinuous Galerkin methods*, Encyclopedia of Aerospace Engineering, R. Blockley and W. Shyy, Editors, John Wiley & Sons Ltd, Chichester, United Kingdom, 2010, pp.661-668.

43. J.W. Jerome, M.A. Ratner, J.D. Servaites, C.-W. Shu and S. Tan, *Simulation of the Buxton-Clarke model for organic photovoltaic cells*, in Proceedings of the 14th International Workshop on Computational Electronics, IWCE, 26-29 October, 2010, Pisa, Italy. Pisa University Press, pp.195-198.

Refereed journal articles (appeared or accepted):

1. C.-W. Shu, *TVB uniformly high-order schemes for conservation laws*, Mathematics of Computation, v49 (1987), pp.105-121.
2. C.-W. Shu, *TVB boundary treatment for numerical solutions of conservation laws*, Mathematics of Computation, v49 (1987), pp.123-134.
3. C.-W. Shu, *Total-Variation-Diminishing time discretizations*, SIAM Journal on Scientific and Statistical Computing, v9 (1988), pp.1073-1084.
4. C.-W. Shu and S. Osher, *Efficient implementation of essentially non-oscillatory shockcapturing schemes*, Journal of Computational Physics, v77 (1988), pp.439-471.
5. B. Cockburn and C.-W. Shu, *TVB Runge-Kutta local projection discontinuous Galerkin finite element method for conservation laws II: general framework*, Mathematics of Computation, v52 (1989), pp.411-435.
6. C.-W. Shu and S. Osher, *Efficient implementation of essentially non-oscillatory shock capturing schemes II*, Journal of Computational Physics, v83 (1989), pp.32-78.
7. B. Cockburn, S.-Y. Lin and C.-W. Shu, *TVB Runge-Kutta local projection discontinuous Galerkin finite element method for conservation laws III: one dimensional systems*, Journal of Computational Physics, v84 (1989), pp.90-113.
8. W. Cai, D. Gottlieb and C.-W. Shu, *Essentially nonoscillatory spectral Fourier methods for shock wave calculations*, Mathematics of Computation, v52 (1989), pp.389-410.
9. B. Cockburn, S. Hou and C.-W. Shu, *The Runge-Kutta local projection discontinuous Galerkin finite element method for conservation laws IV: the multidimensional case*, Mathematics of Computation, v54 (1990), pp.545-581.
10. C.-W. Shu, *Numerical experiments on the accuracy of ENO and modified ENO schemes*, Journal of Scientific Computing, v5 (1990), pp.127-149.
11. B. Cockburn and C.-W. Shu, *The Runge-Kutta local projection P_1 -discontinuous-Galerkin finite element method for scalar conservation laws*, Mathematical Modelling and Numerical Analysis (M₂AN), v25 (1991), pp.337-361.
12. S. Osher and C.-W. Shu, *High-order essentially nonoscillatory schemes for Hamilton-Jacobi equations*, SIAM Journal on Numerical Analysis, v28 (1991), pp.907-922.
13. C.-W. Shu, *A numerical method for systems of conservation laws of mixed type admitting hyperbolic flux splitting*, Journal of Computational Physics, v100 (1992), pp.424-429.
14. C.-W. Shu, T.A. Zang, G. Erlebacher, D. Whitaker and S. Osher, *High-order ENO schemes applied to two- and three-dimensional compressible flow*, Applied Numerical Mathematics, v9 (1992), pp.45-71.

15. W. Cai, D. Gottlieb and C.-W. Shu, *On one-sided filters for spectral Fourier approximations of discontinuous functions*, SIAM Journal on Numerical Analysis, v29 (1992), pp.905-916.
16. D. Chen, E. Kan, U. Ravaioli, C.-W. Shu and W. Dutton, *An improved energy transport model including nonparabolicity and non-Maxwellian distribution effects*, IEEE Electron Device Letters, v13 (1992), pp.26-28.
17. D. Gottlieb, C.-W. Shu, A. Solomonoff and H. Vandeven, *On the Gibbs phenomenon I: recovering exponential accuracy from the Fourier partial sum of a nonperiodic analytic function*, Journal of Computational and Applied Mathematics, v43 (1992), pp.81-98.
18. W. Cai and C.-W. Shu, *Uniform high-order spectral methods for one- and two-dimensional Euler equations*, Journal of Computational Physics, v104 (1993), pp.427-443.
19. W. E and C.-W. Shu, *Effective equations and the inverse cascade theory for Kolmogorov flows*, Physics of Fluids A, v5 (1993), pp.998-1010.
20. W. E and C.-W. Shu, *A numerical resolution study of high order essentially nonoscillatory schemes applied to incompressible flow*, Journal of Computational Physics, v110 (1994), pp.39-46.
21. B. Cockburn and C.-W. Shu, *Nonlinearly stable compact schemes for shock calculations*, SIAM Journal on Numerical Analysis, v31 (1994), pp.607-627.
22. G. Jiang and C.-W. Shu, *On cell entropy inequality for discontinuous Galerkin methods*, Mathematics of Computation, v62 (1994), pp.531-538.
23. W. E and C.-W. Shu, *Small-scale structures in Boussinesq convection*, Physics of Fluids A, v6 (1994), pp.49-58.
24. J. Casper, C.-W. Shu and H.L. Atkins, *Comparison of two formulations for high-order accurate essentially nonoscillatory schemes*, AIAA Journal, v32 (1994), pp.1970-1977.
25. D. Gottlieb and C.-W. Shu, *Resolution properties of the Fourier method for discontinuous waves*, Computer Methods in Applied Mechanics and Engineering, v116 (1994), pp.27-37.
26. Z. Chen, B. Cockburn, J. Jerome and C.-W. Shu, *Mixed-RKDG finite element methods for the 2-D hydrodynamic model for semiconductor device simulation*, VLSI Design, v3 (1995), pp.145-158.
27. J. Jerome and C.-W. Shu, *The response of the hydrodynamic model to heat conduction, mobility, and relaxation expressions*, VLSI Design, v3 (1995), pp.131-143.
28. D. Gottlieb and C.-W. Shu, *On the Gibbs phenomenon IV: recovering exponential accuracy in a subinterval from a Gegenbauer partial sum of a piecewise analytic function*,

Mathematics of Computation, v64 (1995), pp.1081-1095.

29. C.-W. Shu and P.Wong, *A note on the accuracy of spectral method applied to nonlinear conservation laws*, Journal of Scientific Computing, v10 (1995), pp.357-369.

30. J. Jerome and C.-W. Shu, *Transport effects and characteristic modes in the modeling and simulation of submicron devices*, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, v14 (1995), pp.917-923.

31. D. Gottlieb and C.-W. Shu, *On the Gibbs phenomenon V: recovering exponential accuracy from collocation point values of a piecewise analytic function*, Numerische Mathematik, v71 (1995), pp.511-526.

32. D. P. Chen, R. Eisenberg, J. Jerome and C.-W. Shu, *A hydrodynamic model of temperature change in open ionic channels*, Biophysical Journal, v69 (1995), pp.2304-2322.

33. D. Gottlieb and C.-W. Shu, *On the Gibbs phenomenon III: recovering exponential accuracy in a sub-interval from a spectral partial sum of a piecewise analytic function*, SIAM Journal on Numerical Analysis, v33 (1996), pp.280-290.

34. B. Perthame and C.-W. Shu, *On positivity preserving finite volume schemes for Euler equations*, Numerische Mathematik, v73 (1996), pp.119-130.

35. E. Harabetian, S. Osher and C.-W. Shu, *An Eulerian approach for vortex motion using a level set regularization procedure*, Journal of Computational Physics, v127 (1996), pp.15-26.

36. G. Jiang and C.-W. Shu, *Efficient implementation of weighted ENO schemes*, Journal of Computational Physics, v126 (1996), pp.202-228.

37. C.-W. Shu and Y. Zeng, *High order essentially non-oscillatory scheme for viscoelasticity with fading memory*, Quarterly of Applied Mathematics, v55 (1997), pp.459-484.

38. G. Erlebacher, M.Y. Hussaini and C.-W. Shu, *Interaction of a shock with a longitudinal vortex*, Journal of Fluid Mechanics, v337 (1997), pp.129-153.

39. D. Gottlieb and C.-W. Shu, *On the Gibbs phenomenon and its resolution*, SIAM Review, v30 (1997), pp.644-668.

40. K. Siddiqi, B. Kimia and C.-W. Shu, *Geometric shock-capturing ENO schemes for subpixel interpolation, computation and curve evolution*, Graphical Models and Image Processing (CVGIP:GMIP), v59 (1997), pp.278-301.

41. S. Gottlieb and C.-W. Shu, *Total variation diminishing Runge-Kutta schemes*, Mathematics of Computation, v67 (1998), pp.73-85.

42. B. Cockburn and C.-W. Shu, *The Runge-Kutta discontinuous Galerkin method for conservation laws V: multidimensional systems*, Journal of Computational Physics, v141 (1998), pp.199-224.
43. H. Atkins and C.-W. Shu, *Quadrature-free implementation of the discontinuous Galerkin method for hyperbolic equations*, AIAA Journal, v36 (1998), pp.775-782.
44. G.-Q. Chen, J. Jerome and C.-W. Shu, *Analysis and simulation of extended hydrodynamic models: the multi-valley Gunn oscillator and MESFET symmetries*, VLSI Design, v6 (1998), pp.277-282.
45. C. Cercignani, I. Gamba, J. Jerome and C.-W. Shu, *Applicability of the high field model: an analytical study via asymptotic parameters defining domain decomposition*, VLSI Design, v8 (1998), pp.135-141.
46. C. Cercignani, I. Gamba, J. Jerome and C.-W. Shu, *Applicability of the high field model: a preliminary numerical study*, VLSI Design, v8 (1998), pp.275-282.
47. B. Cockburn and C.-W. Shu, *The local discontinuous Galerkin method for time-dependent convection-diffusion systems*, SIAM Journal on Numerical Analysis, v35 (1998), pp.2440-2463.
48. P. Montarnal and C.-W. Shu, *Real gas computation using an energy relaxation method and high order WENO schemes*, Journal of Computational Physics, v148 (1999), pp.59-80.
49. C. Hu and C.-W. Shu, *Weighted essentially non-oscillatory schemes on triangular meshes*, Journal of Computational Physics, v150 (1999), pp.97-127.
50. C. Hu and C.-W. Shu, *A discontinuous Galerkin finite element method for Hamilton-Jacobi equations*, SIAM Journal on Scientific Computing, v21 (1999), pp.666-690.
51. O. Lepsky, C. Hu and C.-W. Shu, *Analysis of the discontinuous Galerkin method for Hamilton-Jacobi equations*, Applied Numerical Mathematics, v33 (2000), pp.423-434.
52. C. Cercignani, I. Gamba, J. Jerome and C.-W. Shu, *Device benchmark comparisons via kinetic, hydrodynamic, and high-field models*, Computer Methods in Applied Mechanics and Engineering, v181 (2000), pp.381-392.
53. D. Balsara and C.-W. Shu, *Monotonicity preserving weighted essentially non-oscillatory schemes with increasingly high order of accuracy*, Journal of Computational Physics, v160 (2000), pp.405-452.
54. J.-G. Liu and C.-W. Shu, *A high order discontinuous Galerkin method for 2D incompressible flows*, Journal of Computational Physics, v160 (2000), pp.577-596.

55. C. Cercignani, I. Gamba, J. Jerome and C.-W. Shu, *A domain decomposition method for silicon devices*, Transport Theory and Statistical Physics, v29 (2000), pp.525-536.
56. J.A. Carrillo, I. Gamba and C.-W. Shu, *Computational macroscopic approximations to the 1-D relaxation-time kinetic system for semiconductors*, Physica D, v146 (2000), pp.289-306.
57. S. Gottlieb, C.-W. Shu and E. Tadmor, *Strong stability preserving high order time discretization methods*, SIAM Review, v43 (2001), pp.89-112.
58. T. Zhou, Y. Guo and C.-W. Shu, *Numerical study on Landau damping*, Physica D, v157 (2001), pp.322-333.
59. A. Arnold, J.A. Carrillo, I. Gamba and C.-W. Shu, *Low and high field scaling limits for the Vlasov and Wigner-Poisson-Fokker-Planck systems*, Transport Theory and Statistical Physics, v30 (2001), pp.121-153.
60. T. Zhou, Y. Li and C.-W. Shu, *Numerical comparison of WENO finite volume and Runge-Kutta discontinuous Galerkin methods*, Journal of Scientific Computing, v16 (2001), pp.145-171.
61. B. Cockburn and C.-W. Shu, *Runge-Kutta Discontinuous Galerkin methods for convection dominated problems*, Journal of Scientific Computing, v16 (2001), pp.173-261.
62. M. Anile, J. Carrillo, I. Gamba and C.-W. Shu, *Approximation of the BTE by a relaxation-time operator: simulations for a 50nm-channel Si diode*, VLSI Design, v13 (2001), pp.349-354.
63. K. Banoo, J.-H. Rhew, M. Lundstrom, C.-W. Shu and J. Jerome, *Simulating quasiballistic transport in Si nanotransistors*, VLSI Design, v13 (2001), pp.5-13.
64. J. Shi, C. Hu and C.-W. Shu, *A technique of treating negative weights in WENO schemes*, Journal of Computational Physics, v175 (2002), pp.108-127.
65. J. Yan and C.-W. Shu, *A local discontinuous Galerkin method for KdV type equations*, SIAM Journal on Numerical Analysis, v40 (2002), pp.769-791.
66. J. Yan and C.-W. Shu, *Local discontinuous Galerkin methods for partial differential equations with higher order derivatives*, Journal of Scientific Computing, v17 (2002), pp.27-47.
67. J. Carrillo, I. Gamba, A. Majorana and C.-W. Shu, *A WENO-solver for the 1D nonstationary Boltzmann-Poisson system for semiconductor devices*, Journal of Computational Electronics, v1 (2002), pp.365-370.
68. P. Lin and C.-W. Shu, *Numerical solution of a virtual internal bond model for material fracture*, Physica D, v167 (2002), pp.101-121.

69. J. Qiu and C.-W. Shu, *On the construction, comparison, and local characteristic decomposition for high order central WENO schemes*, Journal of Computational Physics, v183 (2002), pp.187-209.
70. G. Jin, D. Liu and C.-W. Shu, *Propagation and decay of concentration waves in liquid-solid pulsed fluidized beds*, Chinese Journal of Process Engineering (in Chinese), v2 (2002), pp.392-399.
71. C.-W. Shu, *High order finite difference and finite volume WENO schemes and discontinuous Galerkin methods for CFD*, International Journal of Computational Fluid Dynamics, v17 (2003), pp.107-118.
72. B. Cockburn, M. Luskin, C.-W. Shu and E. Süli, *Enhanced accuracy by post-processing for finite element methods for hyperbolic equations*, Mathematics of Computation, v72 (2003), pp.577-606.
73. M. Carpenter, D. Gottlieb and C.-W. Shu, *On the conservation and convergence to weak solutions of global schemes*, Journal of Scientific Computing, v18 (2003), pp.111-132.
74. Y.-T. Zhang and C.-W. Shu, *High order WENO schemes for Hamilton-Jacobi equations on triangular meshes*, SIAM Journal on Scientific Computing, v24 (2003), pp.1005-1030.
75. J.A. Carrillo, I.M. Gamba, A. Majorana and C.-W. Shu, *A WENO-solver for the transients of Boltzmann-Poisson system for semiconductor devices. Performance and comparisons with Monte Carlo methods*, Journal of Computational Physics, v184 (2003), pp.498-525.
76. R. Fedkiw, G. Sapiro and C.-W. Shu, *Shock capturing, level sets and PDE based methods in computer vision and image processing: a review of Osher's contributions*, Journal of Computational Physics, v185 (2003), pp.309-628.
77. K. Sebastian and C.-W. Shu, *Multi domain WENO finite difference method with interpolation at sub-domain interfaces*, Journal of Scientific Computing, v19 (2003), pp.405-438.
78. M. Zhang and C.-W. Shu, *An analysis of three different formulations of the discontinuous Galerkin method for diffusion equations*, Mathematical Models and Methods in Applied Sciences (M₃AS), v13 (2003), pp.395-413.
79. J. Shi, Y.-T. Zhang and C.-W. Shu, *Resolution of high order WENO schemes for complicated flow structures*, Journal of Computational Physics, v186 (2003), pp.690-696.
80. J. Qiu and C.-W. Shu, *Finite difference WENO schemes with Lax-Wendroff type time discretization*, SIAM Journal on Scientific Computing, v24 (2003), pp.2185-2198.
81. M. Zhang, C.-W. Shu, G.C.K. Wong and S.C. Wong, *A weighted essentially nonoscillatory numerical scheme for a multi-class Lighthill-Whitham-Richards traffic flow model*, Journal of Computational Physics, v191 (2003), pp.639-659.

82. Y.-T. Zhang, J. Shi, C.-W. Shu and Y. Zhou, *Numerical viscosity and resolution of high-order weighted essentially nonoscillatory schemes for compressible flows with high Reynolds numbers*, Physical Review E, v68 (2003), article number 046709, pp.1-16.
83. J. Qiu and C.-W. Shu, *Hermite WENO schemes and their application as limiters for Runge-Kutta discontinuous Galerkin method: one dimensional case*, Journal of Computational Physics, v193 (2003), pp.115-135.
84. J. Carrillo, I. Gamba, A. Majorana and C.-W. Shu, *A direct solver for 2D nonstationary Boltzmann-Poisson systems for semiconductor devices: a MESFET simulation by WENO-Boltzmann schemes*, Journal of Computational Electronics, v2 (2003), pp.375-380.
85. J. Ryan and C.-W. Shu, *On a one-sided post-processing technique for the discontinuous Galerkin methods*, Methods and Applications of Analysis, v10 (2003), pp.295-307.
86. Q. Zhang, M. Zhang, G. Jin, D. Liu and C.-W. Shu, *Modeling, numerical methods and simulation for particle-fluid two phase flow problems*, Computers and Mathematics with Applications, v47 (2004), pp.1437-1462.
87. Y. Guo, C.-W. Shu and T. Zhou, *The dynamics of a plane diode*, SIAM Journal on Mathematical Analysis, v35 (2004), pp.1617-1635.
88. B. Cockburn, F. Li and C.-W. Shu, *Locally divergence-free discontinuous Galerkin methods for the Maxwell equations*, Journal of Computational Physics, v194 (2004), pp.588-610.
89. Q. Zhang and C.-W. Shu, *Error estimates to smooth solutions of Runge-Kutta discontinuous Galerkin methods for scalar conservation laws*, SIAM Journal on Numerical Analysis, v42 (2004), pp.641-666.
90. D. Levy, C.-W. Shu and J. Yan, *Local discontinuous Galerkin methods for nonlinear dispersive equations*, Journal of Computational Physics, v196 (2004), pp.751-772.
91. Y. Xu and C.-W. Shu, *Local discontinuous Galerkin methods for three classes of nonlinear wave equations*, Journal of Computational Mathematics, v22 (2004), pp.250-274.
92. L.-L. Feng, C.-W. Shu and M. Zhang, *A hybrid cosmological hydrodynamic/N-body code based on a weighted essentially non-oscillatory scheme*, Astrophysical Journal, v612 (2004), pp.1-13.
93. Y. Liu and C.-W. Shu, *Local discontinuous Galerkin methods for moment models in device simulations: formulation and one dimensional results*, Journal of Computational Electronics, v3 (2004), pp.263-267.
94. F. Li and C.-W. Shu, *Locally divergence-free discontinuous Galerkin methods for MHD equations*, Journal of Scientific Computing, v22-23 (2005), pp.413-442.

95. M. Zhang and C.-W. Shu, *An analysis of and a comparison between the discontinuous Galerkin and the spectral finite volume methods*, Computers and Fluids, v34 (2005), pp.581-592.
96. Y. Ha, C.L. Gardner, A. Gelb and C.-W. Shu, *Numerical simulation of high Mach number astrophysical jets with radiative cooling*, Journal of Scientific Computing, v24 (2005), pp.597-612.
97. C.-W. Shu, W.-S. Don, D. Gottlieb, O. Schilling and L. Jameson, *Numerical convergence study of nearly-incompressible, inviscid Taylor-Green vortex flow*, Journal of Scientific Computing, v24 (2005), pp.569-595.
98. J. Ryan, C.-W. Shu and H. Atkins, *Extension of a post-processing technique for the discontinuous Galerkin method for hyperbolic equations with application to an aeroacoustic problem*, SIAM Journal on Scientific Computing, v26 (2005), pp.821-843.
99. J. Qiu and C.-W. Shu, *Runge-Kutta discontinuous Galerkin method using WENO limiters*, SIAM Journal on Scientific Computing, v26 (2005), pp.907-929.
100. J. Qiu and C.-W. Shu, *Hermite WENO schemes and their application as limiters for Runge-Kutta discontinuous Galerkin method II: two dimensional case*, Computers and Fluids, v34 (2005), pp.642-663.
101. J. Qiu and C.-W. Shu, *Hermite WENO schemes for Hamilton-Jacobi equations*, Journal of Computational Physics, v204 (2005), pp.82-99.
102. F. Li and C.-W. Shu, *Reinterpretation and simplified implementation of a discontinuous Galerkin method for Hamilton-Jacobi equations*, Applied Mathematics Letters, v18 (2005), pp.1204-1209.
103. Y. Xu and C.-W. Shu, *Local discontinuous Galerkin methods for nonlinear Schroedinger equations*, Journal of Computational Physics, v205 (2005), pp.72-97.
104. S. Chen, W. E and C.-W. Shu, *The heterogeneous multi-scale method based on the discontinuous Galerkin method for hyperbolic and parabolic problems*, Multiscale Modeling and Simulation: A SIAM Interdisciplinary Journal, v3 (2005), pp.871-894.
105. Z. Xu and C.-W. Shu, *Anti-diffusive flux corrections for high order finite difference WENO schemes*, Journal of Computational Physics, v205 (2005), pp.458-485.
106. J. Qiu, M. Dumbser and C.-W. Shu, *The discontinuous Galerkin method with Lax-Wendroff type time discretizations*, Computer Methods in Applied Mechanics and Engineering, v194 (2005), pp.4528-4543.
107. Y. Xing and C.-W. Shu, *High order finite difference WENO schemes with the exact conservation property for the shallow water equations*, Journal of Computational Physics,

v208 (2005), pp.206-227.

108. L.-L. Feng, P. He, L.-Z. Fang, C.-W. Shu and M. Zhang, *Intergalactic medium in the Λ -CDM universe from cosmological simulations*, Journal of the Korean Astronomical Society, v38 (2005), pp.129-132.

109. F. Filbet and C.-W. Shu, *Approximation of hyperbolic models for chemosensitive movement*, SIAM Journal on Scientific Computing, v27 (2005), pp.850-872.

110. J. Qiu and C.-W. Shu, *A comparison of troubled cell indicators for Runge-Kutta discontinuous Galerkin methods using WENO limiters*, SIAM Journal on Scientific Computing, v27 (2005), pp.995-1013.

111. Y. Xu and C.-W. Shu, *Local discontinuous Galerkin methods for two classes of two dimensional nonlinear wave equations*, Physica D, v208 (2005), pp.21-58.

112. S. Zhang, Y.-T. Zhang and C.-W. Shu, *Multi-stage interaction of a shock wave and a strong vortex*, Physics of Fluids, v17 (2005), article number 116101.

113. F. Filbet, Y. Guo and C.-W. Shu, *Analysis of the relativistic Vlasov-Maxwell model in an interval*, Quarterly of Applied Mathematics, v63 (2005), pp.691-714.

114. Z. Xu and C.-W. Shu, *Anti-diffusive high order WENO schemes for Hamilton-Jacobi equations*, Methods and Applications of Analysis, v12 (2005), pp.169-190.

115. Y. Xu and C.-W. Shu, *Local discontinuous Galerkin methods for the Kuramoto-Sivashinsky equations and the Ito-type coupled KdV equations*, Computer Methods in Applied Mechanics and Engineering, v195 (2006), pp.3430-3447.

116. J. Qiu, B.C. Khoo and C.-W. Shu, *A numerical study for the performance of the Runge-Kutta discontinuous Galerkin method based on different numerical fluxes*, Journal of Computational Physics, v212 (2006), pp.540-565.

117. P. Zhang, S.C. Wong and C.-W. Shu, *A weighted essentially non-oscillatory numerical scheme for a multi-class traffic flow model on an inhomogeneous highway*, Journal of Computational Physics, v212 (2006), pp.739-756.

118. J. Carrillo, I. Gamba, A. Majorana and C.-W. Shu, *2D semiconductor device simulations by WENO-Boltzmann schemes: efficiency, boundary conditions and comparison to Monte Carlo methods*, Journal of Computational Physics, v214 (2006), pp.55-80.

119. Y. Xing and C.-W. Shu, *High order well-balanced finite difference WENO schemes for a class of hyperbolic systems with source terms*, Journal of Scientific Computing, v27 (2006), pp.477-494.

120. Y. Xing and C.-W. Shu, *High order well-balanced finite volume WENO schemes and*

- discontinuous Galerkin methods for a class of hyperbolic systems with source terms*, Journal of Computational Physics, v214 (2006), pp.567-598.
121. Y. Xing and C.-W. Shu, *A new approach of high order well-balanced finite volume WENO schemes and discontinuous Galerkin methods for a class of hyperbolic systems with source terms*, Communications in Computational Physics, v1 (2006), pp.101-135.
122. S. Gottlieb, D. Gottlieb and C.-W. Shu, *Recovering high order accuracy in WENO computations of steady state hyperbolic systems*, Journal of Scientific Computing, v28 (2006), pp.307-318.
123. C.-S. Chou and C.-W. Shu, *High order residual distribution conservative finite difference WENO schemes for steady state problems on non-smooth meshes*, Journal of Computational Physics, v214 (2006), pp.698-724.
124. K. Kremeyer, K. Sebastian and C.-W. Shu, *Computational study of shock mitigation and drag reduction by pulsed energy lines*, AIAA Journal, v44 (2006), pp.1720-1731.
125. P. He, J. Liu, L.-L. Feng, C.-W. Shu and L.-Z. Fang, *Low-redshift cosmic baryon fluid on large scales and She-Leveque universal scaling*, Physical Review Letters, v96 (2006), article number 051302.
126. L. Yuan and C.-W. Shu, *Discontinuous Galerkin method based on non-polynomial approximation spaces*, Journal of Computational Physics, v218 (2006), pp.295-323.
127. Z. Xu and C.-W. Shu, *Anti-diffusive finite difference WENO methods for shallow water with transport of pollutant*, Journal of Computational Mathematics, v24 (2006), pp.239-251.
128. Y.-T. Zhang, C.-W. Shu and Y. Zhou, *Effects of shock waves on Rayleigh-Taylor instability*, Physics of Plasmas, v13 (2006), article number 062705.
129. J.-M. Qiu, C.-W. Shu, L.-L. Feng and L.-Z. Fang, *A WENO algorithm for the radiative transfer and ionized sphere at reionization*, New Astronomy, v12 (2006), pp.1-10.
130. Q. Zhang and C.-W. Shu, *Error estimates to smooth solutions of Runge-Kutta discontinuous Galerkin method for symmetrizable systems of conservation laws*, SIAM Journal on Numerical Analysis, v44 (2006), pp.1703-1720.
131. Y. Xing and C.-W. Shu, *Application of high order well-balanced schemes to a class of hyperbolic systems with source terms*, Boletín de la Sociedad Española de Matemática Aplicada, v34 (2006), pp.69-80.
132. S. Zhang, Y.-T. Zhang and C.-W. Shu, *Interaction of a shock wave with an oblique vortex pair: shock dynamics and mechanism of sound generation*, Physics of Fluids, v18 (2006), article number 126101.

133. D. Levy, S. Nayak, C.-W. Shu and Y.-T. Zhang, *Central WENO schemes for Hamilton-Jacobi equations on triangular meshes*, SIAM Journal on Scientific Computing, v28 (2006), pp.2229-2247.
134. M.J. Caceres, J.A. Carrillo, I. Gamba, A. Majorana and C.-W. Shu, *DSMC versus WENO-BTE: a double gate MOSFET example*, Journal of Computational Electronics, v5 (2006), pp.471-474.
135. F. Li and C.-W. Shu, *A local-structure-preserving local discontinuous Galerkin method for the Laplace equation*, Methods and Applications of Analysis, v13 (2006), pp.215-234.
136. Y.-X. Liu and C.-W. Shu, *Local discontinuous Galerkin methods for moment models in device simulations: Performance assessment and two dimensional results*, Applied Numerical Mathematics, v57 (2007), pp.629-645.
137. S. Zhang and C.-W. Shu, *A new smoothness indicator for the WENO schemes and its effect on the convergence to steady state solutions*, Journal of Scientific Computing, v31 (2007), pp.273-305.
138. Y. Cheng and C.-W. Shu, *A discontinuous Galerkin finite element method for directly solving the Hamilton-Jacobi equations*, Journal of Computational Physics, v223 (2007), pp.398-415.
139. J. Shen, C.-W. Shu and M. Zhang, *High resolution schemes for a hierarchical size structured model*, SIAM Journal on Numerical Analysis, v45 (2007), pp.352-370.
140. C.-S. Chou and C.-W. Shu, *High order residual distribution conservative finite difference WENO schemes for convection-diffusion steady state problems on non-smooth meshes*, Journal of Computational Physics, v224 (2007), pp.992-1020.
141. Y. Xu and C.-W. Shu, *Error estimates of the semi-discrete local discontinuous Galerkin method for nonlinear convection-diffusion and KdV equations*, Computer Methods in Applied Mechanics and Engineering, v196 (2007), pp.3805-3822.
142. J.-M. Qiu, L.-L. Feng, C.-W. Shu and L.-Z. Fang, *A WENO algorithm of the temperature and ionization profiles around a point source*, New Astronomy, v12 (2007), pp.398-409.
143. Y.-J. Liu, C.-W. Shu, E. Tadmor and M. Zhang, *Non-oscillatory hierarchical reconstruction for central and finite volume schemes*, Communications in Computational Physics, v2 (2007), pp.933-963.
144. Y. Xia, Y. Xu and C.-W. Shu, *Efficient time discretization for local discontinuous Galerkin methods*, Discrete and Continuous Dynamical Systems – Series B, v8 (2007), pp.677-693.
145. S. Chen, W. E, Y.-X. Liu and C.-W. Shu, *A discontinuous Galerkin implementation of a domain decomposition method for kinetic-hydrodynamic coupling multiscale problems in*

- gas dynamics and device simulations*, Journal of Computational Physics, v225 (2007), pp.1314-1330.
146. J. Liu, J.-M. Qiu, L.-L. Feng, C.-W. Shu and L.-Z. Fang, *21 cm signals from early ionizing sources*, The Astrophysical Journal, v663 (2007), pp.1-9.
147. S. Noelle, Y. Xing and C.-W. Shu, *High order well-balanced finite volume WENO schemes for shallow water equation with moving water*, Journal of Computational Physics, v226 (2007), pp.29-58.
148. Y. Xia, Y. Xu and C.-W. Shu, *Local discontinuous Galerkin methods for the Cahn-Hilliard type equations*, Journal of Computational Physics, v227 (2007), pp.472-491.
149. J. Shen, C.-W. Shu and M. Zhang, *A high order WENO scheme for a hierarchical size structured population model*, Journal of Scientific Computing, v33 (2007), pp.279-291.
150. J. Cheng and C.-W. Shu, *A high order ENO conservative Lagrangian type scheme for the compressible Euler equations*, Journal of Computational Physics, v227 (2007), pp.1567-1596.
151. S. Curtis, R.M. Kirby, J.K. Ryan and C.-W. Shu, *Post-processing for the discontinuous Galerkin method over non-uniform meshes*, SIAM Journal on Scientific Computing, v30 (2007), pp.272-289.
152. Y.-J. Liu, C.-W. Shu, E. Tadmor and M. Zhang, *Central discontinuous Galerkin methods on overlapping cells with a non-oscillatory hierarchical reconstruction*, SIAM Journal on Numerical Analysis, v45 (2007), pp.2442-2467.
153. J. Cheng and C.-W. Shu, *A high order accurate conservative remapping method on staggered meshes*, Applied Numerical Mathematics, v58 (2008), pp.1042-1060.
154. Y. Cheng and C.-W. Shu, *A discontinuous Galerkin finite element method for time dependent partial differential equations with higher order derivatives*, Mathematics of Computation, v77 (2008), pp.699-730.
155. Y. Xu and C.-W. Shu, *A local discontinuous Galerkin method for the Camassa-Holm equation*, SIAM Journal on Numerical Analysis, v46 (2008), pp.1998-2021.
156. J.-M. Qiu and C.-W. Shu, *Convergence of Godunov-type schemes for scalar conservation laws under large time steps*, SIAM Journal on Numerical Analysis, v46 (2008), pp.2211-2237.
157. J.-M. Qiu, C.-W. Shu, J.-R. Liu and L.-Z. Fang, *A WENO algorithm for the growth of ionized regions at the reionization epoch*, New Astronomy, v13 (2008), pp.1-11.
158. L. Yuan and C.-W. Shu, *Discontinuous Galerkin method for a class of elliptic multiscale problems*, International Journal for Numerical Methods in Fluids, v56 (2008), pp.1017-1032.

159. W. Chen, S.C. Wong and C.-W. Shu, *Efficient implementation of the shock-fitting algorithm for the Lighthill-Whitham-Richards traffic flow model*, International Journal for Numerical Methods in Engineering, v74 (2008), pp.554-600.
160. Y. Lu, S.C. Wong, M. Zhang, C.-W. Shu and W. Chen, *Explicit construction of entropy solutions for the Lighthill-Whitham-Richards traffic flow model with a non-smooth flow density relationship*, Transportation Research Part B, v42 (2008), pp.355-372.
161. Y. Liu, C.-W. Shu and M. Zhang, *Strong stability preserving property of the deferred correction time discretization*, Journal of Computational Mathematics, v26 (2008), pp.633-656.
162. W. Wang, X. Li and C.-W. Shu, *The discontinuous Galerkin method for the multiscale modeling of dynamics of crystalline solids*, Multiscale Modeling and Simulation: A SIAM Interdisciplinary Journal, v7 (2008), pp.294-320.
163. J. Zhu, J.-X. Qiu, C.-W. Shu and M. Dumbser, *Runge-Kutta discontinuous Galerkin method using WENO limiters II: unstructured meshes*, Journal of Computational Physics, v227 (2008), pp.4330-4353.
164. Y.-J. Liu, C.-W. Shu, E. Tadmor and M. Zhang, *L₂ stability analysis of the central discontinuous Galerkin method and a comparison between the central and regular discontinuous Galerkin methods*, ESAIM: Mathematical Modelling and Numerical Analysis (M₂AN), v42 (2008), pp.593-607.
165. Y. Xia, S.C. Wong, M. Zhang, C.-W. Shu and W.H.K. Lam, *An efficient discontinuous Galerkin method on triangular meshes for a pedestrian flow model*, International Journal for Numerical Methods in Engineering, v76 (2008), pp.337-350.
166. J. Cheng and C.-W. Shu, *A third order conservative Lagrangian type scheme on curvilinear meshes for the compressible Euler equations*, Communications in Computational Physics, v4 (2008), pp.1008-1024.
167. L. Huang, C.-W. Shu and M. Zhang, *Numerical boundary conditions for the fast sweeping high order WENO methods for solving the Eikonal equation*, Journal of Computational Mathematics, v26 (2008), pp.336-346.
168. Y. Cheng, I.M. Gamba, A. Majorana and C.-W. Shu, *Discontinuous Galerkin solver for Boltzmann-Poisson transients*, Journal of Computational Electronics, v7 (2008), pp.119-123.
169. S. Zhang, S. Jiang and C.-W. Shu, *Development of nonlinear weighted compact schemes with increasingly higher order accuracy*, Journal of Computational Physics, v227 (2008), pp.7294-7321.
170. F. Li, C.-W. Shu, Y.-T. Zhang and H. Zhao, *A second order discontinuous Galerkin fast sweeping method for Eikonal equations*, Journal of Computational Physics, v227 (2008), pp.8191-8208.

171. J.-M. Qiu and C.-W. Shu, *Convergence of high order finite volume weighted essentially non-oscillatory scheme and discontinuous Galerkin method for nonconvex conservation laws*, SIAM Journal on Scientific Computing, v31 (2008), pp.584-607.
172. Y. Cheng and C.-W. Shu, *Superconvergence and time evolution of discontinuous Galerkin finite element solutions*, Journal of Computational Physics, v227 (2008), pp.9612-9627.
173. Y. Xu and C.-W. Shu, *Local discontinuous Galerkin method for the Hunter-Saxton equation and its zero-viscosity and zero-dispersion limit*, SIAM Journal on Scientific Computing, v31 (2008), pp.1249-1268.
174. C.-W. Shu, *High order weighted essentially non-oscillatory schemes for convection dominated problems*, SIAM Review, v51 (2009), pp.82-126.
175. Y.-T. Zhang and C.-W. Shu, *Third order WENO scheme on three dimensional tetrahedral meshes*, Communications in Computational Physics, v5 (2009), pp.836-848.
176. Y. Xia, Y. Xu and C.-W. Shu, *Application of the local discontinuous Galerkin method for the Allen-Cahn/Cahn-Hilliard system*, Communications in Computational Physics, v5 (2009), pp.821-835.
177. R. Abgrall and C.-W. Shu, *Development of residual distribution schemes for discontinuous Galerkin method: the scalar case with linear elements*, Communications in Computational Physics, v5 (2009), pp.376-390.
178. L. Huang, S.C. Wong, M. Zhang, C.-W. Shu and W.H.K. Lam, *Revisiting Hughes' dynamic continuum model for pedestrian flow and the development of an efficient solution algorithm*, Transportation Research Part B, v43 (2009), pp.127-141.
179. W. Wang and C.-W. Shu, *The WKB local discontinuous Galerkin method for the simulation of Schrödinger equation in a resonant tunneling diode*, Journal of Scientific Computing, v40 (2009), pp.360-374.
180. S. Gottlieb, D.I. Ketcheson and C.-W. Shu, *High order strong stability preserving time discretizations*, Journal of Scientific Computing, v38 (2009), pp.251-289.
181. L. Huang, Y. Xia, S.C. Wong, C.-W. Shu, M. Zhang and W.H.K. Lam, *A dynamic continuum model for bi-directional pedestrian flows*, Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics, v162 (2009), pp.67-75.
182. Y. Cheng and C.-W. Shu, *Superconvergence of local discontinuous Galerkin methods for one-dimensional convection-diffusion equations*, Computers & Structures, v87 (2009), pp.630-641.

183. Z.-L. Xu, Y.-J. Liu and C.-W. Shu, *Hierarchical reconstruction for discontinuous Galerkin methods on unstructured grids with a WENO type linear reconstruction and partial neighboring cells*, Journal of Computational Physics, v228 (2009), pp.2194-2212.
184. Y. Xu and C.-W. Shu, *Local discontinuous Galerkin method for surface diffusion and Willmore flow of graphs*, Journal of Scientific Computing, v40 (2009), pp.375-390.
185. I. Roy, J.-M. Qiu, C.-W. Shu and L.-Z. Fang, *A WENO algorithm for radiative transfer with resonant scattering: the time scale of the Wouthuysen-Field Coupling*, New Astronomy, v14 (2009), pp.513-520.
186. I. Roy, W. Xu, J.-M. Qiu, C.-W. Shu and L.-Z. Fang, *Time evolution of Wouthuysen-Field coupling*, The Astrophysical Journal, v694 (2009), pp.1121-1130.
187. W. Chen, S.C. Wong, C.-W. Shu and P. Zhang, *Front tracking algorithm for the Lighthill-Whitham-Richards traffic flow model with a piecewise quadratic, continuous, non-smooth, and non-concave fundamental diagram*, International Journal of Numerical Analysis and Modeling, v6 (2009), pp.562-585.
188. Y. Lu, S.C. Wong, M. Zhang and C.-W. Shu, *The entropy solutions for the Lighthill-Whitham-Richards traffic flow model with a discontinuous flow-density relationship*, Transportation Science, v43 (2009), pp.511-530.
189. Y.-Y. Liu, C.-W. Shu and M. Zhang, *On the positivity of linear weights in WENO approximations*, Acta Mathematicae Applicatae Sinica, v25 (2009), pp.503-538.
190. M. Zhang and C.-W. Shu, *Fourier analysis for discontinuous Galerkin and related methods*, Chinese Science Bulletin, v54 (2009), pp.1809-1816.
191. Z.-L. Xu, Y.-J. Liu and C.-W. Shu, *Hierarchical reconstruction for spectral volume method on unstructured grids*, Journal of Computational Physics, v228 (2009), pp.5787-5802.
192. W. Wang, C.-W. Shu, H.C. Yee and B. Sjögren, *High order well-balanced schemes and applications to non-equilibrium flow*, Journal of Computational Physics, v228 (2009), pp.6682-6702.
193. S. Zhang, S. Jiang, Y.-T. Zhang and C.-W. Shu, *The mechanism of sound generation in the interaction between a shock wave and two counter rotating vortices*, Physics of Fluids, v21 (2009), article number 076101.
194. Y. Cheng, I.M. Gamba, A. Majorana and C.-W. Shu, *A discontinuous Galerkin solver for Boltzmann Poisson systems in nano devices*, Computer Methods in Applied Mechanics and Engineering, v198 (2009), pp.3130-3150.
195. Y. Xia, S.C. Wong and C.-W. Shu, *Dynamic continuum pedestrian flow model with memory effect*, Physical Review E, v79 (2009), article number 066113.

196. S. Zhang, H. Zhang and C.-W. Shu, *Topological structure of shock induced vortex breakdown*, Journal of Fluid Mechanics, v639 (2009), pp.343-372.
197. I. Roy, W. Xu, J.-M. Qiu, C.-W. Shu and L.-Z. Fang, *Wouthuysen-Field coupling in 21 cm region around high redshift sources*, Astrophysical Journal, v703 (2009), pp.1992-2003.
198. J. Cheng and C.-W. Shu, *High order schemes for CFD: A review*, Chinese Journal of Computational Physics, v26 (2009), pp.633-655.
199. B. Dong and C.-W. Shu, *Analysis of a local discontinuous Galerkin method for fourth order time-dependent problems*, SIAM Journal on Numerical Analysis, v47 (2009), pp.3240-3268.
200. W. Liu, J. Cheng and C.-W. Shu, *High order conservative Lagrangian schemes with Lax-Wendroff type time discretization for the compressible Euler equations*, Journal of Computational Physics, v228 (2009), pp.8872-8891.
201. Y.-J. Liu, C.-W. Shu and Z.-L. Xu, *Hierarchical reconstruction with up to second degree remainder for solving nonlinear conservation laws*, Nonlinearity, v22 (2009), pp.2799-2812.
202. Y.-Q. Jiang, T. Xiong, S.C.Wong, C.-W. Shu, M. Zhang, P. Zhang and W.H.K. Lam, *A reactive dynamic continuum user equilibrium model for bi-directional pedestrian flows*, Acta Mathematica Scientia, v29B (2009), pp.1541-1555.
203. Y. Xu and C.-W. Shu, *Local discontinuous Galerkin methods for high-order time dependent partial differential equations*, Communications in Computational Physics, v7 (2010), pp.1-46.
204. Y. Xu and C.-W. Shu, *Dissipative numerical methods for the Hunter-Saxton equation*, Journal of Computational Mathematics, v28 (2010), pp.606-620.
205. Y. Xia, Y. Xu and C.-W. Shu, *Local discontinuous Galerkin methods for the generalized Zakharov system*, Journal of Computational Physics, v229 (2010), pp.1238-1259.
206. Y. Cheng and C.-W. Shu, *Superconvergence of discontinuous Galerkin and local discontinuous Galerkin schemes for linear hyperbolic and convection diffusion equations in one space dimension*, SIAM Journal on Numerical Analysis, v47 (2010), pp.4044-4072.
207. X. Zhang and C.-W. Shu, *On maximum-principle-satisfying high order schemes for scalar conservation laws*, Journal of Computational Physics, v229 (2010), pp.3091-3120.
208. T. Xiong, M. Zhang, Y.-T. Zhang and C.-W. Shu, *Fifth order fast sweeping WENO scheme for static Hamilton-Jacobi equations with accurate boundary treatment*, Journal of Scientific Computing, v45 (2010), pp.514-536.
209. X. Zhang and C.-W. Shu, *A genuinely high order total variation diminishing scheme*

for one-dimensional scalar conservation laws, SIAM Journal on Numerical Analysis, v48 (2010), pp.772-795.

210. Q. Zhang and C.-W. Shu, *Stability analysis and a priori error estimates to the third order explicit Runge-Kutta discontinuous Galerkin Method for scalar conservation laws*, SIAM Journal on Numerical Analysis, v48 (2010), pp.1038-1063.

211. I. Roy, C.-W. Shu and L.-Z. Fang, *Resonant scattering and Ly_α radiation emergent from neutral hydrogen halos*, The Astrophysical Journal, v716 (2010), pp.604-614.

212. Y.-X. Liu and C.-W. Shu, *Error analysis of the semi-discrete local discontinuous Galerkin method for semiconductor device simulation models*, Science in China, Series A, v53 (2010), pp.3255-3278.

213. J. Cheng and C.-W. Shu, *A cell-centered Lagrangian scheme with the preservation of symmetry and conservation properties for compressible fluid flows in two-dimensional cylindrical geometry*, Journal of Computational Physics, v229 (2010), pp.7191-7206.

214. S. Tan and C.-W. Shu, *Inverse Lax-Wendroff procedure for numerical boundary conditions of conservation laws*, Journal of Computational Physics, v229 (2010), pp.8144-8166.

215. C.Wang and C.-W. Shu, *An interface treating technique for compressible multi-medium flow with Runge-Kutta discontinuous Galerkin method*, Journal of Computational Physics, v229 (2010), pp.8823-8843.

216. X. Zhang and C.-W. Shu, *On positivity preserving high order discontinuous Galerkin schemes for compressible Euler equations on rectangular meshes*, Journal of Computational Physics, v229 (2010), pp.8918-8934.

217. Y. Xing, X. Zhang and C.-W. Shu, *Positivity preserving high order well balanced discontinuous Galerkin methods for the shallow water equations*, Advances in Water Resources, v33 (2010), pp.1476-1493.

218. W. Sun, S.C. Wong, P. Zhang and C.-W. Shu, *A shock-fitting algorithm for the Lighthill-Whitham-Richards model on inhomogeneous highways*, Transportmetrica, v7 (2011), pp.163-180.

219. R. Zhang, M. Zhang and C.-W. Shu, *On the order of accuracy and numerical performance of two classes of finite volume WENO schemes*, Communications in Computational Physics, v9 (2011), pp.807-827.

220. W. Wang, H.C. Yee, B. Sjögren, T. Magin and C.-W. Shu, *Construction of low dissipative high-order well-balanced filter schemes for non-equilibrium flows*, Journal of Computational Physics, v230 (2011), pp.4316-4335.

221. W. Wang, J. Guzmán and C.-W. Shu, *The multiscale discontinuous Galerkin method for solving a class of second order elliptic problems with rough coefficients*, International Journal of Numerical Analysis and Modeling, v8 (2011), pp.28-47.
222. J.-M. Qiu and C.-W. Shu, *Conservative high order semi-Lagrangian finite difference WENO methods for advection in incompressible flow*, Journal of Computational Physics, v230 (2011), pp.863-889.
223. Y. Xing, C.-W. Shu and S. Noelle, *On the advantage of well-balanced schemes for moving-water equilibria of the shallow water equations*, Journal of Scientific Computing, v48 (2011), pp.339-349.
224. T. Xiong, M. Zhang, C.-W. Shu, S.C. Wong and P. Zhang, *High order computational scheme for a dynamic continuum model for bi-directional flow*, Computer Aided Civil and Infrastructure Engineering, v26 (2011), pp.298-310.
225. Y. Xu and C.-W. Shu, *Local discontinuous Galerkin methods for the Degasperis-Procesi equation*, Communications in Computational Physics, v10 (2011), pp.474-508.
226. W. Liu, L. Yuan and C.-W. Shu, *A conservative modification to the ghost fluid method for compressible multiphase flows*, Communications in Computational Physics, v10 (2011), pp.785-806.
227. S. Zhang, S. Jiang and C.-W. Shu, *Improvement of convergence to steady state solutions of Euler equations with the WENO schemes*, Journal of Scientific Computing, v47 (2011), pp.216-238.
228. Y. Cheng, I.M. Gamba, A. Majorana and C.-W. Shu, *A brief survey of the discontinuous Galerkin method for the Boltzmann-Poisson equations*, SEMA Journal, v54 (2011), pp.47-64.
229. X. Zhang and C.-W. Shu, *Positivity-preserving high order discontinuous Galerkin schemes for compressible Euler equations with source terms*, Journal of Computational Physics, v230 (2011), pp.1238-1248.
230. J.-M. Qiu and C.-W. Shu, *Conservative semi-Lagrangian finite difference WENO formulations with applications to the Vlasov equation*, Communications in Computational Physics, v10 (2011), pp.979-1000.
231. X.-T. Shi, J. Chen, W.-T. Bi, C.-W. Shu and Z.-S. She, *Numerical simulations of compressible mixing layers with a discontinuous Galerkin method*, ActaMechanica Sinica, v27 (2011), pp.318-329.
232. O. Bokanowski, Y. Cheng and C.-W. Shu, *A discontinuous Galerkin solver for front propagation*, SIAM Journal on Scientific Computing, v33 (2011), pp.923-938.
233. Y.-Y. Liu, C.-W. Shu and M. Zhang, *High order finite difference WENO schemes*

- for nonlinear degenerate parabolic equations, SIAM Journal on Scientific Computing, v33 (2011), pp.939-965.
234. Y.-J. Liu, C.-W. Shu, E. Tadmor and M. Zhang, *Central local discontinuous Galerkin methods on overlapping cells for diffusion equations*, ESAIM: Mathematical Modelling and Numerical Analysis (M₂AN), v45 (2011), pp.1009-1032.
235. X. Zhang and C.-W. Shu, *Maximum-principle-satisfying and positivity-preserving high order schemes for conservation laws: Survey and new developments*, Proceedings of the Royal Society A, v467 (2011), pp.2752-2776.
236. S. Tan and C.-W. Shu, *A high order moving boundary treatment for compressible inviscid flows*, Journal of Computational Physics, v230 (2011), pp.6023-6036.
237. R. Zhang, M. Zhang and C.-W. Shu, *High order positivity-preserving finite volume WENO schemes for a hierarchical size-structured population model*, Journal of Computational and Applied Mathematics, v236 (2011), pp.937-949.
238. Z.-L. Xu, Y.-J. Liu, H.-J. Du, G. Lin and C.-W. Shu, *Point-wise hierarchical reconstruction for discontinuous Galerkin and finite volume methods for solving conservation laws*, Journal of Computational Physics, v230 (2011), pp.6843-6865.
239. X. Zhong and C.-W. Shu, *Numerical resolution of discontinuous Galerkin methods for time dependent wave equations*, Computer Methods in Applied Mechanics and Engineering, v200 (2011), pp.2814-2827.
240. Y. Xing and C.-W. Shu, *High-order finite volume WENO schemes for the shallow water equations with dry states*, Advances in Water Resources, v34 (2011), pp.1026-1038.
241. Y.-T. Zhang, S. Chen, F. Li, H. Zhao and C.-W. Shu, *Uniformly accurate discontinuous Galerkin fast sweeping methods for Eikonal equations*, SIAM Journal on Scientific Computing, v33 (2011), pp.1873-1896.
242. Y. Yang, I. Roy, C.-W. Shu and L.-Z. Fang, *Effect of dust on Lyman-alpha photon transfer in optically thick halo*, The Astrophysical Journal, v739 (2011), 91(11pp).
243. B. Ayuso, J.A. Carrillo and C.-W. Shu, *Discontinuous Galerkin methods for the one-dimensional Vlasov-Poisson system*, Kinetic and Related Models, v4 (2011), pp.955-989.
244. J.-M. Qiu and C.-W. Shu, *Positivity preserving semi-Lagrangian discontinuous Galerkin formulation: theoretical analysis and application to the Vlasov-Poisson system*, Journal of Computational Physics, v230 (2011), pp.8386-8409.
245. T. Xiong, P. Zhang, S.C. Wong, C.-W. Shu and M. Zhang, *A macroscopic approach to the lane formation phenomenon in pedestrian counterflow*, Chinese Physics Letters, v28 (2011), 108901.

246. Z. Xu, J. Xu and C.-W. Shu, *A high order adaptive finite element method for solving nonlinear hyperbolic conservation laws*, Journal of Computational Mathematics, v29 (2011), pp.491-500.
247. C.-W. Shu, *Efficient algorithms for solving partial differential equations with discontinuous solutions*, Notices of the American Mathematical Society, to appear.
248. J. Cheng and C.-W. Shu, *Improvement on spherical symmetry in two-dimensional cylindrical coordinates for a class of control volume Lagrangian schemes*, Communications in Computational Physics, v11 (2012), pp.1144-1168.
249. X. Zhang, Y. Xia and C.-W. Shu, *Maximum-principle-satisfying and positivity preserving high order discontinuous Galerkin schemes for conservation laws on triangular meshes*, Journal of Scientific Computing, v50 (2012), pp.29-62.
250. W. Wang, C.-W. Shu, H.C. Yee and B. Sjögreen, *High order finite difference methods with subcell resolution for advection equations with stiff source terms*, Journal of Computational Physics, v231 (2012), pp.190-214.
251. X. Meng, C.-W. Shu and B. Wu, *Superconvergence of the local discontinuous Galerkin method for linear fourth order time dependent problems in one space dimension*, IMA Journal of Numerical Analysis, to appear.
252. C. Wang, X. Zhang, C.-W. Shu and J. Ning, *Robust high order discontinuous Galerkin schemes for two-dimensional gaseous detonations*, Journal of Computational Physics, v231 (2012), pp.653-665.
253. Y. Xu and C.-W. Shu, *Optimal error estimates of the semi-discrete local discontinuous Galerkin methods for high order wave equations*, SIAM Journal on Numerical Analysis, to appear.
254. X. Zhang and C.-W. Shu, *A minimum entropy principle of high order schemes for gas dynamics equations*, Numerische Mathematik, to appear.
255. X. Zhang and C.-W. Shu, *Positivity-preserving high order finite difference WENO schemes for compressible Euler equations*, Journal of Computational Physics, v231 (2012), pp.2245-2258.
256. S. Tan, C. Wang, C.-W. Shu and J. Ning, *Efficient implementation of high order inverse Lax-Wendroff boundary treatment for conservation laws*, Journal of Computational Physics, to appear.
257. C.-W. Shu, *On high order accurate WENO and discontinuous Galerkin schemes for compressible turbulence simulations*, Philosophical Transactions of the Royal Society A, to appear.

258. X. Zhang, Y.-Y. Liu and C.-W. Shu, *Maximum-principle-satisfying high order finite volume WENO schemes for convection-diffusion equations*, SIAM Journal on Scientific Computing, to appear.

Non-refereed journal and proceeding articles:

1. TVD properties of a class of modified ENO schemes for scalar conservation laws, IMA Preprint Series #308 (1987), University of Minnesota.

2. Essentially non-oscillatory shock capturing methods applied to turbulence amplification in shock wave calculations, with S. Osher, in *Advances in Compressible Turbulent Mixing, Proceedings of the International Workshop on the Physics of Compressible Turbulent Mixing in 1988*, W. P. Dannevik et al, editors. Lawrence Livermore National Lab, 1992, pp.525-533.

3. Nonoscillatory continuous finite element methods for nonlinear conservation laws: preliminary results, with B. Cockburn, TICOM Report, University of Texas at Austin, 1989.

4. The P_1 -RKDG method for two-dimensional Euler equations of gas dynamics, with B. Cockburn, ICASE Report 91-32, 1991. *Proceedings of the 4th International Symposium on Computational Fluid Dynamics*.

5. Convergence of finite volume methods, with B. Cockburn, F. Coquel and P. LeFloch, IMA Preprint Series #771, 1991.

6. Recent development of shock capturing finite difference, finite element and spectral schemes, in *Proceedings of Conference on Scientific and Engineering Computing for Young Chinese Scientists*, J.-Z. Cui, Z.-C. Shi and D.-L. Wang, editors, National Defense Industry Press, Beijing, China, 1994. pp.63-68.

7. Stable compact schemes for shock calculations, in *Transactions of the Eleventh Army Conference on Applied Mathematics and Computing*, with B. Cockburn, ARO Report 94-1, Army Research Office, 1994, pp.195-210.

8. Preface to the republication of “Uniform high order essentially non-oscillatory schemes, III,” by Harten, Engquist, Osher, and Chakravarthy, *Journal of Computational Physics*, v131 (1997), pp.1-2.

9. A general theory for the resolution of the Gibbs phenomenon, with D. Gottlieb, in *Atti Dei Convegni Lincei*, v147, Tricomi’s Ideas and Contemporary Applied Mathematics, Accademia Nazionale dei Lincei, 1998, pp.39-48.

10. C.-W. Shu, *Recent development and applications of WENO schemes*, in DNS/LES

Progress and Challenges, Third AFOSR International Conference, Arlington, Texas 2001, C. Liu, L. Sakell and T. Beutner, editors, Greyden Press, Columbus, Ohio, 2001, Invited papers, pp.117-128.

11. C.-W. Shu, *Development and applications of WENO schemes in continuum physics*, in Proceedings of International Workshop on Computational Methods for Continuum Physics and Their Applications (IWCCPA-01), Nanjing, China, 2001, Transactions of Nanjing University of Aeronautics and Astronautics, v18 Suppl., 2001, pp.16-20.

Book reviews:

1. Review for *Numerical Methods for Conservation Laws*, by Randall J. LeVeque, Birkhauser 1990, in *Mathematics of Computation*, v57 (1991), pp.875-876.

2. Review for *Mathematical and Numerical Aspects of Wave Propagation*, Edited by Gary Cohen, SIAM and INRIA, 1995. in *Mathematics of Computation*, to appear.

3. Review for *Fundamentals of Numerical Computing*: by L.F. Shampine, R.C. Allen, Jr. and S. Pruess, John Wiley and Sons, Inc., 1996, prepublication review.

4. Review for *A Practical Guide to Pseudospectral Methods*, by Bengt Fornberg, Cambridge University Press, 1996, in *Mathematics of Computation*, v66 (1997), pp.1758-1759.

5. Review for *Level Set Methods*, by J.A. Sethian, Cambridge University Press, 1996, in *SIAM Review*, to appear.

6. Several prepublication reviews for books and lectures notes, Springer-Verlag.

7. Review for *Dynamic Multilevel Methods and the Numerical Simulation of Turbulence*, by Thierry Dubois, Francois Jauberteau and Roger Temam, Cambridge University Press, 1999, in *Mathematics of Computation*, v69 (2000), p.1307.

8. Review for *Spectral Methods in Matlab*, by Lloyd N. Trefethen, SIAM, Philadelphia, PA, 2000, in *Mathematics of Computation*, v70 (2001), pp.1337-1338.

9. Review for *Mathematical and Computational Methods for Compressible Flow*, by Miloslav Feistauer, Jiri Felcman and Ivan Straskraba, Oxford Science Publications, Oxford 2003, in *SIAM Review*, v46 (2004), p.590.

10. Review for *Discontinuous Finite Elements in Fluid Dynamics and Heat Transfer*, by B.Q. Li, Springer-Verlag, New York, 2006, in *SIAM Review*, v49 (2007), pp.169-170.