

Publications by Jan Nordström

updated: 2017-04-01

5 most cited publications

(Google Scholar, Scopus, Web of Science)

1. M. H. Carpenter, J. Nordström & D. Gottlieb, A Stable and Conservative Interface Treatment of Arbitrary Spatial Accuracy, *Journal of Computational Physics*, Vol. 148 No. 2, pp. 341-365, 1999. Number of citations: (350, 250, 174)
2. K. Mattson & J. Nordström, Summation by parts operators for finite difference approximations of second derivatives, *Journal of Computational Physics*, Vol. 199, pp. 503-540, 2004. Number of citations: (245, 170, 128)
3. M. Svärd & J. Nordström, On the Order of Accuracy for Difference Approximations of Initial-Boundary Value Problems, *Journal of Computational Physics*, Vol. 218, pp. 333-352, 2006. Number of citations: (157, 97, 81)
4. J. Nordström & M. H. Carpenter, Boundary and Interface Conditions for High Order Finite Difference Methods Applied to the Euler and Navier Stokes Equations, *Journal of Computational Physics*, Vol. 152 No. 2, pp. 621-645, 1999. Number of citations: (153, 105, 63)
5. M. Svärd, M. H. Carpenter & J. Nordström, A Stable High-Order Finite Difference Scheme for the Compressible Navier-Stokes Equations, far-field boundary conditions, *Journal of Computational Physics*, Volume 225, Issue 1, Pages 1020-1038, 2007. Number of citations: (149, 120, 76)

h index

(Google Scholar: 29, Scopus: 25, Web of Science: 23)

Articles

93. J. Nordström & F. Ghasemi, On the relation between conservation and dual consistency for summation-by-parts schemes, Accepted in *Journal of Computational Physics*.

92. D. A. Kopriva, J. Nordström & G. Gassner, Error Boundedness of Discontinuous Galerkin Spektral Element Approximations of Hyperbolic Problems. Accepted in *Journal of Scientific Computing*.
91. S. Eriksson & J. Nordström, Exact Non-Reflecting Boundary Conditions Revisited: Well-Posedness and Stability. Accepted in *Foundations of Computational Mathematics*.
90. Y. T. Delorme, K. Puria, J. Nordström, V. Linders, S. Dong & S. H. Frankel, A Simple and Efficient Incompressible Navier-Stokes Solver for Unsteady Complex Geometry Flows on Truncated Domains, *Computers & Fluids*, Vol 150, pp. 84-94, 2017.
89. V. Linders, M. Kupiainen & J. Nordström, Summation-by-Parts Operators with Minimal Dispersion Error for Coarse Grid Flow Calculations, *Journal of Computational Physics*, Volume 340, pp. 160-176, 2017.
88. S. Nikkar & J. Nordström, A Fully Discrete, Stable and Conservative Summation-by-Parts Formulation for Deforming Interfaces, *Journal of Computational Physics*, Volume 339, pp. 500-524, 2017.
87. J. Nordström, A Roadmap to Well Posed and Stable Problems in Computational Physics, *Journal of Scientific Computing*, Volume 71, Issue 1, pp. 365-385, 2017.
86. H. Frenander & J. Nordström, Constructing non-reflecting boundary conditions using summation-by-parts in time. *Journal of Computational Physics*, Volume 331, pp. 38-48, 2017.
85. I. Gledhill, H. Roohani, K. Forsberg, P. Eliasson, B. W. Skews, & J. Nordström, Theoretical treatment of fluid flow for accelerating bodies, *Theoretical and Computational Fluid Dynamics*, Vol. 30, no 5, pp. 449-467, 2016.
84. T. Lundquist & J. Nordström, Efficient Fully Discrete Summation-by-parts Schemes for Unsteady Flow Problems. *BIT Numerical Mathematics*, Volume 56, No. 3, pp. 951-966, 2016.

83. J. Nordström & T. Lundquist, Summation-by-parts in Time: The Second Derivative. *SIAM Journal of Scientific Computing*, Vol. 38, No. 3, pp. A1561–A1586, 2016.
82. C. La Cognata & J. Nordström, Well-posedness, Stability and Conservation for a Discontinuous Interface Problem. *BIT Numerical Mathematics*, Volume 56, Issue 2, pp 681-704, 2016.
81. D. Amsallem & J. Nordström, Stable Model Reduction of Neurons by Non-Negative Discrete Empirical Interpolation, *SIAM Journal of Scientific Computing*, Vol. 38, No. 2, pp. B297–B326, 2016.
80. J. Nordström & S. Nikkar, Hyperbolic Systems of Equations Posed on Erroneous Curved Domains, *Journal of Computational Physics*, Volume 308, Pages 438-442, 2016.
79. H. Frenander & J. Nordström, A Provable Stable and Accurate Davies-like Relaxation Procedure Using Multiple Penalty Terms for Lateral Boundaries in Weather Prediction. *Dynamics of Atmospheres and Oceans*, Volume 73, Pages 34-46, March 2016.
78. P. Pettersson, J. Nordström & A. Doostan, A Well-posed and Stable Stochastic Galerkin Formulation of the Incompressible Navier-Stokes Equations with Random Data. *Journal of Computational Physics*, Volume 306, Pages 92-116, 2016.
77. C. Sorgentone, C. La Cognata & J. Nordström, A New High Order Energy and Enstrophy Conserving Arakawa-like Jacobian Differential Operator. *Journal of Computational Physics*, Volume 301, Pages 167-177, 2015.
76. V. Linders & J. Nordström, Uniformly Best Wavenumber Approximations by Spatial Central Difference Operators, *Journal of Computational Physics*, Volume 300, Pages 695-709, 2015.
75. J. Nordström & S. Ghader, A new well-posed vorticity divergence formulation of the shallow water equations, *Ocean Modelling*, Volume 93, pp. 1-6, 2015.
74. S. Ghader & J. Nordström, High-order compact finite difference schemes for the spherical shallow water equations, *International Journal for Numerical Methods in Fluids*, Volume 78, pp. 709-738, 2015.

73. S. Nikkar & J. Nordström, Fully Discrete Energy Stable High Order Finite Difference Methods for Hyperbolic Problems in Deforming Domains, *Journal of Computational Physics*, Volume 291, Pages 82-98, 2015.
72. J. Nordström & M. Wahlsten, Variance reduction through robust design of boundary conditions for stochastic hyperbolic systems of equations, *Journal of Computational Physics*, Volume 82, pp. 1-22, 2015.
71. O. O'Reilly, J. Nordström, J. E. Kozdon & E. M. Dunham, Simulation of Earthquake Rupture Dynamics in Complex Geometries Using Coupled Finite Difference and Finite Volume Methods, accepted in *Communications in Computational Physics*, Vol. 17, pp.337-370, 2015.
70. B. A. Erickson & J. Nordström, Stable, High Order Accurate Adaptive Schemes for Long Time, Highly Intermittent Geophysics Problems, *Journal of Computational and Applied Mathematics* 271, pp. 328338, 2014.
69. J. Nordström, Q. Abbas, B. A. Erickson & H. Frenander, A Flexible Boundary Procedure for Hyperbolic Problems: Multiple Penalty Terms Applied in a Domain, *Communications in Computational Physics*, Vol. 16, pp. 541-570, 2014.
68. T. Lundquist & J. Nordström, The SBP-SAT Technique for Initial Value Problems, *Journal of Computational Physics*, Volume 270, pp. 86-104, 2014.
67. M. Svärd & J. Nordström, Review of Summation-By-Parts Schemes for Initial-Boundary-Value Problems, *Journal of Computational Physics*, Volume 268, pp. 17-38, 2014.
66. S. Ghader & J. Nordström, Revisiting well-posed boundary conditions for the shallow water equations, *Dynamics of Atmospheres and Oceans*, Vol. 66, p. 1-9, June 2014.
65. J. Berg & J. Nordström, Duality based boundary conditions and dual consistent finite difference discretizations of the Navier-Stokes and Euler equations, *Journal of Computational Physics*, Volume 259, 15 February, pp. 135-153, 2014.

64. P. Pettersson, G. Iaccarino & J. Nordström, A stochastic Galerkin method for the Euler equations with Roe variable transformation, *Journal of Computational Physics*, Volume 257, Part A, pp.481-500, 2014.
63. P. Pettersson, G. Iaccarino & J. Nordström, An Intrusive Hybrid Method for Discontinuous Two-Phase Flow under Uncertainty, *Computers & Fluids*, Volume 86, pp. 228239, 2013.
62. D. Amsallem & J. Nordström, High-order accurate difference schemes for the Hodgkin-Huxley equations, *Journal of Computational Physics*, Vol. 252, pp. 573-590, 2013.
61. J. Nordström & Tomas Lundquist, Summation-By-Parts in Time, *Journal of Computational Physics* Vol 251, pp. 487-499, 2013.
60. P. Pettersson, A. Doostan & J. Nordström, On Stability and Monotonicity Requirements of Finite Difference Approximations of Stochastic Conservation Laws with Random Viscosity, *Computer Methods in Applied Mechanics and Engineering*, Vol 258, pp. 134-151, 2013.
59. J. Berg & J. Nordström, On the impact of boundary conditions on dual consistent finite difference discretizations, *Journal of Computational Physics*, Vol 236, pp. 4155, 2013.
58. J. Nordström & J. Berg, Conjugate Heat Transfer for the Unsteady Compressible Navier-Stokes Equations Using a Multi-block Coupling, *Computers & Fluids*, Vol 72, pp. 20-29, 2013.
57. T. Fisher, M.H. Carpenter, J. Nordström, N. K. Yamaleev & C. Swanson, Discretely Conservative Finite-Difference Formulations for Nonlinear Conservation Laws in Split Form: Theory and Boundary Conditions, *Journal of Computational Physics*, Vol 234, pp. 353-375, 2013.
56. J. E. Kozdon, E. M. Dunham & J. Nordström, Simulation of Dynamic Earthquake Ruptures in Complex Geometries Using High-Order Finite Difference Methods, *Journal of Scientific Computing*, Volume 55, No 1, pp. 92-124, 2013.

55. J. Nordström & B. Lönn, Energy Decay of Vortices in Viscous Fluids: an Applied Mathematics View, *Journal of Fluid Mechanics*, 709, pp. 593609, 2012.
54. J. Berg & J. Nordström, Spectral analysis of the continuous and discretized heat and advection equation on single and multiple domains, *Applied Numerical Mathematics*, Vol 62, pp. 1620-1638, 2012.
53. J. Berg & J. Nordström, Superconvergent Functional Output for Time-Dependent Problems using Finite Differences on Summation-By-Parts Form, *Journal of Computational Physics*, Vol 231, pp. 6846-6860, 2012.
52. J. Nordström, S. Eriksson and P. Eliasson, Weak and Strong Wall Boundary Procedures and Convergence to Steady-State of the Navier-Stokes Equations, *Journal of Computational Physics*, Vol 231, pp. 4867-4884, 2012.
51. J. E. Kozdon, E. M. Dunham & J. Nordström, Interaction of Waves with Frictional Interfaces Using Summation-By-Parts Difference Operators: Weak Enforcement of Nonlinear Boundary Conditions, *Journal of Scientific Computing*, Volume 50, No 2, Pages 341-367, 2012.
50. J. Gong & J. Nordström, Interface Procedures for Finite Difference Approximations of the Advection-diffusion Equation, *Journal of Computational and Applied Mathematics*. Vol. 236, Issue 5, pp. 601-996, 2011.
49. J. Berg & J. Nordström, Stable Robin Solid Wall Boundary Conditions for the Navier-Stokes Equations. *Journal of Computational Physics* 230, pp. 7519-7532, 2011.
48. S. Eriksson, Q. Abbas and J. Nordström, A stable and conservative method of locally adapting the design order of finite difference schemes. *Journal of Computational Physics* 230, pp. 42164231, 2011.
47. J. Nordström and S. Eriksson, Fluid Structure Interaction Problems: the Necessity of a Well Posed, Stable and Accurate Formulation, *Communications in Computational Physics (CiCP)*, Vol. 8, pp. 1111-1138, 2010.

46. M. H. Carpenter, J. Nordström & D. Gottlieb, Revisiting and Extending Interface Penalties for Multi-Domain Summation-By-Parts Operators, *Journal of Scientific Computing*, Vol. 45, pp. 118-150, 2010.
45. M. Svärd, J. Lundberg & J. Nordström, A Computational Study of Wing-Vortex Interaction Using High Order Finite Difference Methods, *Computers & Fluids*, Vol. 39, pp. 1267-1274, 2010.
44. J. Lindström & J. Nordström, A Stable and High Order Accurate Conjugate Heat Transfer Problem, *Journal of Computational Physics*, Vol. 229, pp. 5440-5456, 2010.
43. Q. Abbas and J. Nordström, Weak Versus Strong No-slip Boundary Conditions for the Navier-Stokes Equation, *Engineering Applications of Computational Fluid Mechanics*, Vol. 4, No. 1, pp. 29-38, 2010.
42. P. Pettersson, J. Nordström & G. Iaccarino, Boundary Procedures for the Time-dependent Burgers' Equation under Uncertainty, *Acta Mathematica Scientia*, 30B(2):539550, 2010.
41. M. Berggren, S.E. Ekström and J. Nordström, A discontinuous Galerkin extension of the vertex-centered edge-based finite volume method, *Communications in Computational Physics (CiCP)*, Vol. 5, pp 456-468, 2009.
40. J. Nordström, S. Eriksson, C. Law & J. Gong, Shock and Vortex Calculations Using a Very High Order Accurate Euler and Navier-Stokes Solver, *International Journal of Mechanics and MEMS (JMM)*, Volume 1, No. 1, 2009.
39. J. Nordström, F. Ham, M Shoeybi, E. van der Weide, M. Svärd, K. Mattsson, G. Iaccarino & J. Gong, A Hybrid Method for Unsteady Inviscid Fluid Flow, *Computers & Fluids*, Vol. 38, pp. 875-882, 2009.
38. I. M. A. Gledhill, K. Forsberg, P. Eliasson, J. Baloyi & J. Nordström, Investigation of acceleration effects on missile aerodynamics using Computational Fluid Dynamics, *Aerospace Science & Technology*, Volume 13, Issues 4-5, pp. 197-203, June-July 2009.

37. S. Eriksson & J. Nordström, Analysis of the Order of Accuracy for Node-centered Finite Volume Schemes, *Applied Numerical Mathematics* Volume 59, Issue 10, pp. 2659-2676, October 2009.
36. P. Pettersson, G. Iaccarino & J. Nordström, Numerical analysis of the Burger's equation in the presence of uncertainty, *Journal of Computational Physics*, Vol. 228, pp. 8394-8412, 2009.
35. J. Nordström, J. Gong, E. van der Weide and M. Svärd, A Stable and Conservative High Order Multi-block Method for the Compressible Navier-Stokes Equations, *Journal of Computational Physics*, Vol. 228, pp. 9020-9035, 2009.
34. M. Svärd, J. Gong & J. Nordström, An Accuracy Evaluation of Unstructured Node-Centered Finite Volume Methods, *Applied Numerical Mathematics*, Vol 58, pp 1142-1158, 2008.
33. M. Svärd & J. Nordström, A Stable High-Order Finite Difference Scheme for the Compressible Navier-Stokes Equations: Wall Boundary Conditions, *Journal of Computational Physics*, Vol. 227, pp. 4805-4824, 2008.
32. K. Mattsson, M. Svärd, M. H. Carpenter & J. Nordström, High Order Accurate Computations for Unsteady Aerodynamics, *Computers & Fluids*, Volume 36, Issue 3, Pages 636-649, 2007.
31. J. Nordström, K. Mattsson & Charles Swanson, Boundary Conditions for a Divergence Free Velocity-Pressure Formulation of the Navier-Stokes Equations, *Journal of Computational Physics*, Volume 225, Issue 1, Pages 874-8901, 2007.
30. M. Svärd, M. H. Carpenter & J. Nordström, A Stable High-Order Finite Difference Scheme for the Compressible Navier-Stokes Equations, far-field boundary conditions, *Journal of Computational Physics*, Volume 225, Issue 1, Pages 1020-1038, 2007.
29. J. Nordström, Error Bounded Schemes for Time-dependent Hyperbolic Problems, *SIAM Journal of Scientific Computing*, Volume 30, Pages 46-59, 2007.
28. J. Gong & J. Nordström, A Stable and Efficient Hybrid Scheme for Viscous Problems in Complex Geometries, *Journal of Computational Physics*, Volume 226, Pages 1291-1309, 2007.

27. J. Nordström & J. Gong, A Stable Hybrid Method for Hyperbolic Problems, *Journal of Computational Physics*, Vol. 212, pp. 436-453, 2006.
26. M. Svärd, J. Gong & J. Nordström, Stable Artificial Dissipation Operators for Finite Volume Schemes on Unstructured Grids, *Applied Numerical Mathematics*, Volume 56, pp. 1481-1490, 2006.
25. M. Svärd & J. Nordström, On the Order of Accuracy for Difference Approximations of Initial-Boundary Value Problems, *Journal of Computational Physics*, Vol. 218, pp. 333-352, 2006.
24. K. Mattson & J. Nordström, High Order Finite Difference Methods for Wave Propagation in Discontinuous Media, *Journal of Computational Physics*, Vol. 220, pp. 249-269, 2006.
23. J. Nordström, Conservative Finite Difference Formulations, Variable Coefficients, Energy Estimates and Artificial Dissipation, *Journal of Scientific Computing*, Vol. 29, pp. 375-404, 2006.
22. M. Svärd, K. Mattsson & J. Nordström, Steady State Computations Using Summation-By-Parts Operators, *Journal of Scientific Computing*, Volume 24, No. 1, pp. 79-95, 2005.
21. J. Nordström & J. Gong, A Stable and Efficient Hybrid Method for Aeroacoustic Sound Generation and Propagation, *Comptes Rendus Mecanique* 333, pp. 713-718, 2005.
20. J. Nordström & M. Svärd, Well Posed Boundary Conditions for the Navier-Stokes Equation, *SIAM Journal on Numerical Analysis*, Vol. 43, No. 3, pp. 1231-1255, 2005.
19. K. Mattsson M. Svärd and J. Nordström, Stable and Accurate Artificial Dissipation, *Journal of Scientific Computing*, Volume 21, No. 1, pp. 57-79, 2004.
18. M. Svärd and J. Nordström, Stability of Finite Volume Approximations for the Laplacian Operator on Quadrilateral and Triangular Grids, *Applied Numerical Mathematics*, Volume 51, pp. 101-124, 2004.
17. K. Mattson & J. Nordström, Summation by parts operators for finite difference approximations of second derivatives, *Journal of Computational Physics*, Vol. 199, pp. 503-540, 2004.

16. T Hagstrom & J. Nordström, Analysis of Extrapolation Boundary Conditions for the Linearized Euler Equations, *Applied Numerical Mathematics*, Volume 44, pp. 95-108, 2003.
15. J. Nordström & R. Gustafsson, High Order Finite Difference Approximations of Electromagnetic Wave Propagation Close to Material Discontinuities, *Journal of Scientific Computing*, Vol 18, No 2, 2003.
14. J. Nordström, K. Forsberg, C. Adamsson & P. Eliasson, Finite Volume Methods, Unstructured Meshes and Strict Stability, *Applied Numerical Mathematics*, Volume 48, pp. 453-473, 2003.
13. G. Kreiss, G. Efrainsson & J. Nordström, Elimination of First Order Errors in Shock Calculations, *SIAM Journal of Numerical Analysis*, Vol. 38, No. 6, pp. 1986-1998, 2001.
12. J. Nordström & Martin Björck, Finite Volume Approximations and Strict Stability for Hyperbolic Problems, *Applied Numerical Mathematics*, Volume 38, Issue 3, pp. 237-255, 2001.
11. J. Nordström & M. H. Carpenter, High Order Finite Difference Methods, Multidimensional Linear Problems and Curvilinear Coordinates, *Journal of Computational Physics*, Vol 173, pp. 149-174, 2001.
10. S. Tsynkov, S. Abarbanel, J. Nordström, V. Ryaben'kii & V. Vatsa, Global Artificial Boundary Conditions for Computation of External Flow Problems with Jets, *AIAA Journal*, vol. 38, no. 11, Nov. 2000, pp. 2014-2022.
9. J. Nordström, N. Nordin & D. Henningson, The Fringe Region Technique and the Fourier-method Used in the Direct Numerical Simulation of Spatially Evolving Viscous Flows, *SIAM Journal of Scientific Computing*, Vol. 20, No. 4, pp.1365-1393, 1999.
8. J. Nordström, On Flux-extrapolation at Supersonic Outflow Boundaries, *Applied Numerical Mathematics*, Vol. 30, Issue 4, pp. 447-457, 1999.
7. M. H. Carpenter, J. Nordström & D. Gottlieb, A Stable and Conservative Interface Treatment of Arbitrary Spatial Accuracy,

- Journal of Computational Physics, Vol 148 No. 2, pp. 341-365, 1999.
6. J. Nordström & M. H. Carpenter, Boundary and Interface Conditions for High Order Finite Difference Methods Applied to the Euler and Navier Stokes Equations, Journal of Computational Physics, Vol 148 No. 2, pp. 621-645, 1999.
 5. J. Nordström, On Extrapolation Procedures at Artificial Outflow Boundaries for the Time-Dependent Navier-Stokes Equations, Applied Numerical Mathematics, Vol. 23, pp. 457-468, 1997.
 4. J. Nordström, The Use of Characteristic Boundary Conditions for the Navier-Stokes Equations, Computers & Fluids, Vol. 24, No.5, pp. 609-623, 1995.
 3. J. Nordström, Accurate Solutions of the Navier-Stokes Equations Despite Unknown Outflow Boundary Data, Journal of Computational Physics Vol. 120, pp. 184-205, 1995.
 2. J. Nordström, Extrapolation Procedures for the Navier-Stokes Equations, AIAA-journal Vol. 30, No. 6, pp. 1654-1656, 1992.
 1. J. Nordström, The Influence of Open Boundary Conditions on the Convergence to Steady State of the Navier-Stokes Equation, Journal of Computational Physics Vol. 85, No. 1, pp. 210-244, 1989.

Books

1. P. Pettersson, G. Iaccarino & J. Nordström, Polynomial Chaos Methods for Hyperbolic Partial Differential Equations, Book in Mathematical Engineering, DOI: 10.1007/978-3-319-10714-1, Springer International Publishing, 2015.

Book chapters

10. P. Eliasson, M. Kupiainen & J. Nordström, Higher Order Accurate Solutions for Flow in a Cavity: Experiences and Lessons Learned, Spectral and High Order Methods for Partial Differential Equations ICOSAHOM 2014, Lecture Notes in Computational Science and Engineering, No. 106, 189-196, 2015.

9. T. Lundquist & J. Nordström, Efficient Fully Discrete Summation-by-Parts Schemes for Unsteady Flow Problems: An Initial Investigation, Spectral and High Order Methods for Partial Differential Equations ICOSAHOM 2014, Lecture Notes in Computational Science and Engineering, No. 106, 345-353, 2015.
8. S. Nikkar, & J. Nordström, Fully Discrete Energy Stable High Order Finite Difference Methods for Hyperbolic Problems in Deforming Domains: An Initial Investigation, Spectral and High Order Methods for Partial Differential Equations ICOSAHOM 2014, Lecture Notes in Computational Science and Engineering, No. 106, 385-395, 2015.
7. V. Linders & J. Nordström, Uniformly Best Wavenumber Approximations by Spatial Central Difference Operators: An Initial Investigation, Spectral and High Order Methods for Partial Differential Equations ICOSAHOM 2014, Lecture Notes in Computational Science and Engineering, No. 106, 325-333, 2015.
6. C. La Cognata & J. Nordström, Well-Posedness, Stability and Conservation for a Discontinuous Interface Problem: An Initial Investigation, Spectral and High Order Methods for Partial Differential Equations ICOSAHOM 2014, Lecture Notes in Computational Science and Engineering, No. 106, 147-155, 2015.
5. P. Pettersson, G. Iaccarino & J. Nordström, Polynomial Chaos Methods for Hyperbolic Partial Differential Equations, Book in Mathematical Engineering, DOI: 10.1007/978-3-319-10714-1, Springer International Publishing, 2015.
4. J. Nordström & P. Eliasson, New developments for increased performance of the SBP-SAT finite difference technique, Notes on Numerical Fluid Mechanics and Multidisciplinary Design, Volume 128, pp. 467-488, 2015.
3. J. Nordström, Linear and Nonlinear Boundary Conditions for Wave Propagation Problems, Notes on Numerical Fluid Mechanics and Multidisciplinary Design, Vol. 120, pp. 283-299, 2013.
2. J. Nordström, Model Problems and The Analysis of Boundary Procedures in CFD, in Absorbing Boundaries and Layers, Domain Decomposition Methods, Application to Large Scale Com-

putations, Edited by L. Tourette and L. Halpern, ISBN 1-56072-940-6, Novascience, 2001.

1. B. Gustafsson & J. Nordström, Extrapolation Procedures at Outflow Boundaries for the Navier-Stokes Equations, Computing Methods in Applied Science and Engineering, Paris 1990, pp.136-151, SIAM, Philadelphia, PA, 1990.

Conference papers

62. V. Linders, M. Kupiainen, S. H. Frankel, Y. Delorme and J. Nordström, Summation-by-Parts Operators with Minimal Dispersion Error for Accurate and Efficient Flow Calculations, AIAA Paper No. 2016-1329, 54th AIAA Aerospace Sciences Meeting, San Diego, California, USA, 4-8 January 2016.
61. P. Eliasson, T. Lundquist, and J. Nordström, A global time integration approach for realistic unsteady flow computations, AIAA Paper No. 2016-2016, 54th AIAA Aerospace Sciences Meeting, San Diego, California, USA, 4-8 January 2016.
60. J. Nordström and F. Ghasemi, Coupling Requirements for Well Posed and Stable Multi-physics Problems, Proceedings of the VI International Conference on Coupled Problems in Science and Engineering San Servolo, Venice, Italy May 18 - 20, 2015
59. M. Wahlsten and J. Nordström, An investigation of uncertainty due to stochastically varying geometry: An initial study, UNCECOMP 2015 - 1st ECCOMAS Thematic Conference on Uncertainty Quantification in Computational Sciences and Engineering, pp. 898-907, Creta Maris Conference Centre Hersonissos, Crete; United Kingdom; 25 May 20
58. J. Nordström, Well Posed Problems and Boundary Conditions in Computational Fluid Dynamics (Invited), AIAA Paper No. 2015-3197, 22nd AIAA Computational Fluid Dynamics Conference, Dallas, Texas, USA, June 22-26, 2015.
57. S. Nikkar and J. Nordström, Energy Stable High Order Finite Difference Methods for Hyperbolic Equations in Moving Coordinate Systems, AIAA Paper No. 2013-2579, 21st AIAA Computational Fluid Dynamics Conference, San Diego, CA, June 24-27, 2013.

56. T. Lundquist and J. Nordström, The SBP-SAT Technique for Time-Discretization, AIAA Paper No. 2013-2834, 21st AIAA Computational Fluid Dynamics Conference, San Diego, CA, June 24-27, 2013.
55. P. Eliasson and J. Nordström, The Influence of Viscous Operator and Wall Boundary Conditions on the Accuracy of the Navier-Stokes Equations, AIAA Paper No. 2013-2956, 21st AIAA Computational Fluid Dynamics Conference, San Diego, CA, June 24-27, 2013.
54. H. Frenander and J. Nordström, Increasing the convergence rate to steady-state by using multiple penalty terms applied in a domain, AIAA Paper No. 2013-2957, 21st AIAA Computational Fluid Dynamics Conference, San Diego, CA, June 24-27, 2013.
53. J. Berg and J. Nordström, Duality based boundary treatment for the Euler and Navier-Stokes equations, AIAA Paper No. 2013-2956, 21st AIAA Computational Fluid Dynamics Conference, San Diego, CA, June 24-27, 2013.
52. S. Eriksson and J. Nordström, Well-posedness and Stability of Exact Non-reflecting Boundary Conditions, AIAA Paper No. 2013-2960, 21st AIAA Computational Fluid Dynamics Conference, San Diego, CA, June 24-27, 2013.
51. O. O'Reilly, E. M. Dunham, J. E. Kozdon, and J. Nordström, Earthquake Rupture dynamics in complex geometries using coupled high-order finite difference methods and finite volume methods, 2012 AGU Fall Meeting, 3-7 December 2012, at the Moscone Convention Center, San Francisco, California, USA, 2012.
50. J. Berg and J. Nordström, A stable and dual consistent boundary treatment using finite differences on summation-by-parts form. In Proc. ECCOMAS Congress 2012, p 14, Tech. Univ. Wien, Austria, 2012.
49. O. O'Reilly, E. M. Dunham, J. E. Kozdon, and J. Nordström, Earthquake Rupture Dynamics in Complex Geometries using Coupled Summation-By-Parts High-order Finite Difference Methods and Node-Centered Finite Volume Methods, SCEC Annual Meeting – Palm Springs, California, USA, 2012.

48. O. Oreilly, J.E. Kozdon and E.M. Dunham and J. Nordström, Coupled High-Order Finite Difference and Unstructured Finite Volume Methods for Earthquake Rupture Dynamics in Complex Geometries, SIAM Conference on Mathematical & Computational issues in the Geosciences March 21-24 Hilton Long Beach & Executive Meeting Center, Long Beach, California, USA, 2011.
47. O. Oreilly, J.E. Kozdon and E.M. Dunham and J. Nordström, High-Order Finite Difference Methods for Earthquake Rupture Dynamics in Complex Geometries, 2010 AGU Fall Meeting, San Francisco, USA, 2010.
46. P. Pettersson, Q. Abbas, G. Iaccarino, and J. Nordström, Efficiency of shock capturing schemes for Burgers' equation with boundary uncertainty, Numerical Mathematics and Advanced Applications, pp 737-745, Springer-Verlag, Berlin, 2010.
45. J. Lindström and J. Nordström, A stable and high order interface procedure for conjugate heat transfer problems, Numerical Mathematics and Advanced Applications, pp 599-607, Springer-Verlag, Berlin, 2010.
44. Q. Abbas, E. van der Weide and J. Nordström, Energy stability of the MUSCL scheme, Numerical Mathematics and Advanced Applications, pp 61-68, Springer-Verlag, Berlin, 2010.
43. J.E. Kozdon and E.M. Dunham and J. Nordström, Accurate and Stable Treatment of Nonlinear Fault Boundary Conditions with Higher-Order Finite Difference Methods, Annual meeting of the Seismological Society of America, Portland Oregon, 2010.
42. J. Lindström and J. Nordström, Stable and High Order Accurate Heat Transfer, Seventh South African Conference on Computational and Applied Mechanics SACAM10, Pretoria, 10-13 January 2010.
41. S. Eriksson, Q. Abbas and J. Nordström, A stable and conservative method of locally adapting the design order of finite difference schemes, Seventh South African Conference on Computational and Applied Mechanics SACAM10, Pretoria, 10-13 January 2010.
40. P. Pettersson, Q. Abbas, G. Iaccarino and J. Nordström, Efficiency of shock capturing schemes for Burgers equation with

- boundary uncertainty, Seventh South African Conference on Computational and Applied Mechanics SACAM10, Pretoria, 10-13 January 2010.
39. C. Law, Q. Abbas, J. Nordström and B.W. Skews, The effect of Reynolds number in high order accurate calculation with shock diffraction, Seventh South African Conference on Computational and Applied Mechanics SACAM10, Pretoria, 10-13 January 2010.
 38. Q. Abbas, E. van der Weide and J. Nordström, Energy stability of the MUSCL scheme, Seventh South African Conference on Computational and Applied Mechanics SACAM10, Pretoria, 10-13 January 2010.
 37. G. Efraimsson, N. Forsberg and J. Nordström, Simulations of Acoustic Waves in a Turbo-Fan Engine Air Intake, AIAA Paper No. 2010-3999, 16th AIAA/CEAS Aeroacoustics Conference, 7-9 June, Stockholm, Sweden, 2010.
 36. G. Iaccarino, P. Pettersson, J. Nordström and J. Witteveen, Numerical Methods for Uncertainty Propagation in High Speed Flows, V European Conference on Computational Fluid Dynamics ECCOMAS CFD, J. C. F. Pereira and A. Sequeira (Eds) Lisbon, Portugal, 14-17 June 2010.
 35. P. Eliasson, P. Weinerfelt and J. Nordström, Application of a Line-Implicit Scheme on Stretched Unstructured Grids, AIAA Paper No. 2009-163, 47th AIAA Aerospace Sciences Meeting, Jan. 5-8 2009, Orlando, Florida, USA, 2009.
 34. P. Pettersson, G. Iaccarino and J. Nordström, Boundary Procedures for the Stochastic Burgers' Equation, AIAA Paper No. 2009-3550, 19th AIAA Computational Fluid Dynamics, 22-25 June 2009, San Antonio, USA, 2009.
 33. P. Eliasson, S. Eriksson and J. Nordström, The Influence of Weak and Strong Solid Wall Boundary Conditions on the Convergence to Steady-State of the Navier-Stokes Equations, AIAA Paper No. 2009-3551, 19th AIAA Computational Fluid Dynamics, 22-25 June 2009, San Antonio, USA, 2009.
 32. S. Eriksson and J. Nordström, Analysis of Mesh and Boundary Effects on the Accuracy of Node-Centered Finite Volume Schemes,

- AIAA Paper No. 2009-3651, 19th AIAA Computational Fluid Dynamics, 22-25 June 2009, San Antonio, USA, 2009.
31. Q. Abbas, E. van der Weide and J. Nordström, Accurate and Stable Calculations Involving Shocks Using a New Hybrid Scheme, AIAA Paper No. 2009-3985, 19th AIAA Computational Fluid Dynamics, 22-25 June 2009, San Antonio, USA, 2009.
 30. J. Lindström, J. Bejhed, and J. Nordström, Measurements and Numerical Modeling of Orifice Flow in Micro-channels, AIAA Paper No. 2009-4098, the 41st AIAA Thermophysics Conference, 22-25 June 2009, San Antonio, USA, 2009.
 29. J.E. Kozdon and E.M. Dunham and J. Nordström, High-Order Treatment of Fault Boundary Conditions Using Summation-By-Parts Finite Difference Methods, Proceedings and Abstracts SCEC Annual Meeting, Vol.XIX, pp. 307-308, Palm Springs, California, USA, 2009.
 28. J.E. Kozdon and E.M. Dunham and J. Nordström, High-Order Treatment of Fault Boundary Conditions Using Summation-By-Parts Finite Difference Methods, 2009 AGU Fall Meeting, San Francisco, USA, 2009.
 27. Q. Abbas and J. Nordström, Weak Versus Strong No-slip Boundary Conditions for the Navier-Stokes Equation, Sixth South African Conference on Computational and Applied Mechanics SACAM08 Cape Town, 26-28 March 2008.
 26. S. Eriksson, C. Law, J. Gong and Jan Nordström, Shock Calculations Using a Very High Order Accurate Euler and Navier-Stokes Solver, Sixth South African Conference on Computational and Applied Mechanics SACAM08 Cape Town, 26-28 March 2008.
 25. S. Eriksson, M. Svärd and J. Nordström, Simulations of Ground Effects on Wake Vortices at Runways, Sixth South African Conference on Computational and Applied Mechanics SACAM08 Cape Town, 26-28 March 2008.
 24. P. Eliasson, J. Nordström, S. Peng & L. Tysell, Effect of Edge-based Discretization Schemes in Computations of the DLR F6 Wing-Body Configuration, AIAA Paper No. 2008-4153, the 38th

AIAA Fluid Dynamics Conference and Exhibit, 23-26 June 2008, Seattle Washington, USA, 2008.

23. K. Mattsson, M.H. Carpenter and J. Nordström, A High Order Accurate Finite Difference Method for Adaptive Grids, 5th European Conference on Computational Methods in Applied Sciences and Engineering, ECCOMAS 2008, June 30-July 5, Venice, Italy 2008.
22. L. Tysell and J. Nordström, Accuracy evaluation of the Unstructured Node-Centered Finite Volume Method in Aerodynamic Computations, the 10th ISGG Conference on Numerical Grid Generation, September 16-20, FORTH, Crete, Greece, 2007.
21. I. M. A. Gledhill, J. Baloyi, M. Maserumule, K. Forsberg, P. Eliasson and J. Nordström, Accelerating Systems: Some Remarks on Pitch Damping, 5th South African Conference on Computational and Applied Mechanics, SACAM06, Cape Town, 16-18 January, 2006.
20. G. Efrainsson, J. Gong, M. Svärd and J. Nordström, An Investigation of the Performance of a High-Order Accurate Navier-Stokes Code, European Conference on Computational Fluid Dynamics, ECCOMAS CFD 2006, paper no. 413, TU Delft, The Netherlands, 2006.
19. K. Mattson & J. Nordström, High Order Finite Difference Methods for Wave Propagation in Discontinuous Media, Waves 2005, Brown University, Providence, Rhode Island, June 20-24, 2005.
18. J. Gong, M. Svärd & J. Nordström, Artificial Dissipation for Strictly Stable Finite Volume Methods on Unstructured Meshes, WCCM Sixth World Congress on Computational Mechanics, September 5-10, 2004, Beijing, China.
17. M. Svärd & J. Nordström, Order of Accuracy for Difference Approximations of Initial-Boundary Value Problems with Second Derivatives, presented at the International Conference On Spectral and High Order Methods, (ICOSAHOM), Brown University, Rhode Island, USA 2004.
16. M. Sjögren & J. Nordström, Comparison of High Order Spectral Element and Finite Difference Methods for Electromagnetic

Wave Propagation, Paper no.494 presented at the 2003 IEEE AP-S International Symposium on Antennas and Propagation and USNC/CNC/URSI North American Radio Science Meeting, Columbus, Ohio, USA, 2003.

15. K. Mattson, M. Svärd, M. H. Carpenter & J. Nordström, Accuracy Requirements for Transient Aerodynamics, AIAA Paper No. 2003-3689, the 16th AIAA CFD Conference, Orlando Florida, USA, 2003.
14. K. Forsberg, I. Gledhill, P. Eliasson & J. Nordström, Investigations of Acceleration Effects on Missile Aerodynamics Using CFD, AIAA Paper No. 2003-4084, the 21th AIAA Applied Aerodynamics Conference, Orlando Florida, USA, 2003.
13. J. Nordström & Jing Gong, A Stable and Efficient Hybrid Method for Aeroacoustic Sound Generation and Propagation, Computational Aeroacoustics: From Acoustic Sources Modeling to Far-Field Radiated Noise Prediction, Colloquium EUROMECH 449, Paper 49, December 9-12, 2003, Chamonix, France.
12. G. Efraimsson, J. Nordström & G. Kreiss, Artificial Dissipation and Accuracy Downstream of Slightly Viscous Shocks, AIAA Paper No.2001-2608, the 15th AIAA CFD Conference, Anaheim, California, USA, 2001.
11. S. Tsynkov, S. Abarbanel, J. Nordström, V. Ryaben'kii & V. Vatsa, Global Artificial Boundary Conditions for Computation of External Flow Problems with Propulsive Jets, AIAA Paper No.99-3351, the 14th AIAA CFD Conference, Norfolk, Virginia, USA, 1999.
10. P. Eliasson, D. Wang, S. Meijer and J. Nordström Unsteady Euler Computations Through Non-Matching and Sliding-Zone Interfaces, AIAA paper 98-0371, Reno, 1998.
9. T.A. Grönland, P. Eliasson and J. Nordström, Accuracy of Transonic Flow Computations, paper no. ICAS-98-2.4.3, 21:st ICAS Congress, Sept. 13-18 1998, Melbourne, Australia.
8. A. Karlsson, B. Winzell, P. Eliasson, J. Nordström, L. Tysell, Unsteady Control Surface Pressure Measurements and Computation, AIAA-96-2417, New Orleans, 1996.

7. P. Eliasson, J. Nordström, L. Tysell, A. Karlsson, B. Winzell, Computations and Measurements of Unsteady Pressure on a Delta Wing with an Oscillating Flap, ECCOMAS, Paris, 1996.
6. J. Nordström, Accuracy of the Time-dependent Navier-Stokes Equations Using Extrapolation Procedures at Outflow Boundaries, AIAA paper 91-1605, Honolulu 1991.
5. T Berglind & J. Nordström, Flow Simulation Around a Realistic Fighter-Aircraft Configuration Including the Influence of the Hot Jet, Symposium on Advances and Applications in Computational Fluid Dynamics, Dallas 1990.
4. J. Nordström & B. Gustafsson, Boundary Conditions for the Navier-Stokes Equations at an Artificial Boundary Intersecting a Solid Boundary, Proceedings of the International Symposium on Computational Fluid Dynamics, Nagoya 1989
3. J. Nordström, Energy Absorbing Boundary Conditions for the Navier-Stokes Equations, Lecture Notes in Physics Vol. 264, Springer-Verlag Berlin 1986.
2. J. Nordström, The Use of Viscous Splitting when Solving the Navier-Stokes Equations for High Reynolds Numbers, Proceedings of the International Symposium Computational Fluid Dynamics, Tokyo 1985.
1. A. Bertelrud & J. Nordström, Experimental and Computational Investigation of the Flow in the Leading Edge Region of a Swept Wing, AIAA paper 83-1762, Danvers Massachusetts 1983.