CURRICULUM   VITAE

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PERSONAL DATA

Dual Swedish and US c[(S)-7o9__

VISITING POSITIONS

Full time resident:

      Fall   2010

19.   **High-order finite differences and the pseudospectral method on staggered grids**, *SIAM J. Num. Anal.*, 27 (1990), 904-918.

20.   **An improved pseudospectral method for initial-boundary value problems**, *Journal of Computational Physics*, 91 (1990), 381-397.

21.   **Steady incompressible flow past a row of circular cylinders**, *Journal of Fluid Mechanics*, 225 (1991), 655-671.

22.   **Discretization errors at free boundaries of the Grad-Schlüter-Shafranov equation** (R. Meyer-Spasche and B.F.), *Numerische Mathematik*, 59 (1991), 683-710.

23.   **A finite difference procedure for a class of free boundary problems** (B.F. and R. Meyer-Spasche), *Journal of Computational Physics*, 102 (1992), 72-77.

24.   **Flow past a row of flat plates at large Reynolds numbers** (R. Natarajan, B.F. and A. Acrivos),

41. **A Padé-based algorithm for overcoming Gibbs' phenomenon** (T.A. Driscoll and B.F.), *Numerical Algorithms* 26 (2001), 77-92.

42. **Interpolation in the limit of increasingly flat radial basis functions** (T.A. Driscoll and B.F.), *Computers and Mathematics with Applications*, 43 (2002), 413-422.

43. **Observations on the behavior of radial basis function approximations near boundaries** (B.F., T.A. Driscoll, G. Wright and R. Charles), *Computers and Mathematics with Applications*, 43 (2002), 473-490.

44. **A numerical study of some radial basis function based solution methods for elliptic PDEs** (E. Larsson and B.F.), *Computers and Mathematics with Applications*, 46 (2003), 891-902.

45. **A split step approach for the 3-D Maxwell's equations** (J. Lee and B.F.), *Journal of Computational and Applied Mathematics*, 158 (2003), 485-505.

46. **Accurate numerical resolution of transients in initial-boundary value problems for the heat equation** (N. Flyer and B.F.) *Journal of Computational Physics* 184 (2003), 526-539.

47. **On the nature of initial-boundary value solutions for dispersive equations** (N. Flyer and B.F.), *SIAM J. Appl. Math.*, 64 (2003), 546-564.

48. **Some unconditionally stable time stepping methods for the 3-D Maxwell's equations** (J. Lee and B.F.), *Journal of Computational and Applied Mathematics* 166 (2004), 497-523.

49. **Some observations regarding interpolants in the limit of flat radial basis functions** (B.F., G. Wright and E. Larsson), *Computers and Mathematics with Applications*, 47 (2004), 37-55.

50. **Stable computation of multiquadric interpolants for all values of the shape parameter** (B.F. and G. Wright), *Computers and Mathematics with Applications* 48 (2004), 853-867.

51. **Magnetic field confinement in the solar corona. I. Force-free magnetic fields** (N. Flyer, B.F., S. Thomas and B.C. Low), *The Astrophysical Journal* 606 (2004), 1210-1222.

52. **Theoretical and computational aspects of multivariate interpolation with increasingly flat radial basis functions** (E. Larsson and B.F.), *Computers and Mathematics with Applications* 49 (2005), 103-130.

53. **Accuracy of radial basis function interpolation and derivative approximation on 1-D infinite grids** (B.F. and N. Flyer), *Advances in Computational Mathematics* 23 (2005), 5-20.

54. **Magnetic field confinement in the solar corona. II. Field-plasma interaction** (N. Flyer, B.F., S. Thomas and B.C. Low), *The Astrophysical Journal* 631 (2005), 1239-1259.

55. **Stability of vortices in equilibrium with a cylinder** (A. Elcrat, B.F., and K. Miller), *J. Fluid. Mech.* 544 (2005), 53-68.

56. **Scattered node compact finite difference-type formulas generated from radial basis functions** (G.B. Wright and B.F), *Journal of Computational Physics* 212 (2006), 99-123.

57. **A new class of oscillatory radial basis functions** (B.F., E. Larsson and G. Wright), *Computers and Mathematics with Applications* 51 (2006), 1209-1222.

58. **A pseudospectral fictitious point method for high order initial-boundary value problems**, *SIAM J. Sci. Comp.* 28 (2006), 1716-1729.

59. **Stability and accuracy of time-extrapolated ADI-FDTD methods for solving wave equations** (B.F., J. Zuev, and J. Lee), *Journal of Computational and Applied Mathematics* 200 (2007), 178-192.

60. **The Runge phenomenon and spatially variable shape parameters in RBF interpolation** (B.F. and J. Zuev), *Computers and Mathematics with Applications* 54 (2007), 379-398.

61. **A stable algorithm for flat radial basis functions on a sphere** (B.F. and C. Piret), *SIAM J. Sci. Comp.* 30 (2007), 60-80.

62.   **Locality properties of radial basis function expansion coefficients for equispaced interpolation**   (B.F., N. Flyer, S. Hovde and C. Piret), *IMA Journal of Numerical Analy0 rg   0.na*

83.   **Some observations regarding steady laminar flows past bluff bodies** (B.F. and A.R. Elcrat), *Phil. Trans. R. Soc. A.* 372: 20130353, (2014), http://dx.doi.org/10.1098/rsta.2013.0353

84.   **Painlevé IV: A numerical study of the fundamental domain and beyond** (J.A. Reeger and B.F.), *Physica D.* 280-281 (2014), 1-13.

85.   **Fast generation of 2-D node distributions for mesh-free PDE discretizations** (B.F. and N. Flyer), *Comp. Math. Applic.* 69 (2015), 531-544.

86.   **Solving PDEs with radial basis functions** (B.F. and N. Flyer), *Acta Numerica*, 24 (2015), 215-258.

87.   **Seismic modeling with radial-basis-function-generated finite differences** (B. Martin, B.F. and A. St-Cyr), *Geophysic*s. 80, No. 4 (2015), T137-T146.

88.   **Stability ordinates of Adams predictor-corrector methods** (M. Ghrist, B.F. and J. Reeger), *BIT*, 55 (2015), 733-750.

89.   **A computational overview of the solution space of the imaginary Painlevé II equation** (B.F. and J.A.C. Weideman) , *Physica D.* 309 (2015), 108-118.

90.   **Numerical quadrature over the surface of a sphere** (J.A. Reeger and B.F.), *Studies in Applied Math.* 137 (2015), 174-188.

91.   **On the role of polynomials in RBF-FD approximations: I. Interpolation and accuracy** (N. Flyer, B.F., V. Bayona and G.0 0 0 rg   0u.

105.   **On the role of polynomials in RBF-**

5.   **Numerical computation of nonlinear waves**, In Nonlinear Phenomena in Physics and Biology, Plenum Publishing Corporation (1981), 157-184.

6.   **Steady viscous flow past a circular cylinder**, Cyber 200 Applications seminar, NASA Conference Publication 2295 (1984), 199-224.

7.   **The pseudospectral method: Comparisons with finite differences for the elastic wave equation**, Expanded Abstracts, 56th Annual International SEG Meeting, Houston (1986), 631-632.

8.   **Steady viscous flow past a circular cylinder**, In Numerical methods for fluid dynamics II, Ed. K.W. Morton, M.J.Baines, Clarendon Press, Oxford (1986), 489-497.

9.   **Steady viscous flow past a cylinder and a sphere at high Reynolds numbers**, In Boundary-