

Publications of Gunilla Kreiss

Publications in archival journals with referee procedure

1. Kreiss G, Kreiss H-O, *Convergence to steady state of Solutions of Burgers' Equation*, Appl Num Math 2,(1986)
2. Kreiss G, *Convergence to steady state of solutions of the Euler Equations*, BIT 28, (1988). (Awarded the BIT prize)
3. Kreiss G, *Asymptotic Expansions for Hyperbolic-Parabolic Systems with a Small Parameter*, Math Meth Appl Sc, 13, (1990)
4. Kreiss G, *The Dependence on the Outflow Boundary Condition of the Solution of the Steady, Incompressible Euler Equations*, SIAM J Num Anal, Vol 25,no 5, (1991)
5. Kreiss, Lundbladh, Henningson,(1994), *Bounds for threshold amplitudes in sub critical shear flows*, J Fluid Mech, vol 270, 1994,
6. Kreiss G, Kreiss H-O, Petersson A, *On the convergence to steady state of solutions of nonlinear hyperbolic-parabolic systems*, SIAM J Num Anal, vol 31, no 6, 1994
7. Efraimsson & Kreiss , *A note on the effect of artificial viscosity on solutions of conservation laws*, J Appl Num Math, vol 21, 1996.
8. Kreiss G, Kreiss H-O,*Stability of systems of viscous conservation laws*, Comm Pure Appl Math 51 (1998), no 11-12, 1397–1424.
9. Kreiss G, Kreiss H-O, *Stability of steady solutions of Burgers's equation*, SIAM J Num Anal 35 (1998), no 6, 2329–2349
10. Efraimsson G, Kreiss G, *A remark on numerical errors downstream of slightly viscous shocks*, SIAM J. Numer. Anal. 36 (1999), no. 3, 853–863.
11. Kreiss G, Kreiss H-O, Lorenz J, *On stability of conservation laws*, SIAM J. Math. Anal. 30 (1999), no. 2, 401–430
12. Efraimsson G, Kreiss G, Nordström J, *Elimination of first order errors in shock calculations*, SIAM J Num Anal, 38, no 6,1986-1998, (2001)

13. Liefvendahl M, Kreiss G, *Stability of Viscous Shock Waves for problems with non-symmetric Viscosity Matrices*, SIAM J Math Anal, 33, no 4, (2001)
14. Liefvendahl M, Kreiss G, *Bounds of the Threshold Amplitude for plane Couette Flow*, J nonlinear Math Phys, vol 9, no 3, 2002.
15. Liefvendahl M, Kreiss G, *Analytical and Numerical Investigation of the resolvent for plane Couette Flow*, SIAM J Appl Math, vol 63, no3,2003
16. Siklosi M, Kreiss G, *Elimination of first order Errors in time Dependent Shock Calculations*, SIAM J Num Anal, vol 41, no 6, 2003
17. Kreiss G, Efraimsson G., *Approximate solutions of Slightly Viscous Conservation Laws*, Quart. Appl. Math, vol 62, no 1, 2004
18. Olsson E, Kreiss G, *A Conservative Level Set method for Two Phase Flow*, J Comp Phy, vol 210(1), p225-246, 2005
19. Åsen P-O, Kreiss G, *A Rigorous Resolvent Estimate for Plane Couette Flow*, J Math. Fluid Mech., accepted, 2005,
20. Appelö D, Kreiss G, *A New Absorbing layer for Elastic Waves*, J. Comp. Phy, vol 215(2),p642-660, 2006.
21. Appelö D, Hagstrom T, Kreiss G. *Perfectly Matched Layers for Hyperbolic Systems: General formulation, Well-posedness and Stability*, SIAM J. App. Math., accepted, 2006.
22. M. Siklosi, B. Begzsuren, G. Kreiss. *Investigation of the Internal Structure of Shock Profiles for Shock Capturing Schemes*. J. Comp. Appl. Math. 2006, accepted.
23. Åsen P-O., Kreiss G., *Resolvent bounds for pipe Poiseuille flow*, J Fluid Mech, 568, pp. 451–471, 2006. .

Refereed conference proceedings

24. Kreiss G, *Convergence to Steady State of Viscous Conservation Laws*, in Lecture notes in pure and applied math vol 130: Asymptotic analysis and numerical solutions of PDEs national lab, 1990, Eds Kaper & Garbey, Dekker

25. Kreiss G, *Convergence to Steady State of Viscous Conservation Laws*, in Notes on Numerical Fluid Dynamics: Proceedings of the fourth International Conference on Hyperbolic Problems in Taormina 1992, Eds Donato & Oliveri, Vieweg
26. Efrainsson G, Kreiss G, *Numerical Errors Downstream of Slightly Viscous Shocks*, in Hyperbolic Problems: theory, numerics, applications, ISNM Vol 130, eds Fey & Jeltsch, Birkhauser-Verlag, Basel, p263, 1999
27. Kreiss G, Siklosi M, *Proving Existence of Solutions of Nonlinear Equations Using Numerical Approximations*, Hyperbolic problems, eighth international conference in Magdeburg, ed Freistüler and Warnecke, Birkhäuser, 2000.
28. Liefvendahl M, Kreiss G, *Examples of unstable Shock Waves*, Hyperbolic problems, eighth international conference in Magdeburg, ed Freistüler and Warnecke, Birkhäuser, 2000.
29. Efrainsson, Nordström, Kreiss, *Artificial Dissipation and Accuracy Downstream of Slightly Viscous Shocks*, 15th AIAA CFD Conference, paper 2001-2608, 2001.
30. D Appelö, G Kreiss, *Evaluation of the well-posed Perfectly Matched Layer for Advective Acoustics*, accepted in proceedings of 9th international conference on Hyperbolic problems in Pasadena 2002,
31. M Kupianen, G Kreiss, *Effects of Viscosity on a Shock Wave Solution of the Euler Equations*, accepted in proceedings of 9th international conference on Hyperbolic problems in Pasadena 2002,
32. D Appelö, G Kreiss, *Discretely Nonreflecting Boundary Conditions for Higher order Centered Schemes for Wave equations*, In Heikkola, Neittaanmäki, Cohen, Joly ed, *Mathematical and Numerical Aspects of Wave Propagation, Proceedings Waves2003*, Springer, 2003
33. G Kreiss, H Kreiss, *A Half Plane Problem related to the Stability of Viscous Shock Waves*, In Heikkola, Neittaanmäki, Cohen, Joly ed, *Mathematical and Numerical Aspects of Wave Propagation, Proceedings Waves2003*, Springer, 2003

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35. Henningson, D.S. & Kreiss, G. 2005 Threshold amplitudes in subcritical shear flows. Nonlinear stability bounds. *Proceedings of the IUTAM Symposium Non-Uniqueness of Solutions to the Navier-Stokes Equations and their Connection with Laminar-Turbulent Transition, Bristol, August 2004*
36. G Kreiss, H-O Kreiss, J Lorenz, *Stability of Viscous shocks on finite intervals*, proceedings of 10th international conference on Hyperbolic problems, Osaka, September 2004,

3.3.3 Other publications

29. Johansson, Kreiss, Siklosi, Liefvendahl, Nordström, *Stable and accurate Boundary Conditions for Aerodynamic and Aeroacoustic Calculations* TRITA-NA-0015,
30. Kupianen, Kreiss, *Stability investigation of a shock wave solution of the Euler equations*, TRITA-NA-0124, (2001)
31. Appelö D, Kreiss G, Stabilized local Non-reflecting Boundary Conditions for high order methods, TRITA-NA-0325, (2003)
32. Åsen P-O, Kreiss G, *A Rigorous Resolvent Estimate for Plane Couette Flow*, TRITA- NA-0330, submitted, (2003)
33. Olsson, Kreiss, A Conservative Level Set Method with Artificial Compression for Two Phase Flow, TRITA-NA-0418, submitted, (2004)
34. Kreiss G, Kreiss H-O, Lorenz J, *Stability of Viscous Shock profiles: Resolvent Estimates*, TRITA-NA-0421, (2004)
35. Kreiss G, Kreiss H-O, Lorenz J, *Stability of Viscous Shocks on Finite Intervalls*, TRITA-NA-0422, (2004)