

## PUBLICATION LIST

### Journal & Proceedings papers

1. Myers T.G. & Charpin J.P.F. *A mathematical model of the Leidenfrost effect on an axisymmetric droplet*. Submitted to **Phys. Fluids** Sept. 2008.
2. Myers T.G. *Optimal exponent heat balance and refined integral methods applied to Stefan problems*. Submitted to **Int. J. Heat & Mass Trans.** Sept. 2008.
3. Mitchell S.L. & Myers T.G. *The application of standard and refined heat balance integral methods to one-dimensional Stefan problems*. Submitted to **SIAM Review** August 2008.
4. Myers T.G. *Optimizing the exponent in the Heat Balance and Refined Integral Methods*. Submitted to **Int. Comm. Heat & Mass Trans.** July 2008.
5. Myers T.G. & Mitchell S.L. *Application of the Heat Balance and Refined Integral Methods to the Korteweg-de Vries equation*. To appear **Thermal Science** Vol. 2, 2009.
6. Myers T.G., Fowkes N.D. & Ballim Y. *Modelling the cooling of concrete by piped water*. Submitted to **J. Engineering Mech.** Feb. 2008.
7. Myers T.G., Mitchell S.L. & Muchatibaya G. *Unsteady contact melting of a rectangular cross-section material on a flat plate*. To appear **Phys. Fluids**, October 2008.
8. Myers T.G., Charpin J.P.F. *Modelling the temperature, maturity and moisture content in a drying concrete block*. To appear **Mathematics in Industry Case Studies, MICS Journal**.
9. Mitchell S.L. & Myers T.G. *A heat balance integral method for one-dimensional ablation of a finite block*. **J. Thermophys. & Heat Trans.** 22(3): 508 – 514, Jul.-Sept. 2008.
10. Ha Y-S. , Kim Y-J. & Myers T.G. *A comparison of numerical schemes for convection on a fourth-order diffusion equation*. **J. Comp. Phys.**, 227: 7246 – 7263 doi:10.1016/j.jcp.2008.04.007, 2008.
11. Mitchell S.L. & Myers T.G. *Approximate solution methods for one-dimensional solidification from an incoming fluid*. **Appl. Maths & Comp.**, 202(1): 311 – 326, 2008. doi:10.1016/j.amc.2008.02.031, 2008.
12. Myers T.G., Mitchell S.L., Muchatibaya G. & Myers M.Y. *A cubic heat balance integral method for one-dimensional melting of a finite thickness layer*. **Int. J. Heat & Mass Trans.** 50(25-26), 5305 – 5317, 2007. doi: <http://dx.doi.org/10.1016/j.ijheatmasstransfer.2007.06.014>.
13. Charpin J.P.F., Lombe M., Myers T.G. *Spin coating of non-Newtonian fluids with a moving front*. **Phys Rev E**76, DOI: 10.1103/PhysRevE.76.016312, 2007.
14. Brakel T., Charpin J.P.F. & Myers T.G. *One dimensional ice accretion on a conducting substrate*, **Int. J. Heat & Mass Trans**, 50: 1694 – 1705, May 2007.
15. Charpin J.P.F., Myers T.G., Lombe M., de Hill P. *Transportation of water based slurry in an open furrow, launder or steam*. **J. S.A. Inst. Mining & Metallurgy** 107, Feb. 2007.
16. Balmforth N., Ghadge S. & Myers T.G. *Surface tension driven fingering of a viscoplastic film*. **J. non-Newtonian Fluid Mech.**, 142: 143 – 149, paper no. JNNFM-D-06-00043, March 2007.
17. Myers T.G. & Lombe M. *The importance of the Coriolis force on axisymmetric horizontal rotating thin film flows*. **Chem. Engng & Procng.** 45: 90-98, 2006.
18. Myers T.G., Charpin J.P.F. & Tshahla M. S. *The flow of a variable viscosity fluid between parallel plates with shear heating*. **Applied Math. Modelling**, 30: 799-815. 2006.
19. Momoniat E. & Myers T.G. *A new solution for the rotation driven spreading of a thin fluid film*. **Int. J. Nonlinear Mech.** 41 (2): 192-199, 2006.
20. Lewis G., Frigaard I., Huang H., Myers T., Westbrook R., Carrasco-Teja M. *Simple Models for an Injection Molding System*. **Canadian Appl. Math. Q.** 12(4): 491, Winter 2004 (Published 2006).

21. Jeffreys M., Fowkes N. & Myers T. *Determining the source of moisture variation in produced paper.* **Proc. 2nd South African Mathematics in Industry Study Group**, Univ. of the Witwatersrand, Jan 2005.
22. Myers T.G., Charpin J.P.F. *Analysis of lubricant behaviour and roll deformation during cold rolling of steel.* **Proc. 2nd South African Mathematics in Industry Study Group**, Univ. of the Witwatersrand, Jan 2005.
23. Myers T.G. *The application of non-Newtonian models to thin film flow.* **Physical Rev. E**, 72: 066302-1-11, 2005.
24. Charpin J.P.F. & Myers T.G. *Modelling thin film flow with erosion, deposition and incoming rain.* **Advances in Water Resources**, 28: 761-772, 2005.
25. Momoniat E., Myers T.G. & Abelman S. *New solutions for surface tension driven spreading of a thin film.* **Int. J. Nonlinear Mech.**, 40: 523-529, May 2005.
26. Myers T.G. & Charpin J.P.F. *A mathematical model for atmospheric ice accretion and water flow on a cold surface.* **Int. J. Heat & Mass Trans.** 47: 5483-5500, Dec. 2004.
27. Myers T.G., Liang H.X. & Wetton B. *The stability and flow of a rivulet driven by interfacial shear and gravity.* **Int. J. Nonlinear Mech.**, 39(8) pp1239-1249, 2004.
28. Charpin J.P.F., Myers T.G., Lombe M. & de Hill P. *Transportation of a water based slurry in an open furrow, launder or stream.* **Proc. 1st South African Mathematics in Industry Study Group**, Univ. of the Witwatersrand, Jan 2004.
29. Fitt A.D., Fowkes N.D., Mason D.P., Myers T.G., Moss E.A. & Cheng J. *Fracturing rock with ultra high pressure water.* **Proc. 1st South African Mathematics in Industry Study Group**, Univ. of the Witwatersrand, Jan 2004.
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31. Charpin J.P.F., Myers T.G., Fitt A.D., Fowkes N., Ballim Y. & Patini A. *Piped water cooling of concrete dams.* **Proc. 1st South African Mathematics in Industry Study Group**, Univ. of the Witwatersrand, Jan 2004.
32. Myers T.G. *Unsteady laminar flow over a rough surface.* **J. Engng Math.** 46 (2): 111-126, June 2003.
33. Momoniat E. & Myers T.G. *Approximate Solutions for the Spreading of a Thin Liquid Droplet on a Horizontal Rotating Disk.* **Proc. 6th Engineering Math. and Applies Conference**, Univ. Tech. Sydney, Australia, 9-11 July, 2003, pp159-162 Eds: R.L. May and W.F. Blyth.
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35. Myers T.G. *Modelling laminar sheet flow over rough surfaces.* **Water Resources Research** 38(11), 1230 (12 pages), doi:10.1029/2000WR000154, 2002.
36. Myers T.G., Charpin J.P.F. & Thompson C.P. *Slowly accreting glaze ice due to supercooled droplets impacting on a cold substrate.* **Physics of Fluids** 14(1) pp240-256 2002.
37. Myers T.G. *Variable viscosity squeeze films in the manufacture of panel material.* **Int. J. Nonlinear Mech.** 38(1) pp39-49 2002.
38. Bouhennache et al *Modelling InSb Czochralski Growth* **Proc. 6th PIMS Industrial Problem Solving Workshop**, U. Washington, USA 2001.
39. Myers T.G. *An extension to the Messinger model for aircraft icing.* **AIAA J.** 39(2) pp211-218, 2001.
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46. Myers T.G. & Hammond D.W. *Ice and water film growth from incoming supercooled water droplets*. **Int. J. Heat Mass Trans.** 42 pp2233-2242 1999.
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48. Myers T.G. & Thompson C.P. *Modelling the flow of water on aircraft in icing conditions*. **AIAA J.** 36(6) pp1010-1013 1998.
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58. Hill J.M. & Myers T.G. *The combined shear and compression of a rectangular rubber block*. **Z. angew. Math. Phys.**, 43, pp911-923, 1992.
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## INDUSTRIAL REPORTS

1. Hanich L., Myers T.G. & Thompson C.P. *Transient three-phase flow modelling: Five layer formulation*. Confidential report, Transient Multi-phase flow project, TMF1: Project 5 2000.

2. Myers T.G. & Charpin J.P.F. *Investigation of ice growth on a rotating substrate*, confidential report for GKN-Westland Helicopters, Dec. 1999.
3. Charpin J.P.F. & Myers T.G. *A FLUENT-ICECREMO interface*, confidential report for GKN-Westland Helicopters, Sept. 1999.
4. Bradean R. , Huang H., Myers T.G., Promislow K., Wetton B.& Witelski T. *Droplet migration and condensation in Teflonated porous media*, confidential report for MITACS-MMSC Workshop, Simon Fraser University/U.B.C. May 1999 (with members of SFU/UBC Maths Depts.).
5. Myers T.G. *Combined ice growth and water flow*, confidential report for ICECREMO Consortium (British Aerospace, Rolls Royce, Westland Helicopters, DERA), to develop a 3-D aircraft ice accretion code, version 1 May 1998, v.2 August 1998, v.3 Oct. 1999.
6. \_\_\_\_\_ *Water droplet transport through a turbofan*, confidential report for Rolls-Royce Aug. 1998.
7. \_\_\_\_\_ *Ice growth model*, confidential report for ICECREMO Consortium, version 1 June 1997, version 2 Jan 1998.
8. \_\_\_\_\_ *Water film model*, confidential report for ICECREMO Consortium, Jan. 1997.
9. Myers T.G. & various members of OCIAM *Coating Stability*. Rexam Custom, Jan. 1996.
10. \_\_\_\_\_ *Die Coating*. Rexam Custom, Oct. 1995.
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