

References

- [1] S A Sharifian and D R Buttsworth, “Evaluation of glued-diaphragm fibre optic pressure sensors in a shock tube”, *Shock Waves*, vol. 16, no. 3, pp. 189–197, 2007.
- [2] T F Yusaf and D R Buttsworth, “Characterisation of mixing rate due to high power ultrasound”, *Ultrasonics Sonochemistry*, vol. 14, pp. 266–274, 2007.
- [3] R J Goozée, P A Jacobs, and D R Buttsworth, “Simulation of a complete reflected shock tunnel showing a vortex mechanism for flow contamination”, *Shock Waves*, vol. 15, pp. 165–176, 2006.
- [4] D R Buttsworth, R Stevens, and C R Stone, “Eroding ribbon thermocouples: Impulse response and transient heat flux analysis”, *Measurement Science and Technology*, vol. 16, pp. 1487–1494, 2005.
- [5] D R Buttsworth and T V Jones, “Transient temperature probe measurements in a Mach 4 nitrogen jet”, *Experiments in Fluids*, vol. 37, pp. 137–145, 2004.
- [6] T F Yusaf, M T A Al-Atabi, and D R Buttsworth, “Small scale power generation using a dual fuel system”, *International Energy Journal*, vol. 4, no. 2, pp. 129–148, 2003.
- [7] D R Buttsworth and T V Jones, “Concentration probe measurements in a Mach 4 nonreacting hydrogen jet”, *Journal of Fluids Engineering*, vol. 125, pp. 628–636, 2003.
- [8] D R Buttsworth and T V Jones, “High bandwidth stagnation temperature measurements in a Mach 6 gun tunnel flow”, *Experimental Thermal and Fluid Science*, vol. 27, pp. 177–186, 2003.
- [9] J M Kilpatrick, W N MacPherson, J S Barton, J D C Jones, D R Buttsworth, T V Jones, K S Chana, and S J Anderson, “Measurement of unsteady gas temperature with optical fibre Fabry-Perot microsensors”, *Measurement Science and Technology*, vol. 13, pp. 706–712, 2002.
- [10] D R Buttsworth, “Transient response of an erodable heat flux gauge using finite element analysis”, *Proceedings of the Institution of Mechanical Engineers Part D (Journal of Automobile Engineering)*, vol. 216, pp. 701–706, 2002.
- [11] D R Buttsworth, “Heat transfer during free piston compression: Measurements and simulations”, *Shock Waves*, vol. 12, pp. 87–91, 2002.
- [12] D R Buttsworth, P A Jacobs, and T V Jones, “Simulation of Oxford University Gun Tunnel performance using a quasi-one-dimensional model”, *Shock Waves*, vol. 11, pp. 377–383, 2002.
- [13] D R Buttsworth, “Assessment of effective thermal product of surface junction thermocouples on millisecond and microsecond time scales”, *Experimental Thermal and Fluid Science*, vol. 25, no. 6, pp. 409–420, 2001.
- [14] D R Buttsworth, S J Elston, and T V Jones, “Skin friction measurements on reflective surfaces using nematic liquid crystal”, *Experiments in Fluids*, vol. 28, no. 1, pp. 64–73, 2000.
- [15] D R Buttsworth, S J Elston, and T V Jones, “Directional sensitivity of skin friction measurements using nematic liquid crystal”, *Measurement Science and Technology*, vol. 9, no. 11, pp. 1856–1865, 1998.
- [16] D R Buttsworth, S J Elston, and T V Jones, “Direct surface shear stress measurement using a nematic liquid crystal technique”, *Journal of Turbomachinery*, vol. 120, no. 4, pp. 847–853, 1998.
- [17] D R Buttsworth, T V Jones, and K S Chana, “Unsteady total temperature measurements downstream of a high pressure turbine”, *Journal of Turbomachinery*, vol. 120, no. 4, pp. 760–767, 1998.
- [18] D R Buttsworth and T V Jones, “A fast-response total temperature probe for unsteady compressible flows”, *Journal of Engineering for Gas Turbines and Power*, vol. 120, no. 4, pp. 694–702, 1998.
- [19] D R Buttsworth and T V Jones, “A fast-response high spatial resolution total temperature probe using a pulsed heating technique”, *Journal of Turbomachinery*, vol. 120, no. 3, pp. 601–607, 1998.

- [20] D R Buttsworth, R G Morgan, and T V Jones, “Experiments on oblique shock interactions with planar mixing regions”, *AIAA Journal*, vol. 35, no. 11, pp. 1774–1777, 1997.
- [21] D R Buttsworth and T V Jones, “Radial conduction effects in transient heat transfer experiments”, *Aeronautical Journal*, vol. 101, no. 1005, pp. 209–212, 1997.
- [22] D R Buttsworth and R G Morgan, “Shock tunnel investigation of hypervelocity free shear layers in a planar duct”, *Journal of Propulsion and Power*, vol. 12, no. 5, pp. 998–1001, 1996.
- [23] D R Buttsworth, “Interactions of oblique shock waves and planar mixing regions”, *Journal of Fluid Mechanics*, vol. 306, pp. 43–57, 1996.
- [24] D R Buttsworth, R G Morgan, and T V Jones, “A gun tunnel investigation of hypersonic free shear layers in a planar duct”, *Journal of Fluid Mechanics*, vol. 299, pp. 133–152, 1995.
- [25] D R Buttsworth, R G Morgan, and R J Stalker, “Shock tunnel testing of a parametric scramjet engine”, *Transactions of the IEAust, Multi-Discip. Eng.*, vol. GE16, pp. 143–148, 1992.
- [26] R J Gollan, C M Jacobs, P A Jacobs, R G Morgan, T J McIntyre, M N Macrossan, D R Buttsworth, T N Eichmann, and D F Potter, “A simulation technique for radiating shock tube flows”, in *Proceedings of the 26th International Symposium on Shock Waves*, Klaus Hannemann and Friedrich Seiler, Eds., Gottingen, Germany, July 2007, pp. 465–470, Springer, 2009.
- [27] A L Ahfock, D R Buttsworth, M W Phythian, and A Maxwell, “Infrastructure for remotely accessible laboratories at the university of southern queensland”, in *AaeE 2008: 19th Annual Conference for the Australasian Association for Engineering Education*, L Mann, A Thompson, and P Howard, Eds., Yeppoon, Queensland, Australia, 7 – 10 December 2008, Faculty of Sciences, Engineering & Health, CQUniversity Australia.
- [28] D R Buttsworth, R Malpress, and M Phythian, “Hardware-based engineering problem solving for on-campus and external teams”, in *AaeE 2008: 19th Annual Conference for the Australasian Association for Engineering Education*, L Mann, A Thompson, and P Howard, Eds., Yeppoon, Queensland, Australia, 7 – 10 December 2008, Faculty of Sciences, Engineering & Health, CQUniversity Australia.
- [29] D R Buttsworth and D B T Sercombe, “Cranz-schardin visualisation of a hypersonic cone with gas injection”, in *ICHSIP28: Proceedings of the 28th International Congress on High Speed Imaging and Photonics*, H Kleine and M P B Guillen, Eds., UNSW@ADFA, Canberra, Australia, 9 – 14 November 2008, vol. 7126, pp. 71260G1–G8, SPIE.
- [30] A Golshani, T Tran-Cong, and D R Buttsworth, “Impact on a water filled cylinder”, in *Proceedings of the Asian conference on Mechanics of Functional Materials and Structures*, F Ashida and S-I Sakata, Eds., Matsue, Japan, 31 October – 3 November 2008, pp. 53–56, Shimane University.
- [31] A Sharifian and D R Buttsworth, “Direct radiation from wildfires through square woven screens”, in *ASME 2008 Summer Heat Transfer Conference*, Jacksonville, Florida USA, 10 – 14 August 2008, ASME Paper 2008-56270, pp. 53–56, ASME.
- [32] C Davison, J D MacLeod, J W Strapp, and D R Buttsworth, “Isokinetic total water content probe in a naturally aspirating configuration: Initial aerodynamic design and testing”, in *46th AIAA Aerospace Sciences Meeting and Exhibit*, Reno, Nevada, 7 – 10 January 2008, AIAA Paper 2008-435.
- [33] R Malpress and D R Buttsworth, “A new internal combustion engine configuration: opposed pistons with crank offset”, in *16th Australasian Fluid Mechanics Conference*, P A Jacobs et al., Eds., Gold Coast, Australia, 3 – 7 December 2007, pp. 1258–1265.
- [34] D R Buttsworth, C Davison, J D MacLeod, and J W Strapp, “Evaporator design for an isokinetic total water content probe in a naturally aspirating configuration”, in *16th Australasian Fluid Mechanics Conference*, P A Jacobs et al., Eds., Gold Coast, Australia, 3 – 7 December 2007, pp. 825–830.
- [35] A Sharifian and D R Buttsworth, “Computational simulation of the wind-force on metal meshes”, in *16th Australasian Fluid Mechanics Conference*, P A Jacobs et al., Eds., Gold Coast, Australia, 3 – 7 December 2007, pp. 766–770.

- [36] D R Buttsworth, R J Goozée, and P A Jacobs, “Measurement and simulation of the interface in a low-enthalpy shock tunnel”, in *14th AIAA/AHI International Space Planes and Hypersonic Systems and Technologies Conference*, Canberra, Australia, 6 – 9 November 2006, AIAA Paper 2006-8108.
- [37] R G Morgan, T J McIntyre, P A Jacobs, D R Buttsworth, M N Macrossan, R J Gollan, B R Capra, A M Brandis, D Potter, T Eichmann C M Jacobs, M McGilvray, D van Diem, and M P Scott, “Impulse facility simulation of hypervelocity radiating flows”, in *Second International Workshop on Radiation of High Temperature Gases in Atmospheric Entry*, Rome, 6 – 8 September 2006.
- [38] D R Buttsworth, “Internal combustion engine heat transfer and emissions: Experiments and simulations”, in *International Conference on Energy and Environment*, Universiti Tenaga Nasional, Malaysia, 28 – 30 August 2006.
- [39] X Wang, R Stone, D Buttsworth, R Stevens, and Y Arita, “Finite element analysis of eroding type surface thermocouple with application to engine heat flux measurement”, in *SAE 2006 World Congress & Exhibition*, Detroit, MI, USA, April 2006, SAE Paper 2006-01-1045, also available in SP-2015.
- [40] A Sharifian, S Watson, D Buttsworth, and J Barton, “Modelling the static thermal sensitivity of diaphragm-based fibre optic pressure sensors”, in *8th Australasian Heat and Mass Transfer Conference*, Curtin University of Technology Perth, Western Australia, 26 – 29 July 2005, Paper No. D14.
- [41] A Sharifian and D Buttsworth, “Minimum safe standoff distance for protection from bushfire radiation by commercial metal meshes”, in *8th Australasian Heat and Mass Transfer Conference*, Curtin University of Technology Perth, Western Australia, 26 – 29 July 2005, Paper No. D19.
- [42] S A Sharifian and D R Buttsworth, “Thermal effects on fibre optic pressure sensor during free piston compression experiments”, in *Proceedings of 8th International Symposium on Fluid Control, Measurement and Visualization*, Q-D Wei and X-G Deng, Eds., Chengdu, China, 22-25 August 2005, Paper No. 3-25, China Aerodynamics Research Society and China Society of Theoretical and Applied Mechanics.
- [43] P A Jacobs, A D Gardner, D R Buttsworth, J Martinez-Schramm, S Karl, and K Hannemann, “End-to-end modelling of the HEG shock tunnel”, in *24th International Symposium on Shock Waves, Beijing, China*, Jiang, Ed. July 2004, Springer.
- [44] T F Yusaf, D R Buttsworth, P Simmonds, and H C Deeth, “Visualization of mixing in an ultrasonic processing configuration”, in *Proceedings of 7th Asian Symposium on Visualization*, S H Winoto and W K Chan, Eds., Singapore, November 2003, Paper No. 7B-3, National University of Singapore.
- [45] D R Buttsworth and A L Ahfock, “A pulsed led system for low-cost flow visualization”, in *Proceedings of 7th Asian Symposium on Visualization*, S H Winoto and W K Chan, Eds., Singapore, November 2003, Paper No. 3A-5, National University of Singapore.
- [46] B Volger, A Elliott, P Simmonds, H C Deeth, and D R Buttsworth, “Homogenisation of milk by ultrasonication”, in *Australian Institute of Food Science and Technology 2002 Annual Convention*, Sydney, July 2002.
- [47] R J Goozée, D R Buttsworth, and P A Jacobs, “Numerical simulation of fluctuations in a shock tunnel flow”, in *2nd International Conference on Computational Fluid Dynamics*, S Armfield P Morgan and K Srinivas, Eds., Sydney, July 2002, pp. 611–616, Springer-Verlag.
- [48] S A Sharifian and D R Buttsworth, “Reducing the mechanical hysteresis problem in optically-addressed diaphragm pressure sensors”, in *5th International Conference on Vibration Measurements by Laser Techniques: Advances and Applications*, E P Tomasini, Ed., 2002, vol. 4827 of *Proceedings of SPIE*, pp. 234–244.
- [49] S A Sharifian and D R Buttsworth, “Optically addressed pressure sensors for transient gas dynamics: Calibration of a preliminary design”, in *Proceedings of the 14th Australasian Fluid Mechanics Conference*, B B Dally, Ed., Adelaide University, Australia, December 2001, pp. 557–560.
- [50] T F Yusaf, D R Buttsworth, and M T A Al-Atabi, “Engine performance and exhaust gas emissions characteristics of (cng/diesel) dual-fuel engine”, in *Small Engine Technology Conference and Exhibition*, Pisa, Italy, November 2001, Paper 2001-01-1808.

- [51] T Yusaf, D R Buttsworth, and H C Deeth, “Heat transfer in an ultrasonic processing cell: Preliminary measurements”, in *Proceedings of the 12th IAHR Symposium in Cooling Tower and Heat Exchangers*, J Madadnia and H Koosha, Eds., University of Technology Sydney, Australia, November 2001, pp. 39–43.
- [52] D R Buttsworth and T V Jones, “Mach 6 carbon dioxide stagnation temperature measurements”, in *Proceedings of the ASME 6th International Thermal Anemometry Symposium*, Ö F Turan, Ed., Victoria University, Melbourne, Australia, January 2001, Paper S285-3-P14.
- [53] B N George and D R Buttsworth, “Investigation of an open refrigeration cabinet using computational simulations with supporting experiments”, in *The 2000 ASME International Mechanical Engineering Congress and Exposition*, Orlando, Florida, USA, November 2000.
- [54] S A Sharifian and D R Buttsworth, “Deflection of a pretensioned circular diaphragm due to aerothermal loading”, in *EMAC 2000: Proceedings of The Fourth Biennial Engineering Mathematics and Applications Conference*, R L May, G F Fitz-Gerald, and I H Grundy, Eds., RMIT University, Melbourne, Australia, September 2000, pp. 247–250.
- [55] D R Buttsworth and M C Wright, “Observations of combustion in a spark ignition engine using transient heat flux measurements”, in *Heat and Mass Transfer Australasia: Proceedings of the Seventh Australasian Heat and Mass Transfer Conference*, G B Brassington and J C Patterson, Eds., James Cook University, Townsville, Australia, July 2000, pp. 61–66, Chalkface Press, Western Australia.
- [56] D R Buttsworth and P A Jacobs, “Measurement of fluctuations in a Mach 4 shock tunnel nozzle flow”, in *Heat and Mass Transfer Australasia: Proceedings of the Seventh Australasian Heat and Mass Transfer Conference*, G B Brassington and J C Patterson, Eds., James Cook University, Townsville, Australia, July 2000, pp. 53–59, Chalkface Press, Western Australia.
- [57] J S Barton, J M Kilpatrick, W N MacPherson, J D C Jones, K S Chana, J S Anderson, D R Buttsworth, and T V Jones, “Optical fibre probes for total pressure and total temperature measurement in a turbine test rig”, in *13th International Conference on Optical Fiber Sensors*, B Y Kim and K Hotate, Eds., 1999, vol. 3746 of *Proceedings of SPIE*, pp. 612–615.
- [58] J S Barton, J M Kilpatrick, W N MacPherson, J D C Jones, K S Chana, J S Anderson, D R Buttsworth, and T V Jones, “Optical fibre aerodynamic probes for total pressure and total temperature measurement in turbomachinery”, in *44th ASME International Gas Turbine and Aeroengine Congress*, Indianapolis, Indiana USA, June 1999, ASME Paper 99-GT-308.
- [59] D R Buttsworth and P A Jacobs, “Total temperature measurements in a shock tunnel facility”, in *Proceedings of the 13th Australasian Fluid Mechanics Conference*, M C Thompson and K Hourigan, Eds., Department of Mechanical Engineering, Monash University, Melbourne, Australia, December 1998, vol. 1, pp. 51–54.
- [60] J M Kilpatrick, W N MacPherson, J S Barton, J D C Jones, K S Chana, J S Anderson, T V Jones, and D R Buttsworth, “A fibre-optic microsensor for measurement of temperature dynamics in gas turbine systems”, in *European Workshop on Optical Fibre Sensors*, B Culshaw and J D C Jones, Eds., 1998, vol. 3483 of *Proceedings of SPIE*, pp. 209–213.
- [61] W N MacPherson, J M Kilpatrick, J S Barton, J D C Jones, K S Chana, J S Anderson, T V Jones, and D R Buttsworth, “Miniature fibre optic pressure sensor for high resolution measurements in turbomachinery applications”, in *European Workshop on Optical Fibre Sensors*, B Culshaw and J D C Jones, Eds., 1998, vol. 3483 of *Proceedings of SPIE*, pp. 200–204.
- [62] J S Barton, J M Kilpatrick, W N MacPherson, J D C Jones, K S Chana, J S Anderson, D R Buttsworth, and T V Jones, “Unsteady temperature and pressure measurement using optical fibre aerodynamic probes”, in *Proceedings of 14th Symposium on Measuring Techniques in Transonic and Supersonic Flow in Cascades and Turbomachines*, M Davies, C Byrne, and T Dalton, Eds., University of Limerick, Ireland, 1998.
- [63] D R Buttsworth and T V Jones, “Concentration probe for fast-response measurements in binary gas flows”, in *17th International Congress on Instrumentation in Aerospace Simulation Facilities*, Pacific Grove, California, USA, September/October 1997.

- [64] S I Hogg, W E Carscallen, J P Gostelow, D R Buttsworth, and T V Jones, “Wide bandwidth temperature measurements in vortical flows behind turbine vanes”, in *ICIASF97 Record: Proceedings of the 17th International Congress on Instrumentation in Aerospace Simulation Facilities*, F K Owen, Ed., Pacific Grove, California, USA, September/October 1997, 97CH36121, pp. 389–399, IEEE.
- [65] W E Carscallen, S I Hogg, J P Gostelow, and D R Buttsworth, “Time resolved total temperature measurements in transonic turbine vane wake flows”, in *AGARD-Conference Proceedings-601: Advanced Aerodynamic Measurement Technology*, Seattle, Washington, USA, September 1997, 81st Fluid Dynamics Panel Symposium on Advanced Aerodynamic Measurement Technology, pp. 16.1–16.11, AGARD.
- [66] D R Buttsworth and T V Jones, “Transient thin film heat flux gauge with finite film thickness”, in *Proceedings of the 21st International Symposium on Shock Waves*, A F P Houwing et al., Eds., Great Keppel Island, Australia, July 1997, Paper No. 1661.
- [67] D R Buttsworth, T V Jones, and K S Chana, “Unsteady total temperature measurements downstream of a high pressure turbine”, in *42nd ASME International Gas Turbine and Aeroengine Congress*, Orlando, Florida, USA, June 1997, ASME Paper 97-GT-407, later published as [17].
- [68] D R Buttsworth, S J Elston, and T V Jones, “Direct surface shear stress measurement using a nematic liquid crystal technique”, in *42nd ASME International Gas Turbine and Aeroengine Congress*, Orlando, Florida, USA, June 1997, ASME Paper 97-GT-397, later published as [16].
- [69] D R Buttsworth and T V Jones, “A fast-response high spatial resolution total temperature probe using a pulsed heating technique”, in *42nd ASME International Gas Turbine and Aeroengine Congress*, Orlando, Florida, USA, June 1997, ASME Paper 97-GT-301, later published as [19].
- [70] D R Buttsworth, T V Jones, and K S Chana, “Total temperature probe experiments in a turbine facility”, in *Proceedings of the 14th Symposium on Measuring Techniques for Transonic and Supersonic Flow in Cascades and Turbomachines*, C Gossweiler and G Gyarmathy, Eds., ETH, Zürich, Switzerland, September 1996, pp. 11.0–11.6.
- [71] D R Buttsworth and T V Jones, “A fast-response total temperature probe for unsteady compressible flows”, in *41st ASME International Gas Turbine and Aeroengine Congress*, Birmingham, UK, June 1996, ASME Paper 96-GT-350, later published as [18].
- [72] N A Morris, D R Buttsworth, C P Brescianini, and T V Jones, “An experimental and computational study of moderately underexpanded rocket exhaust plumes in a co-flowing hypersonic stream”, in *6th International Aerospace and Hypersonic Technologies Conference*, Chattanooga, USA, 1995, AIAA Paper 95-6127.
- [73] D R Buttsworth and R G Morgan, “Oblique shock interactions with mach number distributions”, in *Shock Waves @ Marseille: Proceedings of the 19th International Symposium on Shock Waves*, R Brun and L Z Dumitrescu, Eds., Marseille, France, July 1993, vol. 1, pp. 81–86, Springer-Verlag.
- [74] D R Buttsworth and R G Morgan, “Shock interactions with hypersonic mixing layers - steady flow analysis and experiments”, in *Proceedings of the 11th Australasian Fluid Mechanics Conference*, M R Davis and G J Walker, Eds., University of Tasmania, Hobart, Australia, December 1992, vol. 2, pp. 707–710.
- [75] R M Krek, D R Buttsworth, and R J Stalker, “Testing of advanced model configurations in a free piston shock tunnel”, in *AIAA 17th Aerospace Ground Testing Conference*, Nashville, USA, July 1992, AIAA Paper 92-3902.
- [76] D R Buttsworth, R G Morgan, and R J Stalker, “Shock tunnel testing of a parametric scramjet engine”, in *Proceedings of the International Aerospace Congress 1991*, Melbourne, Australia, May 1991, vol. 3, pp. 93–101, later published as [25].
- [77] D R Buttsworth, “Conduction and convection during droplet spreading on a solid surface”, Report TR-2005-02, Faculty of Engineering and Surveying, University of Southern Queensland, 2005.
- [78] D Buttsworth and H Deeth, “Disruption of bacteria using ultrasound - what is the mechanism?”, *Australian Dairy Foods*, pp. 32–33, February 2004.

- [79] D R Buttsworth and A L Ahfock, “A pulsed led system for schlieren flow visualisation”, Report TR-2003-01, Faculty of Engineering and Surveying, University of Southern Queensland, 2003.
- [80] D R Buttsworth, “Spark ignition internal combustion modelling using Matlab”, Report TR-2002-01, Faculty of Engineering and Surveying, University of Southern Queensland, 2002.
- [81] D R Buttsworth, “A finite difference routine for the solution of transient one dimensional heat conduction problems with curvature and varying thermal properties”, Report TR-2001-01, Faculty of Engineering and Surveying, University of Southern Queensland, 2001.
- [82] I Lourel, R G Morgan, and D R Buttsworth, “Fast response coaxial type - e thermocouple gauges for the measurement of heat flux in expansion tubes”, Report 2001/05, Department of Mechanical Engineering, University of Queensland, 2001.
- [83] T V Jones and D R Buttsworth, “Method and device to measure fluid parameters”, United States Patent 5925815, 20 July 1999, UK Patent 2314164; French Patent 2749660.
- [84] D R Buttsworth, “A finite difference routine for the solution of transient one dimensional heat conduction problems with curvature and temperature-dependent thermal properties”, Report No. 2130/97, Department of Engineering Science, University of Oxford, 1997, later published as [81].
- [85] D R Buttsworth, *Shock Induced Mixing and Combustion in Scramjets*, Ph.D. dissertation, Department of Mechanical Engineering, University of Queensland, Brisbane, Australia, 1994.
- [86] D R Buttsworth, “A method of characteristics code for the solution of steady two-dimensional flows with shock waves”, Research Report No. 6/93, Department of Mechanical Engineering, University of Queensland, June 1993.
- [87] D R Buttsworth, *Investigations of Nose Blunting and Surface Catalytic Effects on the Heat Transfer in Hypersonic Flow*, B.E. thesis, Department of Mechanical Engineering, University of Queensland, Brisbane, Australia, 1989.