

PUBLICATIONS/PRESENTATIONS

JOURNAL PAPERS

Fahroo, F. and Ross, I.M., "A Spectral Patching Method for Direct Trajectory Optimization," *The Journal of the Astronautical Sciences*, Vol. 48, No. 2/3, April-September 2000.

Fahroo, F. and Ross, I.M., "A Second Look at Approximations to Differential Inclusions," *Journal of Guidance, Control and Dynamics*, Vol. 24, No.1, 2001, pp.131-133.

Hebbar, S.K., Platzer, M.F., and Fritzelas, A.E., "Reynolds Number Effects on the Vortical-Flow Structure Generated by a Double-Delta Wing," *Experiments in Fluids*, Vol. 28, pp. 206-216, 2000.

Hobson, G.V., Hansen, D.J., Schnorenberg, D.G., and Grove, D.V., "Effect of Reynolds Number on Separation Bubbles on Controlled-Diffusion Compressor Blades in Cascade," *Journal of Propulsion and Power*, Vol. 40, No. 1, January-February 2001, pp. 154-162.

Pascoal, M., Kaminer, I.I., and Oliveira, P., "Design of the Complementary, Time-Varying Filters Using Linear Matrix Inequalities," *IEEE Transactions on Aerospace and Electronics*, Vol. 36, No. 4, pp. 1099-1114.

Song, G., Kelly, B., and Agrawal, B.N., "Active Position Control of a Shape Memory Alloy Wire Actuated Composite Beam," *Journal of Smart Materials and Structures*, Vol. 9, 2000, pp. 711-716.

Tuncer, I.H. and Platzer, M.F., "Computational Study of Flapping Airfoil Aerodynamics," *Journal of Aircraft*, Vol. 37, No. 3, pp. 514-520, May-June 2000.

Varnes, D.J., Duren, R.W., and Wood, E.R., "Detecting the Vortex Ring State," *Rotor & Wing*, Vol. 34, No. 1, pp. 60-65, January 2000.

Weber, S. and Platzer, M.F., "Computational Simulation of Dynamic Stall on the NLR 7301 Airfoil," *Journal of Fluids and Structures*, Vol. 14, pp. 779-798, 2000.

Weber, S. and Platzer, M.F., "A Navier-Stokes Analysis of the Stall Flutter Characteristics of the Buffum Cascade," *Journal of Turbomachinery*, Vol. 122, pp. 769-776, October 2000.

Yan, H., Fahroo, F. and Ross, I.M., "Accuracy and Optimality of Direct Transcription Methods," *Advances in the Astronautical Sciences, Space Flight Mechanics 2000*, Vol. 105, Part II, pp.1601-1630, (Kluver, C. A. et al., eds.), AAS Paper No. 00-205.

CONFERENCE PAPERS

Agrawal, B. and Chen, H.J. "Active Vibration Isolation on Spacecraft Using Smart Struts," IAF-00.I.4.05 51 International Astronautical Congress, 2-6 Oct 2000, Rio de Janeiro, Brazil.

Bernelli-Zazzera, F., Romano, M., and Agrawal, B., "Experiments on Tracking Control of a Flexible Space Manipulators," IAF-00-A.3.05, International Astronautical Congress, 2-6 October 2000, Rio de Janeiro, Brazil.

Brophy, C.M. and Sinibaldi, J., "Operation of a JP10/Air Pulse Detonation Engine," 36th Joint Propulsion Conference, AIAA 2000-3591, Huntsville, AL, 2000.

Brophy, C.M., et. al., "Detonation of a JP-10/Aerosol for Pulse Detonation Applications," International Colloquium on the Control of Detonation Processes, Moscow, 4-7 July 2000.

PUBLICATIONS/PRESENTATIONS

Brophy, C.M., Scruton, Z.M., Johnson, C.W., "Measurements of Fuel Additive Effects on the Soot Mass Loading in Oxygen/Kerosene Exhaust Plumes," 2000 JANNAF Exhaust Plume Technology Subcommittee, Nellis AFB, Las Vegas, NV, 15-19 May 2000.

Castro, B.M., Ekaterinaris, J.A., and Platzer, M.F., "Transonic Flutter Computations for the NLR 7301 Airfoil inside a Wind Tunnel," AIAA Paper 2000-0984, 38th Aerospace Sciences Meeting, Reno, NV, 10-13 January 2000.

Dellicker, S., Williams, T., Hewgley, C., Yakimenko, O., Howard, R., Kaminer, I.I., Benney, R., and Patel, S., "Performance, Control, and Simulation of the Affordable Guided Airdrop System," *Proceedings 2000 AIAA Conference on Guidance, Navigation and Control*, Denver, CO, August 2000.

Ekaterinaris, J.A. and Chandrasekhara, M.S., "Numerical Investigation of Passive and Active Control of Unsteady Compressible Flow," AIAA Paper 00-4417, Applied Aerodynamics Conference, Denver, CO, August 2000.

Fahroo, F. and Ross, I.M., "Direct Trajectory Optimization by a Chebyshev Pseudospectral Method," *Proceedings of the American Control Conference*, June 2000, Chicago, IL, Paper ACC00-AIAA1004.

Fahroo, F. and Ross, I.M., "Trajectory Optimization by Indirect Spectral Collocation Methods," *Proceedings of the AIAA/AAS Astrodynamics Specialist Conference*, Denver, CO, August 2000.

Hendricks, S. and Duren, R., "Using OPNET to Evaluate Fibre Channel as an Avionics Interconnection System," *Proceedings of the 19th Digital Avionics Systems Conference*, pp. 4.C.1-1-8, Philadelphia, PA, 7-13 October 2000.

Hendricks, S. A. and Duren, R. W., "Development of a Standard Interface for a New Generation of Miniature Stores," *Proceedings of the 19th Digital Avionics Systems Conference*, pp. 4.C.1-1-8, Philadelphia, PA, 7-13 October 2000.

Hobson, G.V., Anderson, S.C., McKee, J. and Southward, J., "Experimental and Numerical Investigation of the Tip Leakage Flow in the Single Stage Turbine of the Space Shuttle Turbopump," AIAA-2001-0831 39th AIAA Aerospace Sciences Conference, Reno, NV, January 2001.

Jones, K.D. and Platzer, M.F., "Flapping Wing Propulsion for a Micro Air Vehicle," AIAA Paper No. 2000-0897, 38th Aerospace Sciences Meeting, Reno, NV, 10-13 January 2000.

Kaminer, I.I., Pascoal, A.M., Kang, W., and Yakimenko, O., "Integrated Vision/Inertial Navigation Systems Design Using Nonlinear Filtering," *Proceedings 2000 Conference on Decision and Control*, Sydney Australia.

Platzer, M.F. and Jones, K.D., "The Unsteady Aerodynamics of Flapping -Foil Propellers," presented at Ninth International Symposium on Unsteady Aerodynamics and Aeroelasticity of Turbomachines, Lyon, France, 5-8 September 2000.

Sahin, M., Sankar, L.N., Chandrasekhara, M.S., and Tung, C., "Dynamic Stall Alleviation Using a Deformable Leading Edge Concept – A Numerical Study," AIAA Paper 00-0520, Aerospace Sciences Meeting, Reno, NV, January 2000.

Song G., Schmidt, S.P., and Agrawal, B., "Active Vibration Suppression of a Flexible Structure Using Smart Material and a Modular Control Patch," *Proceedings of Institution of Mechanical Engineers*, Vol. 214, Part G, 2000. pp. 217-229.

PUBLICATIONS/PRESENTATIONS

Varnes, D.J., Duren, R.W., and Wood, E.R., "An Onboard Warning System to Prevent Hazardous 'Vortex Ring State' Encounters," *Proceedings of the 26th European Rotorcraft Forum*, pp. 88-1-22, The Hague, The Netherlands, 26-29 September 2000.

Venner, M.J., Johnson, C.W., and Brophy, C.M., "Signature Characterization of a Small Liquid Rocket Engine Burning Various Kerosene-Based Fuels," Military Sensing Symposia, MD-SEA, SPAWAR Systems Center, Charleston, SC, 25-27 January 2000.

von Backstrom, T.W., Hobson, G.V., Grossman, B., and Shreeve, R.P., "Investigation of the Performance of a CFD Designed Compressor Stage," Paper AIAA 2000-3205, 36th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Huntsville, AL, 17-19 July 2000.

Weber, S. and Platzer, M.F., "A Navier-Stokes Analysis of the Stall Flutter Characteristics of the Buffum Cascade," ASME Paper No. 2000-GT-385, International Gas Turbine Congress, Munich, Germany, 8-11 May 2000.

Yakimenko, O.A., Kaminer, I.I., Lentz, W.J., and Ghyzel, P.A., "Unmanned Aircraft Navigation for Shipboard Landing Using Infrared Vision," *Proceedings 2000 American Control Conference*, Chicago, IL, June 2000.

CONFERENCE PRESENTATIONS

Agrawal, B. and Chen, H.J. "Active Vibration Isolation on Spacecraft Using Smart Struts," 51st International Astronautical Congress, Rio de Janeiro, Brazil, 2-6 October 2000.

Bernelli-Zazzera, F., Romano, M., and Agrawal, B., "Experiments on Tracking Control of a Flexible Space Manipulators," presented at 51st International Astronautical Congress, 2-6 October 2000, Rio de Janeiro, Brazil.

Brophy, C.M., et. al., "Detonation of a JP-10/Aerosol for Pulse Detonation Applications," International Colloquium on the Control of Detonation Processes, Moscow, 4-7 July 2000.

Brophy, C.M., Scruton, Z.M., and Johnson, C.W., "Measurements of Fuel Additive Effects on the Soot Mass Loading in Oxygen/Kerosene Exhaust Plumes," 2000 JANNAF Exhaust Plume Technology Subcommittee, Las Vegas, NV, 15-19 May 2000.

Duren, R.W., Wood, E.R., and Couch, M.A., "NPS Vortex Ring State Definition and Safety Data Review," Rotorcraft Aeromechanics Workshop, Naval Air Systems Command, Patuxent River, MD, 18-19 July 2000.

Enomoto, S., Hah, C., and Hobson, G.V., "Numerical and Experimental Investigation of Low Reynolds Number Effects on Laminar Flow Separation and Transition in a Cascade of Compressor Blades," 2000-GT-0276, ASME Turbo Expo 2000, Munich, Germany, June 2000.

Fahroo, F. and Ross, I.M., "Spectral Collocation Approximations for Optimal Control Problems," AMS Southeastern Section Conference (Special Session, Invited Talk), Lafayette, LA, 14-16 April 2000.

Hobson, G.V. and Weber, S., "Prediction of a Laminar Separation Bubble over a Controlled-Diffusion Compressor Blade," 2000-GT-0277, ASME Turbo Expo 2000, Munich, Germany, June 2000.

Jones, K. D., Lund, T. C., and Platzer, M. F., "Experimental and Computational Investigation of Flapping-Wing Propulsion for Micro-Air Vehicles," Conference on Fixed, Flapping and Rotary Wing Vehicles at Very Low Reynolds Numbers, University of Notre Dame, Notre Dame, IN, 5-7 June 2000.

PUBLICATIONS/PRESENTATIONS

Jones, K.D., Lai, J.C.S., Tuncer, I.H., and Platzer, M.F., "Computational and Experimental Investigation of Flapping-Foil Propulsion," First International Symposium on Aqua Bio-Mechanisms, Tokai University Pacific Center, Honolulu, HI, 27-30 August 2000.

Platzer, M.F. and Jones, K.D., "The Unsteady Aerodynamics of Flapping -Foil Propellers," Ninth International Symposium on Unsteady Aerodynamics and Aeroelasticity of Turbomachines, Lyon, France, 5-8 September 2000.

Shreeve, R.P., "HCF/Spin Test Research Review," Navy/Air Force Joint Program Review, Monterey, CA 19 May 2000.

Sinibaldi, J., Brophy, C.M., and Robinson, J., "Ignition Effects on Deflagration-to-Detonation Transition in Gaseous Mixtures," 36th Joint Propulsion Conference, AIAA 2000-3590, Huntsville, AL, 2000.

Tillier, C. and Agrawal, B., "Yaw Steering for LEO Satellite Using Any Two of Three Reaction Wheels," 51st International Astronautical Congress, 2-6 October 2000, Rio de Janeiro, Brazil.

von Backstrom, T.W., Hobson, G.V., Grossman, B., and Shreeve, R.P., "Numerical Analysis of a CFD Designed Compressor Stage," AIAA-2000-3205, ASME/AIAA/SAE Joint Propulsion Conference, June 2000.

Warren, J. and Shreeve, R.P., "The Navy's HCF Spin Test Program," HCF Passive Damping Action Team Meeting, Duke University, Durham, NC, 8 August 2000.

Wood, E.R., Couch, M.A., and Duren, R.W., "NPS Research on Vortex Ring State," Rotorcraft Aeromechanics Workshop, Naval Air Systems Command, Patuxent River, MD, 18-19 July 2000.

OTHER

Duren, R.W., "Report on Previous Studies Related to the EA-6B Follow-on Platform," paper provided to the AEA AoA Technical IPT, June 5, 2000.

Kaminer, I., *Passive Sensor Based Control of Nonlinear Systems*, ONR Contractor Report, Contract No. N0001497AF00002.

Ross, I.M., "Preliminary Analysis of the Two-Gimbal Tumbling Problem," CSDL, Cambridge, MA, 29 February 2000, GCB-00-041.

Ross, I.M., "Minimizing Velocity Errors Due to Accelerometer Bias," CSDL, Cambridge, MA, 10 March 2000, GCBVG-00-025.

Ross, I.M., "A Perspective on the Gimbal Tumbling Problem," CSDL, Cambridge, MA, 23 June 2000, GCB-00-099.

Ross, I.M. and Brand, T.J., "An Efficient Approach to VASIMR Mission Analysis," CSDL, Cambridge, MA, 12 July 2000, GCBVG-00-065.