

**DEPARTMENT OF
AERONAUTICS AND
ASTRONAUTICS**

**2001
Faculty Publications
and Presentations**

PUBLICATIONS/PRESENTATIONS

JOURNAL ARTICLES

Carr, L.W., Chandrasekhara, M.S., Wilder, M.C. and Noonan, K.W., "Effect of Compressibility on Suppression of Dynamic Stall Using a Slotted Airfoil," (AIAA Paper 98-0332), *Journal of Aircraft*, Vol. 38, No. 2, pp. 296-309, March-April 2001.

Chandrasekhara, M.S., Wilder, M.C. and Carr, L.W., "Compressible Dynamic Stall Control Using Dynamic Shape Adaptation," (AIAA Paper 99-0655), *AIAA Journal*, Vol. 39, No. 10, pp. 2021-2024, October 2001.

Chandrasekhara, M.S., Wilder, M.C. and Carr, L.W., "Compressible Dynamic Stall Control: Comparison of Two Approaches," (Invited AIAA Paper 99-3122), *Journal of Aircraft*, Vol. 38, No. 3, pp. 448-453, May-June 2001.

Fahroo, F. and Ross, I.M., "Costate Estimation by a Legendre Pseudospectral Method," *Journal of Guidance, Control and Dynamics*, Vol. 24, No. 2, pp. 270-277, March-April 2001.

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

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, pp. 154-162, January-February 2001.

Hobson, G.V., Hansen, D.J., Shnorenberg, D.G. and Grove, D.V., "Effect of Reynolds Number on Separation Bubbles on Controlled-Diffusion Compressor Blades in Cascade," *AIAA Journal of Propulsion and Power*, Vol. 17, No. 1, 2001.

Jones, K.D., Lund, T.C. and Platzer, M.F., "Experimental and Computational Investigation of Flapping Wing Propulsion for Micro Air Vehicles," *AIAA Progress in Aeronautics and Astronautics*, pp. 307-339, 2001.

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Kaminer I., Pascoal A., Kang W. and Yakimenko O.A., "Application of Nonlinear Filtering to Navigation System Design Using Passive Sensors," *IEEE Transactions on Aerospace and Electronic Systems*, Vol. 37, No. 1, pp. 158-172, 2001.

King, R.L., "Nonlinear Inplane Flexbeam Stiffness Provides Rotor System Stability Without Lag Dampers," *Journal of the American Helicopter Society*, Vol. 46, No. 4, pp. 283-289, October 2001.

Lai, J.C.S. and Platzer, M.F., "Characteristics of a Planning Airfoil at Zero Freestream Velocity," *AIAA Journal*, Vol. 39, No. 3, pp. 531-534, 2001.

Ross, I.M., Park, S.Y. and Porter, S.E., "Gravitational Effects of Earth in Optimizing Delta-V for Deflecting Earth-Crossing Asteroids," *Journal of Spacecraft and Rockets*, Vol. 38, No. 5, 2001.

Song, G. and Agrawal, B., "Vibration Suppression of Flexible Spacecraft During Attitude Control," *Acta Astronautica*, Vol. 49, No. 2, pp. 73-83, 2001.

von Backstrom, T.W., Hobson, T.V., Crossman, B. and Shreeve, R.P., "Numerical Analysis of a CFD Design Compressor Stage," *AIAA Journal of Propulsion and Power*, 2001.

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

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CONFERENCE PAPERS

Agrawal, B. and Okano, S., "Microelectromechanical Systems for Space Applications," *Proceedings of the 11th International Workshop on Physics of Semiconductor Devices*, New Delhi, India, 11-15 December 2001.

Agrawal, B. and Senenko, C., "Attitude Dynamics and Control of Bifocal Relay Mirror Spacecraft," AAS 01-418, AAS/AIAA Astrodynamics Specialist Conference, Quebec City, Canada, 30 July–2 August 2001.

Brophy, C.M., Sinibaldi, J.O. and Sexton, N., "Fuel/Air Initiator Development for Pulse Detonation Engines," *Proceedings of the 18th International Colloquium on the Dynamic of Explosions and Reactive Systems*, Seattle, WA, 29 July–3 August 2001.

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Castro, B.M., Jones, K.D., Ekaterinaris, J.A. and Platzer, M.F., "Analysis of the Effect of Porous Wall Interference on Transonic Airfoil Flutter," AIAA-2001-2725, 31st AIAA Fluid Dynamics Conference and Exhibit, Anaheim, CA, 11-14 June 2001.

Chen, H., Agrawal, B., Longman, R., Phan, M. and Edwards, S., "Rejection of Multiple Unrelated Periodic Disturbances Using MELMS with Disturbance Identification," AAS/AIAA Space Flight Mechanics Meeting, Santa Barbara, CA, 11-15 February 2001.

Chen, H., Agrawal, B. and Longman, R., "Approaches to Matched Basis Function Repetitive Control," AAS-01-369, AAS/AIAA Astrodynamics Specialist Conference, Quebec City, Canada, 30 July–2 August 2001.

Couch, M. and Wood, E.R., "Exploring Methods to Incorporate Unsteady Aerodynamics into Nonlinear Rotor Dynamics Simulations," 9th International Workshop on Aeroelasticity of Rotorcraft Systems, Ann Arbor, MI, October 2001.

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Hespanha J., Yakimenko O., Kaminer I. and Pascoal A., "Linear Parametrically Varying Systems with Brief Instabilities: An Application to Integrated Vision/IMU Navigation," *Proceedings of the 40th IEEE Conference on Decision and Control*, Orlando, FL, 12-15 December 2001.

Hespanha, J., Yakimenko, O., Kaminer, I. and Pascoal, A., "Stability and Performance Analysis of LPV Systems with Brief Instabilities," *Proceedings of the 9th Mediterranean Conference on Control and Automation*, Dubrovnik, Croatia, 27-29 June 2001.

Hespanha, J., Yakimenko, O., Kaminer, I. and Pascoal, A., "LPV Systems with Brief Instabilities: Application to Integrated Vision/IMU Navigation," *Proceedings of IEEE European Control Conference*, Porto, Portugal, 4-7 September 2001.

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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 Aerospace Sciences Conference, Reno, NV, January 2001.

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Johnson, J., Yakimenko O., Kaminer I. and Dellicker S., "On the Development and Pre-Flight Testing of the Affordable Guided Airdrop System for G-12 Cargo Parachute," *Proceedings of 16th AIAA Aerodynamic Decelerator Systems Technology Conference and Seminar*, Boston, MA, 21-24 May 2001.

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Ross, I.M., Yan, H. and Fahroo, I.M., "A Curiously Outlandish Problem in Orbital Mechanics," AAS/AIAA Astrodynamics Specialist Conference, Quebec City, Canada, 30 July–2 August 2001.

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Ross, I.M. and Fahroo, F., "Convergence of Pseudospectral Discretizations of Optimal Control Problems," *Proceedings of the Conference on Decision and Control*, Orlando, FL, December 2001.

Searles, D.S., Brophy, C.M., Sinibaldi, J.O., Venner, M.J. and Johnson, C.W., "Soot Production Characteristics for JP-8+100, and JP-10," 27th JANNAF EPTS, Brooks Air Force Base, San Antonio, TX, November 2001.

Shreeve, R.P., Hobson, G.V., Seivwright, D.L. and Pickering, R., "Navy HCF/Spin Test Program," HCF Passive Damping Action Team Meeting, Carnegie Mellon University, Pittsburg, PA, 31 July 2001.

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Spencer, M.G., "Development of a Servicing Satellite Simulator," *Proceedings of the AIAA Space 2001 Conference*, Albuquerque, NM, August 2001.

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Tuncer, I. and Platzer, M.F., "Computational Investigation of Flow Through a Louvered Inlet Configuration," AIAA-2001-2477, 19th AIAA Applied Aerodynamics Conference, Anaheim, CA, 11-14 June 2001.

Yan, H., Fahroo, F. and Ross, I.M., "Optimal Feedback Control Laws by Pseudospectral Approximations," *Proceedings of the American Control Conference*, Paper No. AC01-AIAA1015, Arlington, VA, 25-27 June 2001.

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Yakimenko, O., Kaminer, I. and Dellicker, S., "Preliminary Design and Control Strategy Analysis of the Affordable Guided Airdrop System," *Proceedings of the 9th Mediterranean Conference on Control and Automation*, Dubrovnik, Croatia, 27-29 June 2001.

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Couch, M.A. and Wood, E.R., "Exploring Methods to Incorporate Unsteady Aerodynamics into Nonlinear Rotor Dynamics Simulation," Ninth International Workshop on Aeroelasticity of Rotorcraft Systems, University of Michigan, Ann Arbor, MI, 22-24 October 2001.

Shreeve, R.P., Hobson, G.V., Seivwright, D.L. and Pickering, R., "Navy HCF/Spin Test Program," 2001 Passive Damping Action Team Meeting, Pittsburgh, PA, 31 July 2001.

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Chandarsekhara, M.S., "Fluid Mechanics of Compressible Dynamic Stall Control Using Dynamically Deforming Airfoils," Final Report submitted to Army Research Office, November 2001.

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