

2003 PUBLICATIONS

Optical Instrumentation and NDE Branch

INDEX by AUTHOR

Abdul-Aziz. 9, 8, 7, 6, 5, 4, 3, 2, 1

Adamovsky. 11, 10

Baaklini. 47, 45, 44, 43, 36, 34, 33, 28,
27, 22, 21, 20, 19, 18, 17, 9, 8, 7, 6, 5,
4, 3, 2, 1

Bencic. 30, 26, 12

Cosgriff. 22, 21, 20, 19, 18, 17

Gyekenyesi. 47, 45, 44, 44, 35, 34, 33,
28, 27, 22, 17

John. 50, 48

Lekki. 11

Martin. 47, 35, 34, 33, 22, 17

Oberle. 37

Opalski. 30

Roth. 40, 39, 38, 35

Sawicki. 45, 44, 43, 28, 27

Wernet. 51, 50, 49, 48, 42, 41, 32, 31,
30, 29, 16, 13

Wrbanek. 30

2003 Publications

Journal Papers, NASA TMs & Proceedings Papers:

1. Abdul-Aziz, A., Ghosn, L.J., Baaklini, G.Y., and Bhatt, R., "A Combined NDE/Finite Element Technique To Study The Effects Of Matrix Porosity On The behavior Of Ceramic Matrix Composites"; Proceedings, SPIE's 7th International Symposium on Nondestructive Evaluation and Health Monitoring of Aging Infrastructure, 14 March 2003, San Diego, California USA.
2. Abdul-Aziz, A., Baaklini, G.Y., Bhatt, R.T., "Non Destructive Testing of Ceramic Matrix Composites Coupled With Finite Element Analyses," *Materials Evaluation, Journal of the American Society for Nondestructive Testing*, Vol. 61, No. 3, pp. 413-417, March 2003
3. Abdul-Aziz, A., Bhatt, R.T., Baaklini, G.Y., "Thermal Barrier Coating and Cooling Hole Size Effects On The Thermo-Mechanical Response of Cooled Silicon Nitride Plate," *Proceedings of the 27th Annual International Conference on Advanced Ceramic & Composites*, Edited by Waltraud M. Kriven and Haw-Tai Lan, Volume 24, pp 317-324, January 2003
4. Abdul-Aziz, A., Downey, J., Ghosn, L.J., Baaklini, G.Y., "A CAD Approach to Integrating NDE with Finite Element"
5. Abdul-Aziz, A., Ghosn, L.J., Baaklini, G.Y., Bhatt, R. "A Combined NDE/Finite Element Technique to Study the Effects of Matrix Porosity on the Behavior of Ceramic Matrix Composites," *Materials Evaluation, Journal of the American Society for Nondestructive Testing*, Vol. 61, No. 11, pp. 1217-1221, November 2003
6. Abdul-Aziz, A., Ghosn, L.J., Baaklini, G.Y., Bhatt, R. "A Combined NDE/Finite Element Technique To Study The Effects Of Matrix Porosity On The behavior

Of Ceramic Matrix Composites,” Proceedings, SPIE, Vol. 5046, pp 144-151, August, 2003

- 7. Abdul-Aziz, A., Louis J. Ghosn, George Y. Baaklini and Ramakrishna Bhatt, “Combined NDE/Finite Element Techniques to Study the Effects of Matrix Porosity Influence on the Behavior of Ceramic Matrix Composites ”; Proceedings SPIE’s International Symposium on Nondestructive Evaluation and Health Monitoring of Aerospace Materials and Composite II, Volume 5046, March 3-5, 2003, San Diego, California USA.**
- 8. Abdul-Aziz, A., Louis J. Ghosn, George. Baaklini and Ramakrishna Bhatt; “A Combined NDT/Finite Element Technique To Study The Effects Of Matrix Porosity On The behavior Of Ceramic Matrix Composites”; Journal OF Materials Evaluation, Journal of the American Society for Nondestructive Testing, Vol. 61, No. 11, pp. 1217-1221, November 2003.**
- 9. Abdul-Aziz, A., Ramakrishna T. Bhatt and George. Baaklini; “Thermal Barrier Coating And Cooling Hole Size Effects On The Thermo-Mechanical Response Of Cooled Silicon Nitride Plate”; Proceedings of the 27th Annual International Conference on Advanced Ceramic & Composites, , Cocoa Beach, Florida January 26-31, 2003.**
- 10. Adamovsky, G., Juergens, J., Performance Evaluation of Fiber Bragg Gratings at Elevated Temperatures, SPIE’S Phototonics East Conference: “Fiber Optic Sensor Technology and Applications II,” Providence, RI, October 27 – 31, 2003**
- 11. Adamovsky, G., Lekki, J., and Lock, J.A., “Detection sensitivity optimization of optical signals generated by fiber optic Bragg gratings under dynamic excitations,” Opt. Eng. 42 (2), pp. 425-430 (2003)**
- 12. Bencic, T.J., Eldridge, J.I., Smart Coatings for Health Monitoring and Nondestructive Evaluation, Proceedings 10th SPIE's International Symposium on Nondestructive Evaluation for Health Monitoring and Diagnostics, Volume 5767, San Diego, California, March 6-10, 2005**
- 13. Bridges, J., Wernet, M.P., “Measurements of the Aeroacoustic Sound Source in Hot Jets”, AIAA-2003-3131, 9th AIAA/CEAS Aeroacoustics Conference, Hilton Head, South Carolina, May 12-14,2003**
- 14. Chapter on “Luminescent Paints for Pressure and Temperature Measurements”, in Optical Metrology for Fluids, Combustion and Solids, Mercer, C. R. Editor, Kluwer Academic Publishers, Boston 2003**
- 15. Chapter on “Digital Particle Image Velocimetry” in Optical Metrology for Fluids, Combustion and Solids, Mercer, C. R. Editor, Kluwer Academic Publishers, Boston 2003.**
- 16. Charoenngam, P., Subramanian, A., Kadambi, J.R., Wernet, M.P., Sankovic, J., Addie G., Courtwright, R. 'Investigations of Particle Velocities in the Tongue Region of a Slurry Pump Using PIV: Part 1', FEDSM'02-100702.**
- 17. Cosgriff, L.M., Martin, R.E., Baaklini, G.Y., "Acousto-Ultrasonic Characterization of C/SiC Composites." Proceedings of SPIE, Vol. 5046, Andrew L. Gyekenyesi and Peter J. Shull, eds., 2003, pp 71-78.**
- 18. Cosgriff, L.M., Baaklini, G.Y. “Ultrasonic Spectroscopy of Composite Rings for Space Station Flywheel Rotors,” Materials Evaluation, Vol. 61, No. 9, 2003, pp 1013-1019**

19. Cosgriff, L.M., Baaklini, G.Y. "Ultrasonic Spectroscopy of Composite Rings for Space Station Flywheel Rotors," *Materials Evaluation*, Vol. 61, No. 9, 2003, pp 1013-1019
20. Cosgriff, L.M., Lerch, B.A., Hebsur, M.G., Baaklini, G.Y., Ghosn, L.G., "Ultrasonic Spectroscopy of Stainless Steel Sandwich Panels," To be presented at Sampe Conference in Dayton, OH Sept 28-Oct 2, 2003.
21. Cosgriff, L.M., Lerch, B.A., Hebsur, M.G., Ghosn, L.J., Baaklini, G.Y. "Ultrasonic Spectroscopy of Stainless Steel Sandwich Panels," SAMPE 35th International Technical Conference, Dayton, OH, September 28 – October 2, 2003
22. Cosgriff, L.M., Martin, R.E., Baaklini, G.Y. "Acousto-Ultrasonic Characterization of C/SiC Composites." *Proceedings of SPIE*, Vol. 5046, Edited by Andrew L. Gyekenyesi and Peter J. Shull, pp 71-78, 2003
23. Decker, A.J. "Damage Detection Using Holography and Interferometry", (NASA/TM-2003-212078) January 2003
24. Decker, A.J. "Neural-Net Processed Electronic Holography for Rotating Machines", (NASA/TM-2003-212218) February 2003
25. Decker, A.J., Weiland, K.E., "Neural-Net Based Optical NDE Method for Structural Health Monitoring (NASA/TM-2003-212492), June 2003
26. Eldridge, J.I., Bencic, T.J., Allison, S.W., Beshears, D.L., Depth-Selective Diagnostics of Thermal Barrier Coatings Incorporating Thermographic Phosphors, ISA International Instrumentation Symposium 2003,
27. Gyekenyesi A., Sawicki J., and Baaklini G., "Vibration Based Crack Detection in a Rotating Disk: Part 2 Experimental Results," NASA TR, under review, 2003.
28. Gyekenyesi, A.L., Sawicki, J.T., Baaklini, G.Y., "Vibration Based Crack Detection in a Rotating Disk: Part I – An Analytical Study," NASA/TM-2003-212624
29. Henderson, B. S., Bridges, J., Wernet, M. P., "An Experimental Study of the Oscillatory Flow Structure of Tone Producing Supersonic Impinging Jets", Submitted to *Journal of Fluid Mechanics*, 2003.
30. Hunter, G. W., Bencic, T. J., Wernet, M. P., Fralick, G. C., Wrbanek, J. D., Eldridge, J. I., Farmer, S., Sayir, A., Mercer, C. R., Opalski, A. B., Allison, S., Beshears, D., 'Development and Application of Information Rich Test Instrumentation', JANNAF 39th Combustion Subcommittee Meeting, Colorado Springs, Colorado, December 1-5, 2003.
31. Kadambi, J .R., Mehta, M., Charoenngam, P., Wernet, M. P., Addie, G., 'Particulate Velocity Measurements in the Intra-Blade Channels of a Centrifugal Slurry Pump' 8th International symposium on Liquid-Solid Flows, ASME Fluids Engineering Summer Meeting, FEDSM2003-45504, Honolulu, Hawaii, July, 2003.
32. Kadambi, J.R., Mehta, M., Charoenngam, P., Wernet, M., Addie, G., "Particulate Velocity Measurements in the Intro-Blade Channels of a Centrifugal Slurry Pump," 8th International
33. Martin R.E., Gyekenyesi A.L., Baaklini G.Y., "Thermal Image Analysis for Composite Materials," *Proceedings of the Tenth International Conference on Composite Engineering, ICCE-10*, David Hui, Ed., New Orleans, LA, July, 2003.

34. Martin R.E., Gyekenyesi A.L., Baaklini, G.Y. "Thermal Image Analysis for Composite Materials," Proceedings of the Tenth International Conference on Composite Engineering, ICCE-10, David Hui, Ed., pp 469-471
35. Martin, R.E., Gyekenyesi, A.E., Roth, D.J., "The Development and Testing of an Automated Acousto-Ultrasonic Scan System, SPIE 03, San Diego, CA, March 3-8, 2003
36. Meyendorf, N., Baaklini, G.Y., Michel, B. "Testing, Reliability, and Application of Micro- and Nonomaterial Systems, The International Society for Optical Engineers (SPIE), Proceedings, Volume 5045, 2003
37. Oberle, L.G. "Optical Techniques for Propulsion System Measurements"
38. Roth, D.J. "Nested Tab Control Software Architecture Developed for an Ultrasonic Guided Wave Scan System at NASA," 10th Annual Worldwide Virtual Instrumentation Conference, Austin, TX, August 13-15, 2003
39. Roth, D.J. et al., "Microstructural and Defect Characterization in Ceramic Composites Using an Ultrasonic Guided Wave Scan System," NASA/TM-2003-212518
40. Roth, D.J. et al., Characterization of C/Enhanced SiC Composite Creep Damage Using Conference on Composites, Materials, and Structures, Cape Canaveral/Cocoa Beach, FL, January 27-30, 2003
41. Sankovic, J., Kadambi, J. R., Mehta, M., Smith, W. A., Wernet, M. P., 'PIV Investigation of the Flow in the Volute of a Rotary Blood Pump', ASME Fluids Engineering Summer Meeting, FEDSM2003-45490, Honolulu, Hawaii, July, 2003. Also accepted for publication in ASME's Fluids Engineering Journal.
42. Sankovic, J.M., Mehta, M., Kadambi, J.R., Wernet, M.P., Smith, W.A., "Investigations of the Flow Field in a Rotary Blood Pump Using PIV", Liquid-Solid Flows Symposium, Joint ASME-JSME Conference, Hawaii, July 2003
43. Sawicki, J.T., Bently, D., Wu, X., Baaklini, G., Friswell, M.I. "Dynamic Behavior of Cracked Flexible Rotor Subjected to Constant Driving Torque," Proceedings of The 2nd International Symposium on Stability Control of Rotating Machinery, Edited by Z. Goesiewsky and A. Muszynska, Gdansk, Poland, pp 231-241, August 2003
44. Sawicki, J.T., Gyekenyesi, J.P., Baaklini, G., Gyekenyesi, A.L. "Dynamic Analysis of a Dual Rotor-Bearing System in Support of the TF-41 Seeded-Fault Testing," Proceedings of The 2nd International Symposium on Stability Control of Rotating Machinery, Edited by Z. Goesiewsky and A. Muszynska, Gdansk, Poland, pp 180-187, August 2003
45. Sawicki, J.T., Wu, X., Baaklini, G., and Gyekenyesi, A.L. "Vibration-Based Crack Diagnosis in Rotating Shafts during Acceleration through Resonance," SPIE's 10th Annual International Symposium on Smart Structures and Materials, San Diego, California, March 2-6, 2003
46. Seibel, R.E. "Manipulation of Micro Scale Particles in Optical Traps Using Programmable Spatial Light Modulation", Symposium on Liquid-Solid Flows, ASME Fluids Engineering Summer Meeting, FEDSM2003-45504, Honolulu, Hawaii, July 2003
47. Wang, H., Martin, R.E., Baaklini, G.Y., Sandhu, J.S. "Comparison of Acoustography, Ultrasonic Spectroscopy and C-scan Ultrasonics as Applied to Composite Flywheels," Proceedings of SPIE, Vol. 5046, Nondestructive

Evaluation and Health Monitoring of Aerospace Materials and Composites, Edited by Andrew L. Gyekenyesi and Peter J. Shull, pp 302-309, 2003

- 48. Wernet, M. P., John, W. T., and Bridges, J., 'Dual PIV Systems for Space-Time Correlations in Hot Jets', Proceedings of the ICIASF, Göttingen, Germany, August 25-29, 2003.**
- 49. Wernet, M., Chapter on "Digital Particle Image Velocimetry" in Optical Metrology for Fluids, Combustion and Solids, Mercer, C.R. Editor, published by Kluwer Academic Publishers, Boston 2003**
- 50. Wernet, M.P., John, W.T., Bridges, J., "Dual PIV Systems for Space-Time Correlations in Hot Jets", Proceedings of the ICIASF, Gottingen, Germany, August 25-29, 2003**
- 51. Yee, L.K., Kadambi, J.R., Wernet, M.P., "Investigation of Flow Characteristics in a Coronary Artery Stent Using PIV", ASME Fluids Engineering Summer Meeting, FEDSM2003-45500, Honolulu, Hawaii, July 2003**