

References

- [1] C. A. Rogers, "Intelligent Material Systems - The Dawn of a New Material Age," *Journal of Intelligent Material Systems and Structures*, vol. 4, no. 1, pp. 4-12, 1993
- [2] C. A. Rogers and F. Lalande, "Solid-State Active Sensing for In-Situ Health Monitoring," *Proceedings of the Society for Machinery Failure Prevention Technology 50th Meeting Technical Showcase*, Mobile, AL, pp. 301-307, 1996
- [3] R. D. Adams, P. Cawley, C. J. Pye and B. J. Stone, "A Vibration Technique for Non-Destructively Assessing the Integrity of Structures," *Journal of Mechanical Engineering Science*, vol. 20, no. 2, pp. 93-100, 1978
- [4] P. Cawley and R. D. Adams, "The Location of Defects in Structures from Measurements of Natural Frequencies," *Journal of Strain Analysis*, vol. 14, no. 2, pp. 49-57, 1979
- [5] H. M. Adelman and R. T. Haftka, "Sensitivity Analysis of Discrete Structural Systems," *AIAA Journal*, vol. 24, no. 5, pp. 823-832, 1986
- [6] D. C. Zimmerman and M. Kaouk, "Structural Damage Detection Using a Minimum Rank Update Theory," *ASME Journal of Vibration and Acoustics*, vol. 116, no. 2, pp.222-231, 1994
- [7] A. K. Pandey, M. Biswas and M. Samman, "Damage Detection from Changes in Curvature Mode Shapes," *Journal of Sound and Vibration*, vol. 145, no. 2, pp. 321-332, 1991
- [8] M. M. Samman, "Structural Damage Detection Using the Modal Correlation Coefficient (MCC)," *Proceedings of the 15th International Modal Analysis Conference*, Orlando, FL, pp. 627-630, 1997
- [9] Z. Liang, G. C. Lee and F. Kong, "On Detection of Damage Location of Bridges," *Proceedings of the 15th International Modal Analysis Conference*, Orlando, FL, pp. 308-312, 1997
- [10] A. E. Aktan, D. L. Brown, C. R. Farrar, A. Helmicki, V. Hunt and J. Yao, "Objective Global Condition Assessment," *Proceedings of the 15th International Modal Analysis Conference*, Orlando, FL, pp. 364-373, 1997
- [11] D. J. Pines, "The Use of Wave Propagation Models for Structural Damage Identification,"

- Proceedings of the International Workshop on Structural Health Monitoring*, Stanford, CA, pp. 665-677, 1997
- [12] H. T. Banks, D. J. Inman, D. J. Leo and Y. Wang, "An Experimentally Validated Damage Detection Theory in Smart Structures," *Journal of Sound and Vibration*, vol. 191, no. 5, pp. 859-880, 1996
- [13] F. P. Sun, Z. Chaudhry, C. Liang and C. A. Rogers, "Truss Structure Integrity Identification Using PZT Sensor-Actuator," *Journal of Intelligent Material Systems and Structures*, vol. 6, no. 1, pp. 134-139, 1995
- [14] F. Lalande, Z. Chaudhry, F. P. Sun and C. A. Rogers, "Debond Detection Using Broad-Band High-Frequency Excitation and Non-Contacting Laser Vibrometer System," *Journal of Intelligent Material Systems and Structures*, vol. 7, no. 2, pp. 176-181, 1996
- [15] V. Giurgiutiu, Z. Chen, F. Lalande and C. A. Rogers, "Passive and Active Tagging of Glass-Fiber Polymeric Composites for In-Process and In-Field Non-Destructive Evaluation," *Journal of Intelligent Material Systems and Structures*, vol. 7, no. 6, pp. 623-634, 1996
- [16] J. Cattarius and D. J. Inman, "Time Domain Analysis for Damage Detection in Smart Structures," *Mechanical Systems and Signal Processing*, vol. 11, no. 3, pp. 409-423, 1997
- [17] E. F. Crawley and E. H. Anderson, "Detailed Models of Piezoceramic Actuation of Beams," *Journal of Intelligent Material Systems and Structures*, vol. 1, no. 1, pp. 4-25, 1990
- [18] C. Liang, F. P. Sun and C. A. Rogers, "An Impedance Method for Dynamic Analysis of Active Material Systems," *ASME Journal of Vibration and Acoustics*, vol. 116, no. 1, pp.120-128, 1994
- [19] F. P. Sun, C. Liang and C. A. Rogers, "Structural Modal Analysis Using Collocated Piezoelectric Actuator/Sensors - an Electromechanical Approach," *Proceedings of SPIE Smart Structures and Materials 1994*, Orlando, FL, vol. 2190, pp. 238-249, 1994
- [20] Z. Chaudhry, F. P. Sun and C. A. Rogers, "Health Monitoring of Space Structures Using Impedance Measurements," *Proceedings of the 5th International Conference on Adaptive Structures*, Sendai, Japan, pp. 584-591, 1994

- [21] Z. Chaudhry, T. Joseph, F. P. Sun and C. A. Rogers, "Local-Area Health Monitoring of Aircraft via Piezoelectric Actuator/Sensor Patches," *Proceedings of SPIE Smart Structures and Materials 1995*, San Diego, CA, vol. 2443, pp. 268-276, 1995
- [22] Z. Chaudhry, F. Lalande, A. Ganino, C. A. Rogers and J. Chung, "Monitoring the Integrity of Composite Patch Structural Repair via Piezoelectric Actuators/Sensors," *Proceedings of the 36th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Adaptive Structures Forum*, New Orleans, LA, Part 4, pp. 2243-2248, 1995
- [23] J. W. Ayres, C. A. Rogers and Z. Chaudhry, "Qualitative Health Monitoring of a Steel Bridge Joint via Piezoelectric Actuator/Sensor Patches," *Proceedings of SPIE Smart Structures and Materials 1996*, San Diego, CA, vol. 2719, pp. 123-131, 1996
- [24] F. Lalande, B. Childs, Z. Chaudhry, and C. A. Rogers, "High-Frequency Impedance Analysis for NDE of Complex Precision Parts," *Proceedings of SPIE Smart Structures and Materials 1996*, San Diego, CA, vol. 2717, pp. 237-245, 1996
- [25] V. Raju, *Implementing Impedance-Based Health Monitoring*, Masters Thesis, Virginia Polytechnic Institute and State University, 1997
- [26] Piezo System Inc., *Piezoelectric Product Catalog*, 1997
- [27] C. E. Woon L. D. and Mitchell, L.D., "Variations in Structural dynamic Characteristics Caused by Changes in Ambient Temperature: Part I. Experimental," *Proceedings of the 14th International Modal Analysis Conference*, Dearborn, MI, pp. 963-971, 1996
- [28] C. E. Woon L. D. and Mitchell, L.D., "Variations in Structural dynamic Characteristics Caused by Changes in Ambient Temperature: Part II. Analytical," *Proceedings of the 14th International Modal Analysis Conference*, Dearborn, MI, pp. 972-980, 1996
- [29] L. S. Cook, A. Wolfenden and G. M. Ludtka "Longitudinal and Flexural Resonance Methods for the Determination of the Variation with Temperature of Dynamic Young's Modulus in 4330V Steel" *Dynamic Elastic Modulus Measurements in Materials, ASTM STP 1045*, A. Wolfenden, Ed., American Society for Testing Materials, Philadelphia, pp. 75-89, 1990
- [30] F. P. Sun, Z. Chaudhry, C. A. Rogers and M. Majmundar, "Automated Real-Time Structure Health Monitoring via Signature Pattern Recognition," *Proceedings of SPIE Smart*

- Structures and Materials 1995*, San Diego, CA, vol. 2443, pp. 236-247, 1995
- [31] K. Krishnamurthy, F. Lalande and C. A. Rogers, "Effects of Temperature on the Electrical Impedance of Piezoelectric Sensors," *Proceedings of SPIE Smart Structures and Materials 1996*, San Diego, CA, vol. 2717, pp. 302-310, 1996
- [32] G. Park, K. Kabeya, H. H. Cudney and D. J. Inman, "Removing Effects of temperature Changes from Piezoelectric Impedance-Based Qualitative Health Monitoring," *Proceedings of SPIE Smart Structures and Materials 1998*, San Diego, CA, in print.
- [33] F. P. Sun, Craig A. Rogers and C. Liang, "Structural Frequency Response Function Acquisition via Electric Impedance Measurement of Surface-Bonded Piezoelectric Sensor/Actuator," *Proceedings of the 36th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Adaptive Structures Forum*, New Orleans, LA, Part 5, pp. 3450-3458, 1995
- [34] D. E. Bray and R. K. Stanley, *Nondestructive Evaluation - A Tool in Design, Manufacturing, and Service*, CRC Press, 1997
- [35] A. Bedford and D. S. Drumheller, *Introduction to Elastic Wave Propagation*, John Wiley & Sons, 1994
- [36] F. Fahy, *Sound and Structural Vibration - Radiation, Transmission and Response*, Academic Press, 1985
- [37] I. Daubechies, *Ten Lectures on Wavelets*, Society for Industrial and Applied Mathematics, 1992
- [38] D. E. Newland, *An Introduction to Random Vibrations, Spectral and Wavelet Analysis*, Longman, 1993
- [39] R. Ashino and S. Yamamoto, *Wavelet Analysis (in Japanese)*, Kyoritsu Shuppan, 1997
- [40] M. Misiti, Y. Misiti, G. Oppenheim and J. M. Poggi, *Wavelet Toolbox User's Guide*, Math Works, 1996
- [41] D. R. Wehner, *High-Resolution Radar*, Artech House, 1994
- [42] R. H. Lyon, *Statistical Energy Analysis of Dynamic Systems: Theory and Applications*, MIT Press, 1975