

REFERENCES

- Abramowitz, M. and Stegun, I. A., 1970, *Handbook of Mathematical Functions*, Dover Publications, Inc., New York, 1970, pp. 411, 468.
- Arnold, R. N., and Warburton, G. B., 1949, "Flexural vibrations of the Walls of Thin Cylindrical Shells Having Freely Supported Ends," *Proceedings of the Royal Society of London, Ser. A*, Vol. 197, No. 1049, June, pp. 238-256.
- Banks, H. T., Lester, H. C. & Smith, R. C., 1992, "A Piezoelectric Actuator Model for Active Vibration and Noise Control in Thin Cylindrical Shells," *Proceedings of the 31st Conference on Decision and Control*, Tucson, Arizona, December, pp. 1797-1802.
- Bathe, K. J., 1998, "What can go wrong in FEA?" *Mechanical Engineering*, **120**(5), pp. 63-65.
- Bergen, T. F., 1995, "Vibration Damping of the Cassini Spacecraft Structure," *Proceedings of the 41st Annual Technical Meeting of the Institute of Environmental Sciences*, Anaheim, CA, April 30-May 5, pp. 189-195.
- Bergen, T. F. & Kern, D. L., 1996, "Attenuation of the Cassini Spacecraft Vibroacoustic Environment," *Proceedings of the 42nd Annual Technical Meeting of the Institute of Environmental Sciences*, Orlando, Florida, May 12-17.
- Blevins, R. D., 1987, *Formulas for Natural Frequency and Mode Shape*, Robert E. Krieger Publishing Company, Malabar, FL.
- Bourgine, A. & Dordain, J. J., 1979, "Review of Acoustic Studies Carried Out at ONERA in the Field of Space Vehicles," *Communication Presentee au 16^e Symposium Spatial Europeen*, Stresa, Italy, T.P. no.1979-94, July 3-5.
- Bradford, L. and Manning, J. E., 1996, "Attenuation of the Cassini Spacecraft Acoustic Environment," *Sound and Vibration*, October, pp. 30-37.
- Bullmore, A. J., Nelson, P. A., Elliot, S. J., Evers, J. F., Chidley, B., 1987, "Models for Evaluating the Performance of Propeller Aircraft Active Noise Control Systems," *AIAA 11th Aeroacoustics Conference*, Palo Alto, CA, October 19-21, AIAA-87-2704, pp. 1-11.
- Bullmore, A. J., Nelson, P. A., Elliot, S. J., 1986, "Active Minimisation of Acoustic Potential Energy in Harmonically Excited Cylindrical Enclosed Sound Fields," *AIAA 10th Aeroacoustics Conference*, Seattle, WA, July 9-11, AIAA-86-1958, pp. 1-10.
- Cheng, L., 1994, "Fluid-Structural Coupling of a Plate-Ended Cylindrical Shell: Vibration and Internal Sound Field," *Journal of Sound and Vibration*, **174**(5), pp. 641-654.

Clark, R. L. and Fuller, C. R., 1992, "Optimal Placement of Piezoelectric Actuators and Polyvinylidene Fluoride Error Sensors in Active Structural Acoustic Control Approaches," *Journal of the Acoustical Society of America*, **92**(3), pp. 1521-1533.

Clark, R. L. and Fuller, C. R., 1991, "Experiments on Active Control of Structurally Radiated Sound Using Multiple Piezoceramic Actuators," *Journal of the Acoustical Society of America*, **91**(6), pp. 3313-3320.

Clark, R. L. and Fuller, C. R., 1991b, "Control of Sound Radiation with Adaptive Structures," *Journal of Intelligent Material Systems and Structures*, Vol. 2, July, pp. 431- 452.

Denoyer, K. K., Griffin, S. F., Sciulli, D., 1998, "Hybrid Structural/Acoustic Control of a Sub-scale Payload Fairing," *SPIE - Proceedings of the International Society for Optical Engineering*, Vol. 3329, March 2-5, pp. 237-243.

Drake, M. L., Koury, J. L., Kim, T. D., Harvey, J. A., 1993, "An Integral Acoustic Control System for Composite Isogrid Structures," *SPIE - Proceedings of the International Society for Optical Engineering*, Vol. 1917, Albuquerque, NM, February 1-4, pp. 623-633.

Eaton, D. C. G. and Betti, F., 1996, "Further Assessments of the Effects of Helium and Test Chambers on Payload Response," *Proceedings of the International Conference on Spacecraft Structures, Materials & Mechanical Testing*, Noordwijk, Netherlands, March 27-29, pp. 243-257.

Eldred, K. M., 1971, "Acoustic Loads Generated by the Propulsion System," NASA SP-8072, June.

Elliot, K., 1990, "Titan Vibroacoustics," *Proceedings of the NASA-Industry Conference on Launch Environments of ELV Payloads*, Elkridge, Maryland, pp. 189-215.

Elliott, S. J., Nelson, P. A., Stothers, I. M., Boucher, C. C., 1990, "In-Flight Experiments on Active Control of Propeller-Induced cabin Noise," *Journal of Sound and Vibration*, Vol. 140, No. 2, pp. 219-238.

Fahy, F., 1985, *Sound and Structural Vibration: Radiation, Transmission and Response*, Academic Press, New York, NY.

Falangas, E. T., Dworak, J. A., Koshigoe, S., 1994, "Controlling Plate Vibrations Using Piezoelectric Actuators," *IEEE Control Systems*, August, pp. 34-41.

Falangas, E. T., Dworak, J. A., Koshigoe, S., 1993, "Methods for Controlling Plate Vibrations Using Piezoelectric Actuators," AIAA-93-3723-CP, pp.214-223.

Francis, D. and Sadek, M. M. 1985, "An Integral Equation Method for Predicting Acoustic Emission Within Enclosures," *Proceedings of the Institution of Mechanical Engineers*, Vol. 199, No. C2, pp. 133-137.

Fukushima, Y., Tomioka, K., Nakamura, T., 1992, "In-flight External and Internal Noise Measurement for TR-I Rocket Nose Fairing," *Proceedings of the 30th Aerospace Sciences Meeting & Exhibit*, Reno, NV, AIAA 92-0375, pp. 1-9.

Fuller, C. R., 1988 "Analysis of Active Control of Sound Radiation from Elastic Plates by Force Inputs," *Proceedings of Inter-Noise*, pp. 1061-1064.

Fuller, C. R. and Gibbs, G. P., 1994, "Active Control of Interior Noise in a Business Jet using Piezoceramic Actuators," *NOISE-CON 94*, Ft. Lauderdale, Florida, May 1-4, pp. 389-394.

Fuller, C. R., Hansen, C. H., Snyder, S. D., 1989, "Active Control of Structurally Radiated Noise Using Piezoceramic Actuators," *Proceedings of Inter-Noise*, Newport Beach, CA, December 4-6, pp. 509-512.

Fuller, C. R., and Jones, J. D., 1987, "Experiments on Reduction of Propeller Induced Interior Noise by Active Control of Cylinder Vibration," *Journal of Sound and Vibration*, **112**(2), pp. 389-395.

Fuller, C. R., Rogers, C. A., Robertshaw, H. H., 1989, "Active Structural Acoustic Control with Smart Structures," *SPIE Conference on Fiber Optic Smart Structures and Skins II*, Boston, MA, August 5-8, 1170-38.

Fyfe, K. R. and Ismail, F., 1989, "An Investigation of the Acoustic Properties of Vibrating Finite Cylinders," *Journal of Sound and Vibration*, **128**(3), pp. 361-375.

White, J. M. and Gilliam, R. P., "Assessment of Equivalent Monocoque Isogrid Shell Modeling Technique for Dynamic Response to Impulsive Loads," AIAA, 83-0926, pp. 427-434.

Glaese, R. M. and Anderson, E. H., 1999, "Active Structural-Acoustic Control for Composite Payload Fairings," *SPIE Conference on Smart Structures and Materials*, Newport Beach, CA, March 1-4.

Griffin, S., 1999, Air Force Research Laboratory (Phillips Lab), Kirtland AFB, Albuquerque, NM.

Griffin, S., Hansen, C., Cazzolato, B., 1999, "Feasibility of Feedback Control of Transmitted Sound into a Launch Vehicle Fairing Using Structural Sensing and Proof Mass Actuators," *Proceedings of the 40th AIAA/ASME/ASCE/AHS/ASC Structures Structural Dynamics, and Materials Conference & AIAA/ASME/AHS Adaptive Systems Forum*, St. Louis, MO, April 12-15, AIAA 99-1529.

Hesseleman, N., 1978, "Investigation of Noise Reduction on a 100 kVA Transformer Tank by Means of Active Methods," *Applied Acoustics*, Vol. 11, pp. 27-34.

Himelblau, H., Kern, D. L., Davis, G. L., 1992, "Development of Cassini Acoustic Criteria Using Titan IV Flight Data," *Proceedings of the 38th Annual Technical Meeting of the Institute of Environmental Sciences*, Nashville, TN, pp. 307-331.

Houston, B., Marcus, M., Bucaro, J., 1997, "Active Blankets for the Control of Payload Fairing Interior Acoustics," *Proceedings of the 38th AIAA/ASME/ASCE/AHS/ASC Structures Structural Dynamics, and Materials Conference & AIAA/ASME/AHS Adaptive Systems Forum*, Kissimmee, FL, April 7-10, AIAA 97-1256, pp. 1-12.

Houston, B., Marcus, M., Bucaro, J., Williams, E., 1996, "Active Control of Payload Fairing Interior Noise Using Physics-Based Control Laws," *2nd AIAA/CEAS Aeroacoustics Conference*, State College, PA, May 6-8, AIAA 96-1723, pp. 1-11.

Huybrechts, S. and Meink, T. E., 1997, "Advanced Grid Stiffened Structures for the Next Generation of Launch Vehicles," *Proceedings of the 1997 IEEE Aerospace Conference*, Vol. 1, pp. 263-269.

Kahre, G., 1990, "Delta," *Proceedings of the NASA-Industry Conference on Launch Environments of ELV Payloads*, Elkridge, Maryland, pp. 145-188.

Kazakia, J. Y., 1986, "A Study of Active Attenuation of Broadband Noise," *Journal of Sound and Vibration*, 110(3), pp. 495-509.

Kipp, C. R. and Bernhard, R. J., 1987, "Prediction of Acoustical Behavior in Cavities Using an Indirect Boundary Element Method," *Journal of Vibration, Acoustics, Stress, and Reliability in Design*, Vol. 109, January, pp. 22-28.

Koga, T., 1988, "Effects of Boundary Conditions on the Free Vibrations of Circular Cylindrical Shells," *AIAA Journal*, 26(11), November, pp. 1387-1394.

Koshigoe, S., Gillis, J. T., Falangas, E. T., 1993, "A New Approach for Active Control of Sound Transmission through an Elastic Plate Backed by a Rectangular Cavity," *Journal of the Acoustical Society of America*, 94(2), August, pp. 900-907.

Koshigoe, S., Teagle, A., Gordon, A., 1995, "A Time Domain Study of Active Control of Sound Transmission due to Acoustic Pulse Excitation," *Journal of the Acoustical Society of America*, 97(1), January, pp. 313-323.

Koshigoe, S., Teagle, A., Tsay, C. 1995b "Analysis of Active Control with On-Line System Identification on Sound Transmission Through an Elastic Plate," *SPIE - Proceedings of the International Society for Optical Engineering*, Vol. 2442, pp. 46-57.

Lalande, F., 1995, "Modeling of Induced Strain Actuation of Shell Structures," Ph.D. Dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Lalande, F., Chaudhry, Z., Rogers, C. A., 1995, "Comparison of Different Impedance-Based Models for Out-of-Phase Actuation of Actuators Bonded on Ring Structures," *Journal of Intelligent Material Systems and Structures*, Vol. 6, May, pp. 389-395.

Lalande, F., Chaudhry, Z., Rogers, C. A., 1995b, "Impedance Based Modeling of Actuators Bonded to Shell Structures," *Journal of Intelligent Material Systems and Structures*, Vol. 6, November, pp. 389-395.

Lalande, F., Chaudhry, Z., Rogers, C. A., 1994, "Modeling Considerations for In-Phase Actuation of Actuators Bonded to Shell Structures," *Proceedings of the AIAA/ASME/ASCE/AHS/ASC 35th Structures, Structural Dynamics, and Materials Conference, Adaptive Structures Forum*, Hilton Head, SC, pp., 429-437.

Lee, Y. A., 1992, "Acoustic Fill Factors for a 120-Inch Diameter Fairing," NASA Contract Report 189284.

Langley, R. S., 1993, "A Dynamic Stiffness/Boundary Element Method for the Prediction of Interior Noise Levels," *Journal of Sound and Vibration*, **163**(2), pp. 207-230.

Lee, Y. A., 1988, "Study of Helium Effect on the Spacecraft Random Vibration with VAPEPS Program," *Proceedings of the 59th Shock and Vibration Symposium*, Albuquerque, NM, pp. 119-135.

Lefebvre, S., 1991, "Active Control of Interior Noise Using Actuators in a Large-Scale Composite Fuselage," MS. Thesis, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Leo, D. J., and Anderson, E. H., 1998, "Vibroacoustic Modeling of a Launch Vehicle Payload Fairing for Active Acoustic Control," *Proceedings of the 39th AIAA/ASME/ASCE/AHS/ASC Structures Structural Dynamics, and Materials Conference & AIAA/ASME/AHS Adaptive Systems Forum*, pp. 3212-3222.

Lester, H. C. and Fuller, C. R., 1987, "Mechanisms of Active Control for Noise Inside a Vibrating Cylinder," *NOISE-CON 87*, pp. 371-376.

Lester, H. C. and Lefebvre, S., 1993, "Piezoelectric Actuator Models for Active Sound and Vibration Control of Cylinders," *Journal of Intelligent Materials Systems and Structures*, Vol. 4, July, pp. 295-306.

Lester, H. C. and Lefebvre, S., 1991, "Piezoelectric Actuator Models for Active Sound and Vibration Control of Cylinders," *Proceedings, Recent Advances in Active Noise and Vibration Control*, Blacksburg, VA, Technomic Publishing Company, Inc., 3-26, April 15-17.

Lester, H. C. and Silcox, R. J., 1992, "Active Control of Interior Noise in a Large Scale Cylinder Using Piezoelectric Actuators," *Fourth Aircraft Interior Noise Workshop*, NASA CP 10103, July, pp. 173-190.

Liang, C., Sun, F. P., Rogers, C. A., 1993, "An Impedance Method for Dynamic Analysis of Active Material Systems," *Proceedings of the AIAA/ASME/ASCE/AHS/ASC 34th Structures, Structural Dynamics, and Materials Conference*, La Jolla, CA, pp. 3587-3599.

Long, M. D., Carne, D. A., Fuller, C. M., 1996, "Acoustic Blanket Effect on Payload Fairing Vibration," *Proceedings of the 42nd Annual Technical Meeting of the Institute of Environmental Sciences*, Orlando, Florida, May 12-17.

Maia, N. M. M. and Silva, J. M. M., 1998, *Theoretical and Experimental Modal Analysis*, Research Studies Press LTD., Baldock, Hertfordshire, England, 349-350.

Maillard, J. P., Fuller, C. R., 1995, "Advanced Time Domain Wave-Number Sensing for Structural Acoustic Systems. Part III. Experiments on Active Broadband Radiation Control of a Simply Supported Plate," *Journal of the Acoustical Society of America*, **98**(5), November, 2613-2621.

Mathur, G. P., Tran, B. N., Simpson, M. A., Peterson, D. K., Toth, G. K., Weeks, W. A., 1995, "Broadband Active Structural Acoustic Control of Panel Sound Transmission," *Proceedings of ACTIVE 95*, Newport Beach, CA, July 6-8, 275-282.

Morse, P. M. and Ingard, K. U., 1968, *Theoretical Acoustics*, McGraw-Hill, New York, NY.

Nashif, A. D., Jones, D. I. G., Henderson, J. P., 1985, *Vibration Damping*, John Wiley & Sons, New York, NY.

Newbury, K., Glaese, R., Leo, D., Anderson, E., 1998, "Dynamic Characterization of Grid Stiffened Composite Panels for Active Structural-Acoustic Control," *Proceedings of the ASME Winter Annual Meeting*, IMECE, Anaheim, CA, November 16-20.

Niezrecki, C. and Cudney, H. H., 1997, "Active Control Technology Applied to Rocket Fairing Structural Vibrations and Acoustics," *Proceedings of the 38th AIAA/ASME/ASCE/AHS/ASC Structures Structural Dynamics, and Materials Conference & AIAA/ASME/AHS Adaptive Systems Forum*, Kissimmee, FL, April 7-10, pp. 1525-1535.

Niezrecki, C. and Cudney, H. H., 1996, "Preliminary Review of Active Control Technology Applied to the Fairing Acoustic Problem," *Proceedings of the 37th AIAA/ASME/ASCE/AHS/ASC Structures Structural Dynamics, and Materials Conference & AIAA/ASME/AHS Adaptive Systems Forum*, Salt Lake City, Utah, April 18-19, pp.101-108.

Robinson, M. J., Charette, R. O., Leonard, B. G., 1991, "Advanced Composite Structures for Launch Vehicles," *SAMPE Quarterly*, Vol. 22, No. 2, January, pp. 26-37.

Ross, C. F., 1982, "An Algorithm for Designing a Broadband Active Sound Control System," *Journal of Sound and Vibration*, 80(3), pp. 373-380.

Rossi, A., Liang, C., Rogers, C. A., 1993, "Impedance Modeling of Piezoelectric Actuator-Driven Systems: An Application to Cylindrical Ring Structures," *Proceedings of the AIAA/ASME/ASCE/AHS/ASC 34th Structures, Structural Dynamics, and Materials Conference*, La Jolla, CA, pp. 3618-3624.

Roure, A., 1985, "Self-Adaptive Broadband Active Sound Control System," *Journal of Sound and Vibration*, 101(3), pp. 429-441.

Sewall, J. L. 1967, "Vibration Analysis of Cylindrically Curved Panels with Simply Supported or Clamped Edges and Comparison with some Experiments," NASA TN D-3791, N67-16689, pp. 1-48.

Seybert, A. F. and Cheng, C., 1986, "Application of the Boundary Element Method to Acoustic Cavity Response and Muffler Analysis," *Winter Annual Meeting of the ASME*, Anaheim, CA, ASME Paper 86-WA/NCA-1, pp. 1-7.

Shen, F. and Pope, D., 1990, "Design and Development of Composite Fairing Structures for Space Launch Vehicles," SAE Technical Paper 901836, *Aerospace Technology Conference and Exposition*, Long Beach, CA, October.

Silcox, R. J., Fuller, C. R., Lester, H. C., 1990, "Mechanisms of Active Control in Cylindrical Fuselage Structures," *AIAA Journal*, Vol. 28, No. 8, August, pp. 1397-1403.

Silcox, R. J. and Lester, H. C., 1989, "Propeller Modeling Effects on Interior Noise in Cylindrical Cavities with Application to Active Control," *AIAA 12th Aeroacoustics Conference*, San Antonio, TX, April 10-12, AIAA-89-1123, pp. 1-12.

Silcox, R. J., Lester, H. C., Abler, S. B., 1989, "An Evaluation of Active Noise Control in a Cylindrical Shell," *Journal of Vibration, Acoustics, Stress, and Reliability in Design*, Vol. 111, July, pp. 337-342.

Silcox, R. J., Lester, H. C., Coats, T. J., 1993, "An Analytical Study of Intensity Flow for Active Structural Acoustic Control in Cylinders," *Proceedings of the 1993 Noise and Vibration Conference*, Society of Automotive Engineers, Inc., Warrendale, PA, P-264, 931284, pp. 183-196.

Snyder, S. D. and Hansen, C. H., 1994, "The Design of Systems to Control Actively Periodic Sound Transmission Into Enclosed Spaces, Part II: Mechanisms and Trends," *Journal of Sound and Vibration*, 170(4), pp. 451-472.

Soedel, W., *Vibrations of Shells and Plates*, Marcel Dekker, Inc., New York, 1981.

Sonti, V. R. and Jones, J. D., 1996, "Curved Piezoelectric Model for Active Vibration Control of Cylindrical Shells," *AIAA Journal*, **34**(5), May, pp. 1034-1040.

Sonti V. R. and Jones J. D., 1991, "Active Vibration Control of Thin Cylindrical Shells Using Piezo-Electric Actuators," *Proceedings, Recent Advances in Active Noise and Vibration Control*, Blacksburg, VA, Technomic Publishing Company, Inc., April 15-17, pp. 27-38.

Stevens, J. C. and Ahuja, K. K., 1991, "Recent Advances in Active Noise Control," *AIAA Journal*, Vol. 29, No. 7, pp. 1058-1066.

Sumali, H., 1992, "Demonstration of Active Structural Acoustic Control of a Cylinder," MS. Thesis, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Vlahopoulos, N., 1994, "A Numerical Structure-Borne Noise Prediction Scheme Based on the Boundary Element Method, with a New Formulation for the Singular Integrals," *Computers & Structures*, **50**(1), pp. 97-109.

Wang, B. T., Burdisso, R. A., Fuller, C. R., 1994, "Optimal Placement of Piezoelectric Actuators for Active Structural Acoustic Control," *Journal of Intelligent Material Systems and Structures*, Vol. 5, January, pp. 67-77.

Warnaka, G. E., 1982, "Active Attenuation of Noise-The State of the Art," *Noise Control Engineering*, May/June, pp. 100-110.

Weissman, K., McNelis, M. E., Pordan, W. D., 1994, "Implementation of Acoustic Blankets in Energy Analysis Methods with Application to the Atlas Payload Fairing," *Journal of the IES*, July/August, pp. 32-39.

Zhou, S., Liang, C., Rogers, C. A., 1994, "A Dynamic Model of a Piezoelectric Actuator-Driven Thin Plate," *Proceedings of the SPIE Conference on Smart Structures and Materials*, Orlando, FL, Vol. 2190, pp. 550-562.

Zhou, S., Liang, C., Rogers, C. A., 1993, "Impedance Modeling of Two-Dimensional Piezoelectric Actuators Bonded on a Cylinder," *Proceedings of the ASME Winter Annual Meeting Adaptive Structures and Material Systems*, New Orleans, LA, AD-Vol. 35, pp. 247-255.