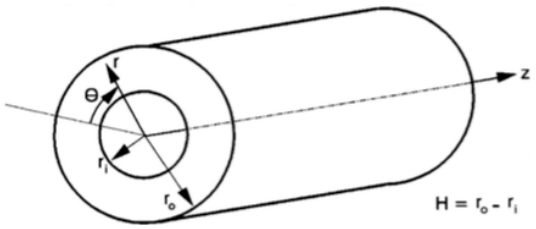

Fig. 1. Geometry of a hollow piezoelectric cylinder with r_i and r_o as inner and outer radii.

From: "End Reflections in Layered Piezoelectric Cylinder," Int. J. of Solids and Structures, Vol. 43, pp 6309-6325, October 2006 (with H. Bai, A.H. Shah and E. Taciroglu).

Professor Emeritus Stanley B. Dong

See:
http://www.cee.ucla.edu/profile-dong/
https://www.researchgate.net/profile/Stanley_Dong
http://65.54.113.26/Author/2673604/stanley-b-dong

Dept. of Civil and Environmantal Engineering
University of California Los Angleles (UCLA), California

Selected Publications:

1. "Elastic Bending of Layered Plates," J. of the Engineering Mechanics Division, ASCE, 85-EM4: 1-10, October 1959 (with K.S. Pister).
2. "Analysis of Structural Laminates," Aeronautical Research Laboratory, ARL 76, Office of Aerospace Research,Wright-Patterson AFB, September 1961 (with R.B. Matthiesen, K.S. Pister and R.L. Taylor).
3. "Stress Analysis of Anisotropic Elastic and Viscoelastic Solids," Meeting Bulletin, ARPA-NASA, Panel on Physical Properties of Solid Propellants 1:53-62, November 1961 (with K.S. Pister).
4. "Studies Relating to Structural Analysis of Solid Propellants," Inst. of Engineering Research, Series 100, Issue 18, University of California Press, February 1962 (with L.R. Herrmann, K.S. Pister and R.L. Taylor).
5. "On the Theory of Laminated Anisotropic Shells and Plates," J. of the Aerospace Sciences, 29:969-975, August 1962 (with K.S. Pister and R.L. Taylor).
6. "Bending of Laminated Anisotropic Shells," Proc. of the World Conference on Shell Structures, San Francisco, National Academy of Sciences / National Research Council, Publication 1187, 659-666, October 1962.
7. "Analysis of Slightly Anisotropic Shells," AIAA Journal, 1:2565-2569, November 1963 (with R.G. Dong).

8. "Membrane Stresses in Laminated Anisotropic Shells," J. of the Engineering Mechanics Division, ASCE, 90-EM3:53-69, June 1964.
9. "An Analogy for Anisotropic, Nonhomogeneous, Linear Viscoelasticity Including Thermal Stresses, Developments in Mechanics," Proc. of the 8th Midwestern Mechanics Conference, Case Inst. of Technology, April 1963, Pergamon Press, 2:58-73, 1965 (with H.H. Hilton).
10. "Analysis of Laminated Shells of Revolution," J. of the Engineering Mechanics, Division, ASCE, 92-EM6:135-155, December 1966.
11. "Behavior of Laminated Orthotropic Viscoelastic Plates," J. of Rockets and Spacecrafts, 4:1385-1388, October 1967.
12. "Embankment Analysis and Field Correlation," Highway Research Record, No. 223, Highway Research Board, NRC, 1968 (with C. Hasson and R.A. Westmann).
13. "Free Vibrations of Laminated Orthotropic Cylindrical Shells," J. of the Acoustical Society of America, 44:1628-1635, December 1968.
14. "Natural Vibrations of Laminated Orthotropic Shells of Revolution," J. of Composite Materials, 4:2-19, January 1970 (with L.G. Selna).
15. "Analysis of Laminated Curved Beams," J. of the Engineering Mechanics Division, ASCE, 96-EM4:471-482, August 1970 (with A.F. Sayegh).
16. "Stability Analysis of Structures by a Reduced System of Generalized Coordinates," Int. J. of Solids and Structures, 6:1377-1388, October 1970 (with J.A. Wolf, Jr.).
17. "Natural Vibrations of Rectangular Laminated Orthotropic Plates," Developments in Mechanics (Proc. of the 12th Midwestern Mechanics Conference, University of Notre Dame, August 1971), University of Notre Dame Press, 6:891-905, August 1971 (with F.K.W. Tso and R.B. Nelson).
18. "Use of a Reduced System of Generalized Coordinates in a Direct – Iterative Eigensolution Technique," SAE Transactions, Paper No. 710784, 80-4, 1971 (with J.A. Wolf, Jr.).
19. "Vibrations and Waves in Laminated Orthotropic Circular Cylinders," J. of Sound and Vibration, 18:429-444, October 1971 (with R.B. Nelson and R.D. Kalra).
20. "On a Direct-Iterative Eigensolution Technique," Int. J. f. Numerical Methods in Engineering, 4:155-161, March 1972 (with J.A. Wolf, Jr. and F.E. Peterson).
21. "Structural Dynamic Behavior of Laminated Plates and Shells," Proc. of the AIAA/ASME/SAE 13th Structures, Structural Dynamics and Materials Conf., AIAA Paper No. 72-406, San Antonio, Texas, April 1972.
22. "On Natural Vibrations and Waves in Laminated Orthotropic Plates," J. of Applied Mechanics, 39:739-745, September 1972 (with R.B. Nelson).
23. "On a Laminated Orthotropic Shell Theory Including Transverse Shear Deformation," J. of Applied Mechanics, 39:1091-1097, December 1972 (with F.K.W. Tso).
24. "The Effect of Transverse Shear Deformation in the Vibration of Structures," J. of the Acoustical Society of America, 53:120-127, 1973 (with J.A. Wolf, Jr.).
25. "SH Wave Motions in Laminated Orthotropic Plates," AIAA Journal, 11:746-748, May 1973 (with F.K.W. Tso).
26. "High Frequency Vibrations and Waves in Laminated Orthotropic Plates," J. of Sound and Vibration, 30:33-44, September 1973 (with R.B. Nelson).
27. "Stresses and Deformation and Instability" – Chapters 3 and 4 of Structural Design Guide for

Advanced Composite Applications, 1st Ed. 1969, 2nd Ed. 1971 and 3rd Ed. 1973, Wright-Patterson AFB.

28. "Circular Wave Motions in a Plate Composed of Transversely Isotropic Materials," J. of Sound and Vibration, 37:149-160, 1974 (with F.K.W. Tso and R.B. Nelson).
29. "Analysis of Plane Waves in Laminated Piezoelectric Plates," Wave Electronics, 1:265-285, 1975 (with K.E. Pauley).
30. "Arbitrary Shaped Inhomogeneous Optical Fiber or Integrated Optical Waveguides," J. of Applied Physics, 46:2125-2129, 1975 (C. Yeh and W.A. Oliver).
31. "Natural Vibrations of Orthotropic Plates under Initial Stress," Int. J. of Solids and Structures, 11:213-230, 1975 (with L.G. Bradford).
32. "A Block-Stodola Eigensolution Technique for Large Algebraic Systems with Nonsymmetric Matrices," Int. J. f. Numerical Methods in Engineering, 11:247-267, March 1977.
33. "Natural Vibrations of Orthotropic Cylinders Under Initial Stress," J. of Sound and Vibration, 60-2:157-175, 1978 (with L.G. Bradford).
34. "Analysis of Electrical Equivalent Circuit Elements of Piezo-Tuning Forks by the Finite Element Method," IEEE Transactions on Sonics and Ultrasonics, SU-25:206-212, July 1978 (with Y. Tomikawa and H. Miura).
35. "Plane Waves in Anisotropic Plates," J. of the Engineering Mechanics Division, ASCE, 104-EM4:801-817, August, l978 (with K.E. Pauley).
36. "Single-Mode Optical Waveguides," Applied Optics, 18-10:1490-1504, October 1979 (with C. Yeh, K. Ha and W.P. Brown).
37. "Some Remarks on the Use of Asymptotic Solutions in Global-Local Finite Element Analysis for an Elastic Half-Space," Recent Research on Mechanical Behavior of Solids, Dept. of Precision Machinery, University of Tokyo Press, 1979 (with R. Muki).
38. "A Finite Element Analysis of Sound Propagation in a Non-Uniform Moving Medium," J. of the Acoustical Society of America, 66-2:549-555, August, 1979 (with C.Y. Liu).
39. "A Variational Theorem for the Scattering of Steady Elastic Waves from Inclusions," Mechanics Research Communication, 7-6:383-388, June 1980 (with R. Muki).
40. "Triangular Ridge Acoustic Waveguide and Coupler," Journal of the Acoustical Society of America, 69:145-149, Jan. 1981 (with W.A. Oliver and C.Yeh).
41. "Elastostatic Far-Field Behavior in a Layered Half-Space Under Surface Pressure," J. of Applied Mechanics, 47-3:504-512, September 1981 (with R. Muki).
42. "Analytical and Experimental Investigations of the Propagation and Attenuation of Sound in Extended Reactive Liners," AIAA 7th Aeroacoustics Conference, AIAA-81-2014, Oct. 1981 (with A.S. Hersh and B. Walker).
43. "On a Hierarchy of Conforming Timoshenko Beam Elements," Computers and Structures, 14-1:335-344, 1981 (with A. Tessler).
44. "Sound Propagation in a Nonuniform Moving Medium Contained in a Cylindrical Duct," Finite Element Applications in Acoustics, ASME, 111-120, 1981 (with C.Y. Liu and V. Avanessian).
45. "Edge Effects in Laminated Composite Plates," J. of Applied Mechanics, 49-1:129-135, March 1982 (with D.B Goetschel).
46. "A Global-Local Finite Element Analysis of Axisymmetric Scattering of Elastic Waves," J. of Applied

Mechanics, 49-4:816-820, December l982 (with D.B. Goetschel and R. Muki).

47. "Global-Local Finite Element Methods," in State-of-the-Art of Finite Element Methods (eds. Noor and Pilkey), ASME Special Publication, Chapter 14, 1983.

48. "A Central Crack Element for Fracture Mechanics," Int. J. Fracture, 24:197-207, 1984 (with L.G. Bradford, D.A.C. Nicol and R.A. Westmann).

49. "Propagating Waves and Standing Vibrations in a Composite Cylinder," J. Sound and Vibration, 96-3:363-379, October 1984 (with K.H. Huang).

50. "Natural Vibrations of a Clamped Circular Plate with Rectilinear Orthotropy by Least Square Collocation," Int. J. of Solids and Structures, 21:515-526, May 1985 (A.E. Lopez).

51. "Edge Vibrations in Laminated Composite Plates," J. of Applied Mechanics, 52-2:433-438, June 1985 (with K.H. Huang).

52. "Global Functions in Global-Local Finite Element Analysis of Localized Stresses in Prismatic Structures," Proceedings of NASA Workshop on Computational Methods for Structural Mechanics and Dynamics, NASA Langley Research Center, Hampton, VA, 1985.

53. "Eigenvector Relations for Natural Vibrations of Damped Systems," SAE Transactions, Paper No. 851931, 1985 (with S.S. Demsetz).

54. "Forced Oscillations of an Axisymmetric Structure in Contact with an Elastic Half-Space by the a Version of the Global-Local Finite Element Method," J. Sound and Vibration, 104-3:449-463, 1986 (with V. Avanessian and R. Muki).

55. "Axisymmetric Soil-Structure Interaction by Global-Local Finite Elements," Int. J. Earthquake Engineering and Structural Dynamics, 14-3:355-367, May/June 1986 (with V. Avanessian and R. Muki).

56. "Forced Oscillations of an Axisymmetric Structure in Contact with an Elastic Half-Space by the a Version of the Global-Local Finite Element Method," J. Sound and Vibration, 114-1:45-56, 1987 with V. Avanessian and R. Muki).

57. "Analysis of In-planeWaves in Layered Halfspace by Global-Local Finite Element Method," Soil Dynamics and Earthquake Engineering, 7-1:2-8, 1988 (with M. Oner).

58. "Microcomputer Codes Related to Analysis of Composite Structures," ASME Regional IX Computer Applications Symposium, Loyola-Marymount University, 14-1/6, 1988.

59. "Interaction of an Axisymmetric Body with Obliquely Incident Seismic Waves by Global Local Finite Elements," Int. J. Earthquake Engineering and Structural Dynamics, 18-2:185-197, 1989 (with V. Avanessian and R. Muki).

60. "End Modes and Their Applications to Wave Reflection Analysis," Vibration Analysis-Techniques and Applications, DE-18-4:199,208, Twelfth ASME Biennial Conference on Mechanical Vibration and Noise, Montreal, 1989 (with M. Kazic).

61. "Analysis of Restrained Torsion," J. of the Engineering Mechanics Division, ASCE, 116,EM-4:870-891, 1990 (with M. Kazic).

62. "Saint-Venant Solutions for Prismatic Anisotropic Beams," Int. J. of Solids and Structures, 28-7:917-938, 1991 (with J.B. Kosmatka).

63. "Shear Constitutive Relations for Laminated Anisotropic Shells and Plates: Part I – Methodology," J. Applied Mechanics, 59-2:372-379, 1992 (with C.K. Chun).

64. "Shear Constitutive Relations for Laminated Anisotropic Shells and Plates: Part II – Vibrations of

Composite Cylinders," J. Applied Mechanics, 59-2:380-389, 1992 (with C.K. Chun).

65. "Recent Advances in Saint-Venant's Solutions and Principles (in Japanese)," Trans. Japan Society of Mechanical Engineers, 59-559:512-517, 1993 (with R. Muki).

66. "Discussion of Buckling of Thick Orthotropic Cylindrical Shells Under External Pressure and Stability Loss in Thick Transversely Isotropic Cylindrical Shell Under Axial Compression, papers by G.A. Kardomateus," J. Applied Mechanics, 61-1:225, 1994.

67. "Natural Vibrations andWaves in Pretwisted Rods," Composites Engineering, 4-5:487-502, 1994 (with O. Onipede and J.B. Kosmatka).

68. "Discussion of Free Vibrations of Laminated Anisotropic Cylindrical Shells, paper by P.R. Heyliger and A. Jilani," J. of the Engineering Mechanics Division, ASCE, 120-EM7:1603-1604, 1994.

69. "Frequency Spectra of Laminated Piezoelectric Cylinders," J. Vibration and Acoustics, 116-3:364-370, 1994 (with J.C.T. Siao and J. Song).

70. "On Natural Vibrations in Pretwisted Beams," Recent Developments in Finite Element Analysis, edited by T.J.R. Hughes, E. Onate, and O.C. Zienkiewicz, Int. Center for Numerical Methods in Engineering (CIMNE), Barcelona, Spain, 122-130, 1994 (with O. Onipede).

71. "Three-Dimensional Stability Analysis of Laminated Anisotropic Circular Cylinders," Int. J. of Solids and Structures, 32-8/9:1211-1230, 1995 (with P. Etitum).

72. "A Comparative Study of Stability of Laminated Anisotropic Cylinders Under Axial Compression and Torsion," Int. J. of Solids and Structures, 32-8/9:1231-1246, 1995 (with P. Etitum).

73. "Propagating Waves and End Modes in Pretwisted Beams," J. Sound Vibration, 195(2):313-330, 1996 (with O. Onipede).

74. "Levy-type Finite Element Analyses of Vibration and Stability of Thin and Thick Laminated Composite Rectangular Plates," Composites Part B, 29B:459-475, 1998 (with L.X. Luccioni).

75. "Finite Element Analysis of Shear Deformation in Laminated Anisotropic Shells of Revolution," J. Sound Vibration, 218(1):164-176, 1998 (with C.K. Chun).

76. "Elastodynamic Green's Function for Laminated Anisotorpic Circular Cylinders," J. of Applied Mechanics, 66(3):665-674, 1999 (with W. Zhuang and A.H. Shah).

77. "Discussion of Generalized Warping Torsion Formulation, paper by Mauro Schulz and Filip Filippou," J. of Engineering Mechanics, ASCE, 125-EM10:1227-1228, 1999 (with J Kosmatka).

78. "Wave Reflection from the Free End of a Cylinder with an Arbitrary Cross-Section," Int. J. Solids and Structures, 37:1701-1726, 2000 (with H. Taweel and M. Kazic).

79. "Discussion of Buckling Analysis if Angle-Ply Multilaminated Long Hollow Cylinders, paper by Jianquio Ye," J. of Engineering Mechanics, ASCE, 126:-EM8:887, 2000.

80. "On Saint-Venant's Problem for an Inhomogeneous, Anisotropic Cylinder, Part I: Methodology for Saint-Venant Solutions," J. Applied Mechanics, 68(3):376-381, 2001 (with J.B. Kosmatka and H.C. Lin).

81. "On Saint-Venant's Problem for an Inhomogeneous, Anisotropic Cylinder, Part II: Cross-Sectional Properties," J. Applied Mechanics, 68(3):382-391, 2001 (with J.B. Kosmatka and H.C. Lin).

82. "On Saint-Venant's Problem for an Inhomogeneous, Anisotropic Cylinder, Part III: End Effects," J. Applied Mechanics, 68(3):392-398, 2001 (with J.B. Kosmatka and H.C. Lin).

83. "Analysis of Laminated Circular Cylinders of Materials with the Most General Form of Cylindrical Anisotropy, Part I – Axially Symmetric Deformations," Int. J. of Solids and Structures, 38:6163-6182,

2001 (with C.H. Huang).

84. "Analysis of Laminated Circular Cylinders of Materials with the Most General Form of Cylindrical Anisotropy, Part II – Flexural Deformations," Int. J. of Solids and Structures, 38:6183-6205, 2001 (with C.H. Huang).

85. "An Extended Meshfree Method for Boundary Value Problems," Computer Methods in Applied Mechanics and Engineering, 193:1085-1103, 2004 (with J.S. Chen and D.D. Wang).

86. "Behavior of Laminated Piezoelectric Circular Cylinders Under Axisymmetric Mechanical and Electrical Loads," Int. J. of Solids and Structures, 41:5185-5208, 2004 (with E. Taciroglu, C.W. Liu, and C.K. Chun).

87. "Elastodynamic Green's Functions for a Laminated Piezoelectric Cylinder," Int. J. of Solids and Structures, 41:6335-6350, 2004 (with H. Bai, E. Taciroglu, and A.H. Shah).

88. "Extended Meshfree Analysis of Transverse and Inplane Loading of a Laminated Anisotropic Plate of General Planform Geometry," Int. J. of Solids and Structures, accepted for publication April, 2004 (with J.S. Chen and D.D. Wang).

89. "On the Almansi-Michell Problems for an Inhomogeneous, Anisotropic Cylinder," Journal of Mechanics, The Society of Theoretical and Applied Mechanics, ROC, accepted for publication April 2004, (with Hseuh-Chun Lin).

90. "Transient Response of Transversely Isotropic Composite Plates to a Point Source," J. Applied Mechanics, accepted for publication 2004 (with A. Mahmoud and A.H. Shah).

91. "End Reflections in Layered Piezoelectric Cylinder," Int. J. of Solids and Structures, Vol. 43, pp 6309-6325, October 2006 (with H. Bai, A.H. Shah and E. Taciroglu).