

PUBLICATIONS of J. D. Achenbach

Walter P. Murphy and Distinguished McCormick School Professor

Northwestern University

Arranged by Type of Publication

I.	BOOKS -----	2
II.	TECHNICAL PAPERS IN REFEREED JOURNALS-----	3
III.	INVITED PAPERS IN HANDBOOKS, SPECIAL VOLUMES AND CONFERENCE PROCEEDINGS-----	28
IV.	CONTRIBUTED PAPERS IN CONFERENCE PROCEEDINGS-----	36
V.	BOOK REVIEWS-----	54
VI.	ARTICLES ON EDUCATIONAL MATTERS-----	55

I. BOOKS

- 1973 *Wave Propagation in Elastic Solids*, North-Holland Publishing Company/American Elsevier, Amsterdam/New York, 1973.
- 1975 *A Theory of Elasticity with Microstructure for Directionally Reinforced Composites*, CISM Monograph 167, Springer Verlag, Vienna/New York 1975.
- 1976 (contributor and editor, with Y. H. Pao and H. F. Tiersten), *Application of Elastic Waves in Electrical Devices, Non-Destructive Testing and Seismology*, Northwestern University, 1976.
- 1978 (contributor and editor, with J. Miklowitz), *Modern Problems in Elastic Wave Propagation*, Wiley Interscience, New York, 1978.
- 1982 (with A. K. Gautesen and H. McMaken), *Ray Methods for Waves in Elastic Solids - with Applications to Scattering by Cracks*, Pitman Advanced Publishing Program, Boston/London/Melbourne, 1982.
- 1987 (contributor and editor with Y. Rajapakse), *Solid Mechanics Research for Quantitative Nondestructive Evaluation*, Martinus Nijhoff Publishers (1987).
- 1990 (contributor and editor with S. K. Datta and Y. S. Rajapakse), *Elastic Waves and Ultrasonic Nondestructive Evaluation*, Elsevier Science Publishers (1990), 1993.
- 1993 *Evaluation of Materials and Structures by Quantitative Ultrasonics*, CISM Courses and Lectures No. 330, Springer-Verlag, Wien - New York (1993).
- 1998 (editor, with R.L. Crane, S.P. Shah, T.E. Matikas, P.T. Khuri-Yakub and R.S. Gilmore), *Nondestructive Characterization of Materials in Aging Systems*, Materials Research Society Symposium Proceedings, Volume 503, Materials Research Society, Warrendale, PA (1998).
- 2003 *Reciprocity in Elastodynamics*, Cambridge University Press, Cambridge, UK, 2003.

II. TECHNICAL PAPERS IN REFEREED JOURNALS

1962

(with C.-C. Chao), "A Three-Parameter Viscoelastic Model Particularly Suited for Dynamic Problems," Journal of the Mechanics and Physics of Solids 10, pp. 245-252, 1962.

1964

"Approximate Transient Solutions for the Coupled Equations of Thermoelasticity," Journal of the Acoustical Society of America 36, pp. 10-18, 1964.

1965

"Dynamic Response of a Long Case-Bonded Viscoelastic Cylinder," AIAA Journal 3, pp. 673-677, 1965.

"Dynamic Response of an Encased Elastic Cylinder with Ablating Inner Surface," AIAA Journal 3, pp. 1142-1144, 1965.

"Forced Vibrations of a Burning Rocket," AIAA Journal 3, pp. 1333-1336, 1965.

(with C. T. Sun), "Dynamic Response of Beam on Viscoelastic Subgrade," Journal of the Engineering Mechanics Division, ASCE, 91, pp. 61-76, 1965.

(with C. T. Sun), "Moving Load on a Flexible Supported Timoshenko Beam," International Journal of Solids and Structures 1, pp. 353-370, 1965.

1966

(with S. P. Keshava and G. Herrmann), "Waves in a Smoothly Joined Plate and Half-Space," J. of the Engineering Mechanics Division, ASCE 92, pp. 113-129, 1966.

"Dynamic Response of a Viscoelastic Cylinder with Ablating Inner Surface," J. of Applied Mechanics 33, pp. 275-281, 1966.

(with G. Herrmann), "Forced Motions of an Encased Cylinder of Decreasing Thickness," J. of the Acoustical Soc. of America 39, pp. 1145-1153, 1966.

"Axial Shear Vibrations of a Cylinder of Decreasing Thickness," AIAA Journal 4, pp. 1233-1240, 1966.

(with C. T. Sun), "Propagation of Waves from a Spherical Surface of Time-Dependent Radius," J. of the Acoustical Soc. of America, 40, pp. 877-882, 1966.

"Forced Torsional Motion of an Inhomogeneous Hollow Cylinder," Rev. Roum. Sci. Techn.-Mec. Appl. 11, pp. 1295-1299, 1966.

"Torsional Oscillations of an Encased Hollow Cylinder of Finite Length," J. of Spacecraft and Rockets 3, pp. 1637-1643, 1966.

1967

(with D. P. Reddy), "Note on Wave Propagation in Linearly Viscoelastic Media," Zeitschrift fur angewandte Mathematik und Physik 18, pp. 141-144, 1967.

(with C. T. Sun), "Effects of Elastic Case on Stability of Radial Modes in Solid Propellant Rockets," J. of Spacecraft and Rockets 4, pp. 214-219, 1967.

"Response of a Layered Half-Space to a Moving Load," Journal of Applied Mechanics 34, 1967, pp. 247-248.

(with S. P. Keshava), "Free Waves in a Plate Supported by a Semi-Infinite Continuum," J. of Appl. Mech. 34, pp. 397-404, 1967.

"Vibrations of a Viscoelastic Body," AIAA Journal 5, 1967, pp. 1213-1214.

(with D. P. Reddy), "Shear Waves in Finite Strain Generated at the Surface of a Viscoelastic Half-Space," Intl. J. of Engineering Science 5, pp. 527-539, 1967.

(with L. B. Freund), "Diffraction of a Plane Pulse by a Semi-Infinite Barrier at a Fluid-Solid Interface," J. of Appl. Mech. 34, pp. 571-579, 1967.

(with H. I. Epstein), "Dynamic Interaction of a Layer and a Half-Space," J. of the Engr. Mechs. Div. ASCE 93, pp. 27-42.

"Shear Waves in Finite Elastic Strain," Quarterly of Appl. Mechs., 25, pp. 306-310, 1967.

(with S. P. Keshava and G. Herrmann), "Moving Loads on a Plate Resting on an Elastic Half-Space," J. of Appl. Mechs. 34, pp. 910-914, 1967.

"Radial Vibrations of an Encased Hollow Cylinder," Acoustics 18, 1967, pp. 181-182.

"The Propagation of Stress Discontinuities According to the Coupled Equations of Thermoelasticity," Acta Mechanica III, 1967, pp. 342-351.

1968

"Dynamic Response Problems of Solid Propellant Rockets," Solid Rocket Structural Integrity Abstracts 5, pp. 1-34, 1968.

(with L. B. Freund), "Diffraction of a Plane Pulse by a Closed Crack at the Interface of Elastic Solids," ZAMM 48, pp. 173-185, 1968.

(with L. B. Freund), "Waves in a Semi-Infinite Plate in Smooth Contact with a Harmonically Disturbed Half-Space," Intl. J. of Solids & Structures 4, pp. 605-621, 1968.

(with C. T. Sun and G. Herrmann), "Continuum Theory for a Laminated Medium," J. of Applied Mech. 35, pp. 467-475, 1968.

"The Structural Dynamics of Solid Propellant Rockets," Applied Mechanics Reviews 21, pp. 549-555, 1968.

"Wedge-Like Waves in a Composite Medium," Intl. J. of Eng. Sci. 6, pp. 223-232, 1968.

(with D. P. Reddy), "Simple Waves and Shock Waves in a Thin Prestressed Elastic Rod," ZAMP 19, pp. 473-485, 1968.

"Wave Propagation in Lamellar Composite Materials," J. of the Acoustical Soc. of Amer. 43, 1968, pp. 1451-1452.

(with F. H. Chou), "Circumferential Modes of Vibration of a Model for a Solid-Propellant Rocket," J. of Spacecraft and Rockets 5, 1968, pp.964-968.

(with C. T. Sun and G. Herrmann), "Time-Harmonic Waves in a Stratified Medium Propagating in the Direction of the Layering," J. of Appl. Mech. 35, 1968, pp. 408-411.

(with C. T. Sun and G. Herrmann), "On the Vibrations of a Laminated Body," J. of Appl. Mechs. 35, 1968, pp. 689-696.

(with G. Herrmann), "Dispersion of Free Harmonic Waves in Fiber-Reinforced Composites," AIAA Journal 6, 1968, pp. 1832-1836.

(with J. H. Hemann and F. Ziegler), "Tensile Failure of Interface Bonds in a Composite Body Subjected to Compressive Loads," AIAA Journal 6, 1968, pp. 2040-2043.

"The Influence of Heat Conduction on Propagating Stress Jumps," J. Mech. Phys. Solids 16, pp. 273-282, 1968.

"Longitudinal Force on an Embedded Filament," Applied Scientific Research 19, 1968, p. 273.

1969

"An Asymptotic Method to Analyze the Vibrations of an Elastic Layer,"
J. of Appl. Mechs 36, 1969, pp. 65-73.

"Transient Shear Waves in Two Joined Quarter Spaces," J. of Appl. Mechs. 36,
1969, pp. 491-496.

"Free Vibrations of a Layer of Micropolar Continuum," Int. J. of Eng. Sci. 7,
1969, pp. 1025-1040.

(with L. E. Voelker), "Stress Waves in a Laminated Medium Generated by
Transverse Forces," J. of the Acoustical Soc. of Amer. 46, 1969.
pp. 1213-1222.

1970

"Shear Waves in an Elastic Wedge," Int. J. Solids and Structs 6, 1970,
pp. 379-389.

(with R. A. Grot), "Large Deformations of a Laminated Composite," Int. J. Solids
and Structs. 6, 1970, pp. 641-659.

(with S. J. Fang), "Asymptotic Analysis of the Modes of Wave Propagation in a
Solid Cylinder," J. of the Acoust. Soc. of Amer. 47, 1970, pp. 1282-1289.

(with J. H. Hemann and F. Ziegler), "Separation at the Interface of a Circular
Inclusion and the Surrounding Medium under an Incident Compressive Wave,"
J. of Appl. Mechs. 37, 1970, pp. 298-304.

"Crack Propagation Generated by a Horizontally Polarized Shear Wave,"
J. of the Mechs., and Physics of Solids 18, 1970, pp. 245-259.

(with F. H. Chou), "Field Equations Governing the Mechanical Behavior of
Layered Circular Cylinders," AIAA Journal 8, 1970, pp. 1445-1452.

(with R. A. Grot), "Linear Anisothermal Theory for a Viscoelastic Laminated
Composite," Acta Mechanica 9, 1970, pp. 245-263.

"Brittle and Ductile Extension of a Finite Crack by a Horizontally Polarized Shear
Wave," Int. J. of Eng. Sci. 8, 1970, pp. 947-966.

"Extension of a Crack by a Shear Wave," Zeitschrift für angewandte Mathematik
und Physik 21, 1970, pp. 887-900.

(with Joseph B. Adeyeri and R. J. Krizek), "Multiple Description of the Nonlinear
Viscoelastic Behavior of a Clay Soil," Transactions of the Society of Rheology
14:3, 1970, pp. 375-392.

1971

(with Tony R. Zerbe), "Flexural Vibrations of a Laminated Plate," J. of the Engr. Mechs. Div. ASCE 97, 1971, pp. 619-628.

(with R. Nuismer, Jr.), "Fracture Generated by a Dilational Wave," Int. J. of Fracture Mechs., 7, 1971, pp. 77-88.

(with L. M. Brock), "Rapid Extension of a Crack," J. of Elasticity 1, 1971, pp. 51-63.

(with R. J. Krizek and Joseph B. Adeyeri), "Hydrorheology of Clay Soils," Transactions of the Society of Rheology 15:4, 1971, pp. 771-781.

1972

(with Fang-Hui Chou), "Three-Dimensional Vibrations of Orthotropic Cylinders," J. of the Engr. Mechs. Div. ASCE 98, 1972, pp. 813-822.

(with R. J. Nuismer, Jr.), "Dynamically Induced Fracture," J. Mech. Phys. Solids 20, 1972, pp. 203-222.

1973

(with Ying-San Lai), "Direct Search Optimization Method," J. of the Structural Division, 99, 1973, pp. 19-31.

(with L. M. Brock), "Extension of an Interface Flaw under the Influence of Transient Waves," Int. J. Solids and Structures 9, 1973, pp. 53-68.

(with A. M. Abo-Zena), "Analysis of the Dynamics of Strike Slip Faulting," J. of Geophysical Research 78, 1973, pp. 866-875.

(with Y. S. Lai), "Optimal Design of Layered Structures under Dynamic Loading," Computers & Structures 3, pp. 559-572.

(with L. M. Brock), "Surface Motions due to Sub-Surface Sliding," Bull. Seism. Soc. Am. 63, 1973, pp. 1473-1486.

(with T. C. Kennedy), "Extension of a Cut-Induced Crack under Anti-Plane Loading," J. of Elasticity, 3, 1973, pp. 277-288.

1974

(with T. C. Kennedy), "Rapid Extension of a Penny-Shaped Crack under Torsion," Int. J. Solids and Structures 10, 1974, pp. 519-530.

(with S. J. Fang and J. H. Hemann), "Experimental and Analytical Investigation of Dynamic Stress Concentrations at a Circular Hole," J. of Appl. Mechs. 41, 1974, pp. 427-422.

(with V. K. Varatharajulu), "Skew Crack Propagation at the Diffraction of a Transient Stress Wave," Quar. of Appl. Math. 32, 1974, pp. 123-135.

(with V. K. Varatharajulu), "Elastodynamic Stress-Intensity Factors for Tearing of a Half-Plane," J. of Appl. Mechs. 41, 1974, pp. 1099-1105.

(with L. M. Brock), "Rapid Tearing Along an Interface," ZAMP 25, 1974, pp. 331-345.

"Skew Crack Propagation under Stress-Wave Loading," Mech. Res. Comm. 1, 1974, pp. 325-330.

1975

(with Z. P. Bazant), "Elastodynamic Near-Tip Stress and Displacement Fields for Rapidly Propagating Cracks in Orthotropic Materials," J. of Appl. Mechs. 42, 1975, pp. 183-189.

(with W. C. Luong and L. M. Keer), "Elastodynamic Stress Intensity Factors of a Crack Near an Interface," Int. J. Solids and Structures 11, 1975, pp.919-925.

(with P. D. Chilton), "Forced Transient Motion of a Rigid Body Bonded to a Deformable Continuum," J. Appl. Mechs. 42, 1975, pp. 429-434.

"Bifurcation of a Running Crack in Antiplane Strain," Int. J. of Solids and Structures 11, 1975, pp. 1301-1314.

(with L. M. Keer and W. C. Luong), "Elastodynamic Stress Intensity Factors for a Crack in a Layered Composite," J. of the Acoustical Soc. of America 58, 1975, pp. 1204-1210.

1976

(with Z. P. Bazant and J. L. Glazik), "Finite Element Analysis of Wave Diffraction by a Crack," J. of the Engineering Mechs. Division, ASCE, 102, 1976, pp. 479-496.

(with Z. P. Bazant and R. P. Khetan), "Elastodynamic Near-Tip Fields for a Rapidly Propagating Interface Crack," Int. J. Engng. Sci. 14, 1976, pp. 797-809.

(with Z. P. Bazant and R. P. Khetan), "Elastodynamic Near-Tip Fields for a Crack Propagating along the Interface of Two Orthotropic Solids," Int. J. Engng. Sci. 14, 1976, pp. 811-818.

(with J. H. Hemann and S. J. Fang), "A Dynamic Photoelastic Study of Stress-Wave Propagation Through an Inclusion," Experimental Mechanics 16, 1976, pp. 291-299.

"Generalized Continuum Theories for Directionally Reinforced Solids," Archives of Mechanics, 28, 1976, pp. 257-278.

1977

(with A. K. Gautesen), "Geometrical Theory of Diffraction for Three-D Elastodynamics," The J. of the Acoust. Soc. America 61, 1977, pp. 413-421.

(with A. K. Gautesen), "Elastic Surface Waves Guided by the Edge of a Slit," J. of Sound and Vibration 53, 1977, pp. 407-416.

(with R. P. Khetan), "Elastodynamic Response of a Wedge to Surface Pressures," Int. J. Solids Structures 13, 1977, pp. 1157-1171.

(with A. K. Gautesen), "Elastodynamic Stress-Intensity Factors for a Semi-Infinite Crack under 3-D Loading," J. of Appl. Mechs. 99, pp. 243-249.

(with L. M. Keer and D. A. Mendelsohn), "Crack at the Apex of a Loaded Notch," Int. J. Solids Structures 13, 1977, pp. 615-623.

1978

(with Z. P. Bazant and J. L. Glazik), "Elastodynamic Fields Near Running Cracks by Finite Elements," Computers and Structures 8, 1978, pp. 193-198.

(with A. K. Gautesen), "A Ray Theory for Elastodynamic Stress-Intensity Factors," J. of Appl. Mechs. 45, 1978, pp. 123-129.

(with J. G. Harris), "Ray Method for Elastodynamic Radiation from a Slip Zone of Arbitrary Shape," J. of Geophysical Research 83, 1978, pp. 2283-2291.

(with H. J. Petroski), "Computation of the Weight Function from a Stress Intensity Factor," Engineering Fracture Mechanics, 10, 1978, pp. 257-266.

(with A. K. Gautesen and H. McMaken), "Diffraction of Point-Source Signals by a Circular Crack," Bull. Seism. Soc. Am. 68, 1978, pp. 889-905.

(with M. Comninou), "Asymptotic Fields at the Transition Zone of a Propagating Interface Crack," Mech. Res. Comm. 5, 1978, pp. 285-290.

(with A. K. Gautesen and H. McMaken), "Surface-Wave Rays in Elastodynamic Diffraction by Cracks," J. Acoust.Soc.Am. 63, 1978, pp. 1824-1831.

(with A. K. Gautesen), "On the Existence of Surface Waves Guided by a Slit," SIAM J. Appl. Math. 35, 1978, pp. 301-306.

1979

(with J. Harris), "Acoustic Emission from a Brief Crack Propagation Event," J. of Appl. Mechs. 46, 1979, pp. 107-112.

(with R. P. Khetan), "Kinking of a Crack under Dynamic Loading Conditions," J. of Elasticity 9, 1979, pp. 113-129.

"Dynamic Crack-Tip Fields According to Deformation Theory," J. Appl. Mech. 46, 1979, pp. 707-708.

(with K. Viswanathan and A. Norris), "An Inversion Integral for Crack-Scattering Data," Wave Motion 1, 1979, pp. 299-316.

(with L. Adler, D. Kent Lewis and H. McMaken), "Diffraction of Ultrasonic Waves by Penny-Shaped Cracks in Metals: Theory and Experiment," J. Acoust. Soc. Am. 66, pp. 1848-1856.

(with L. M. Keer, R. P. Khetan and S. H. Chen), "Loss of Adhesion at the Tip of an Interface Crack," J. of Elasticity 9, 1979, pp. 397-424.

1980

(with S. H. Chen and L. M. Keer), "Steady Motion of a Crack Parallel to a Bond-Plane," Int. J. Engng.Sc. 18, pp. 225-238, 1980.

(with H. J. Petroski and J. L. Glazik), "Construction of a Dynamic Weight Function from a Finite-Element Solution for a Cracked Beam," J. Appl. Mech. 47, pp. 51-56, 1980.

(with T. Bubenik), "Small-Scale Yielding at the Tip of a Through-Crack in a Shell," J. of Pressure Vessel Technology 102, pp. 167-173, 1980.

(with A. K. Gautesen and D. A. Mendelsohn), "Ray Analysis of Surface-Wave Interaction with an Edge Crack," IEEE Transactions on Sonics and Ultrasonics SU-27, pp. 124-129, 1980.

(with D. A. Mendelsohn and L. M. Keer), "Scattering of Elastic Waves by a Surface-Breaking Crack," Wave Motion 2, pp. 277-291, 1980.

(with A. K. Ranta-Maunus), "Stability of Circumferential Through-Cracks in Ductile Pipes," Nuclear Engineering and Design 60, pp. 339-345, 1980.

(with L. M. Keer and D. A. Mendelsohn), "Elastodynamic Analysis of an Edge Crack," Journal of Appl. Mech. 47, pp. 551-556, 1980.

(with Laszlo Adler), "Elastic Wave Diffraction by Elliptical Cracks: Theory and Experiment," J. of Nondestructive Evaluation 1, pp. 87-99, 1980.

1981

(with S. H. Chen and L. M. Keer), "Steady Motion of a Crack Parallel to a Bond Plane-Further Results," Int. J. Engng. Sci. 19, pp. 805-809, 1981.

(with A. Nemitz), "Fast Fracture and Crack Arrest According to the Dugdale Model," Engineering Fracture Mechanics, 14, pp. 385-395, 1981.

(with J. Aboudi), "Rapid Mode-III Crack Propagation in a Strip of Viscoplastic Work-Hardening Material," Int. J. Solids Structures 17, pp. 879-890, 1981.

(with R. J. Brind), "Scattering of Surface Waves by a Sub-surface Crack", J. of Sound and Vibration 76, pp. 43-56, 1981.

(with M. F. Kanninen and C. H. Popelar), "Crack-Tip Fields for Fast Fracture of an Elastic-Plastic Material," J. Mech. Physics of Solids 29, pp. 211, 1981.

(with A. N. Norris), "Interference of Corner Reflected and Edge Diffracted Signals for a Surface-Breaking Crack," J. Acoust. Soc. Am. 70, pp. 165-171, 1981.

(with V. Dunayevsky), "Fields Near a Rapidly Propagating Crack-Tip in an Elastic Perfectly Plastic Material," J. Mech. Physics of Solids, 29, pp. 283-303, 1981.

(with R. J. Brind), "Elastodynamic Stress-Intensity Factors for a Crack Near a Free Surface," J. of Applied Mechanics 48, pp. 539-542, 1981.

(with J. G. Harris), "Near-Field Surface Motions Excited by Radiation from a Slip Zone of Arbitrary Shape," J. of Geophysical Research 86, pp. 9352-9356, 1981.

(with J. Aboudi), "Arrest of Mode-III Fast Fracture by a Transition from Elastic to Viscoplastic Material Properties," J. Appl. Mech. 48, pp. 509-514, 1981.

(with R. J. Brind), "Scattering of Longitudinal and Transverse Waves by a Sub-Surface Crack," J. of Sound and Vibration 4, pp. 555-563, 1981.

1982

(with V. Dunayevsky), "Boundary Layer Phenomenon in the Plastic Zone Near a Rapidly Propagating Crack Tip," Int. J. Solids & Structures 18, pp. 1-12, 1982.

(with J. P. Dempsey and M.-K. Kuo), "Mode-III Crack Kinking under Stress-Wave Loading," Wave Motion 4, pp. 181-190, 1982.

(with A. Norris and K. Viswanathan), "Mapping of Crack Edges by Seismic Methods," Bull. of the Seis.Soc. of Am. 72, pp. 779-792, 1982.

(with A. K. Ranta-Maunus), "A Simple Model for Stability of a Long Axial Surface Crack in a Thin Walled Cylinder," Int. J. Mech. Sci. 24, pp. 313-321, 1982.

(with A. Norris), "Excitation of Surface Waves by Sub-Surface Sources," Proc. R. Soc. Lond. A-382, pp. 411-428, 1982.

(with A. Norris), "Mapping of a Crack Edge by Ultrasonic Methods," J. Acoust. Soc. Am. 72, pp. 264-272, 1982.

(with R. A. Roberts and R. J. Brind), "Effects of Sinusoidal Crack-Face Perturbations on Scattering of Elastic Waves," J. of Nondestructive Evaluation 2, pp. 153-159, 1981.

(with V. Dunayevsky), "Radial Nonuniformity of the Fields near a Moving Crack Tip in a Material with Linear Strain Hardening," J. of Appl. Mech. 49, pp. 646-647, 1982.

(with A. N. Norris), "Loss of Specular Reflection due to Nonlinear Crack-Face Interaction," J. of Nondestructive Evaluation, Vol. 3, No. 4, pp. 229-239, 1982.

1983

(with J. Aboudi), "Numerical Analysis of Fast Mode-I Fracture of a Strip of Viscoelastic Work-Hardening Material," Int. J. of Fracture 21, pp. 133-147, 1983.

(with John G. Harris and Andrew Norris), "Rayleigh Waves Excited by the Discontinuous Advance of a Rupture Front," J. of Geophysical Research 88, pp. 2233-2239, 1983.

(with J. Aboudi), "Arrest of Fast Mode-I Fracture in an Elastic-Viscoplastic Transition Zone," Engineering Fracture Mechanics Vol. 18, No. 1, pp. 109-119, 1983.

(with John G. Harris), "Love Waves Excited by Discontinuous Propagation of a Rupture Front," Geophys. J.R. Astro. Soc. 72, pp. 337-351, 1983.

(with W. Lin and L. M. Keer), "Surface Waves due to Scattering by a Near-Surface Parallel Crack," IEEE Trans. on Sonics and Ultrasonics, Vol. SU 30, No. 4, pp. 270-276, 1983.

(with Alain Jungman, Laszlo Adler and Ronald Roberts), "Reflection from a Boundary with Periodic Roughness: Theory and Experiment," J. Acoust. Soc. Am. 74, pp. 1025-1032, 1983.

(with R. Roberts, R.-T. Ko, L. Adler, A. Jungman and G. Quentin), "Beam Splitting at the Reflection of Elastic Waves by a Periodic Surface Profile," J. Acoust. Soc. Am. 74, pp. 1638-1640, 1983.

(with K.-I. Hirashima and K. Ohno), "Acoustic Emission Due to Nucleation of a Microcrack in the Proximity of a Macrocrack," J. of Sound and Vibration, 89, pp. 523-532, 1983.

1984

(with R. J. Brind and J. E. Gubernatis), "High-Frequency Scattering of Elastic Waves from Cylindrical Cavities," Wave Motion 6, pp. 41-60, 1984.

(with Y. C. Angel), "Reflection and Transmission of Obliquely Incident Rayleigh Waves by a Surface-Breaking Crack," J. Acoust. Soc. Am. 75, pp. 313-319, 1984.

(with K.-I. Hirashima), "Dynamic Response on the Surface of an Elastic Half-Space Under the Buried Line Sources," Proc. Japan Soc. Civil Eng. Vol. 341, pp. 97-104, 1984.

(with V. Dunayevsky), "Crack Growth under Plane Stress Conditions in an Elastic Perfectly-Plastic Material," J. Mech. Phys. Solids Vol. 32, No. 2, pp. 89-100, 1984.

(with M. K. Kuo and J. P. Dempsey), "Mode III and Mixed Mode I-II Crack Kinking under Stress-Wave Loading," Int. J. Solids Structures, Vol. 20, No. 4, pp. 395-410, 1984.

(with L. M. Keer and W. Lin), "Resonance Effects for a Crack Near a Free Surface," J. of Appl. Mech. 51, pp. 65-70, 1984.

(with J. W. Rudnicki and K. Hirashima), "Amplification of Moment and Strain Energy Release Due to Interaction Between Different Size Fault Slip Zones," J. of Geophysical Res. Vol. 89, No. B7, pp. 5828-5834, 1984.

(with A. Norris), "Elastic Wave Diffraction by a Semi-Infinite Crack in a Transversely Isotropic Material," Q.J. Mech. Appl. Math. Vol. 37, Pt. 4, pp. 565-580, 1984.

(with Z. L. Li), "Plane Stress Crack-Line Fields for Crack Growth in an Elastic Perfectly-Plastic Material," Engineering Fracture Mechanics, Vol. 20, No. 3, pp. 535-544, 1984.

(with W. Lin and L. M. Keer), "Dynamic Stress Intensity Factors for an Inclined Subsurface Crack," J. of Appl. Mechanics, Vol. 51, 773-779, 1984.

1985

(with R. Roberts, R. Ko, L. Adler, A. Jungman and G. Quentin), "Reflection of a Beam of Elastic Waves by a Periodic Surface Profile," Wave Motion 7, pp. 67-77, 1985.

(with Y. C. Angel), "Reflection and Transmission of Elastic Waves by a Periodic Array of Cracks," J. of Appl. Mech., Vol. 107, pp. 33-41, 1985.

(with M. K. Kuo), "Perturbation Method to Analyze the Elastodynamic Field Near a Kinked Crack," Int. J. Solids Structures, Vol. 21, No. 3, pp. 272-278, 1985.

(with Y. C. Angel), "Stress-Intensity Factors for 3-D Dynamic Loading of a Cracked Half-Space," J. of Elasticity, Vol. 15, No. 1, pp. 89-102, 1985.

(with Z. L. Li and N. Nishimura), "Dynamic Fields Generated in Rapid Crack Growth," Intl. Journal of Fracture 27, pp. 215-227, 1985.

(with N. Nishimura), "Effect of Inertia on Finite Near-Tip Deformation for Fast Mode-III Crack Growth," J. of Appl. Mech., Vol. 52, pp. 281-286, 1985.

(with M. K. Kuo), "Conditions for Crack Kinking under Stress-Wave Loading," Engineering Fracture Mechanics Vol. 22 No. 2, pp. 165-180, 1985.

(with J. Song and A. N. Norris), "Acoustic Radiation Generated by Local Excitation of Submerged Beams and Strings," J. of Sound and Vibration, 100(1), pp. 107-121, 1985.

(with Z. L. Li), "Resistance Curves for Crack Growth under Plane-Stress Conditions in an Elastic Perfectly-Plastic Material," Engineering Fracture Mechanics, Vol. 22, No. 6, pp. 1073-1078, 1985.

(with Y. C. Angel), "Reflection and Transmission of Elastic Waves by a Periodic Array of Cracks: Oblique Incidence," Wave Motion 7, pp. 375-397, 1985.

1986

(with N. Nishimura), "Finite Deformation Crack-Line Fields in a Thin Elastic-Plastic Sheet," J. Mech. Phys. Solids, Vol. 34, No. 2, pp. 147-165, 1986.

(with J. Qu), "Resonant Vibrations of a Submerged Beam," J. of Sound and Vibration, 105(2), pp. 185-198, 1986.

(with N. Nishimura), "Large Deformations Near a Propagating Crack Tip," Engineering Fracture Mechanics, Vol. 23, No. 1, pp. 183-199.

(with Z.L. Li), "Reflection and Transmission of Scalar Waves by a Periodic Array of Screens," Wave Motion 8, pp. 225-234, 1986.

(with W. Lin and L. M. Keer), "Mathematical Modelling of Ultrasonic Wave Scattering by Sub-Surface Cracks," Ultrasonics 24, pp. 207-215, 1986.

(with Z. L. Li), "Propagation of Horizontally Polarized Transverse Waves in a Solid with a Periodic Distribution of Cracks," Wave Motion 8, pp. 371-379, 1986.

(with C. L. Scandrett and G. A. Kriegsmann), "Application of the Limiting Amplitude Principle to Elastodynamic Scattering Problems," SIAM J. Sci. Stat. Comput. Vol. 7, pp. 571-590, 1986.

(with C. L. Scandrett and G. A. Kriegsmann), "Scattering of a Pulse by a Cavity in an Elastic Half-Space," J. of Computational Physics, Vol. 65, pp. 410-431, 1986.

(with M. Kitahara), "Reflection and Transmission of an Obliquely Incident Wave by an Array of Spherical Cavities," J. Acoust. Soc. Am. 80, pp. 1209-1214, 1986.

1987

(with C. L. Scandrett), "Time-Domain Finite Difference Calculations for Interaction of an Ultrasound Wave with a Surface-Breaking Crack," Wave Motion 9, pp. 171-190, 1987.

(with M. Kitahara), "Harmonic Waves in a Solid with a Periodic Distribution of Spherical Cavities," J. Acoust. Soc. Am. 81, pp. 595-598, 1987.

(with J. C. Sung), "Temperature at a Propagating Crack Tip in a Viscoplastic Material," J. of Thermal Stresses, 10, pp. 243-262, 1987.

(with Y. C. Angel), "Harmonic Waves in an Elastic Solid Containing a Doubly Periodic Array of Cracks," Wave Motion 9, pp. 377-385, 1987.

(with N. Nishimura and J. C. Sung), "Crack-Tip Fields in a Viscoplastic Material," Int. J. Solids Structures, 23, pp. 1035-1052, 1987.

(with D. A. Sotiropoulos and H. Zhu), "An Inverse Scattering Method to Characterize Inhomogeneities in Elastic Solids," J. Appl. Phys., 62, pp. 2771-2777, 1987.

(with D. A. Sotiropoulos and H. Zhu), "Characterization of Cracks from Ultrasonic Scattering Data," J. Appl. Mech. 109, pp. 754-760, 1987.

(with M. Kitahara), "BIE Method to Analyze Wave Motion in Solids with Periodically Distributed Cavities," Computer Methods in Applied Mechanics and Engineering, 64, pp. 523-536, 1987.

1988

(with D. A. Sotiropoulos), "Crack Characterization by an Inverse Scattering Method," Int. J. Solids Structures Vol. 24, pp. 165-175, 1988.

(with Ch. Zhang), "Scattering by Multiple Crack Configurations," J. Appl. Mech 55, pp. 104-110, 1988.

(with C. Zhang), "Numerical Analysis of Surface-Wave Scattering by the Boundary Element Method," Wave Motion 10, pp. 365-374, 1988.

(with Ch. Zhang), "Scattering of Body Waves by an Inclined Surface Breaking Crack," Ultrasonics, Vol. 26, pp. 132-138, 1988.

(with Y. Mikata), "Reflection and Transmission by an Infinite Array of Randomly Oriented Cracks," J. Acoust. Soc. Am., Vol. 83, pp. 38-45, 1988.

(with Y. Mikata), "Interaction of Harmonic Waves with a Periodic Array of Inclined Cracks," Wave Motion 10, pp. 59-72, 1988.

(with S. Hirose), "BEM Method to Analyze the Interaction of an Acoustic Pulse with a Rigid Circular Disk," Wave Motion 10, pp. 267-275, 1988.

(with D. E. Budreck), "Scattering from Three-Dimensional Planar Cracks by the Boundary Integral Equation Method," J. of Appl. Mech. 55, pp. 405-412, 1988.

(with D. A. Sotiropoulos), "Reflection of Elastic Waves by a Distribution of Coplanar Cracks," J. Acoust. Soc. Am. 84, pp. 752-759, 1988.

(with G .E. Kechter and Y.-L. Xu), "Off Boundary Approach to the Boundary Element Method," Comp. Methods in Appl. Mechs. and Engr. 70, pp. 191-201, 1988.

(with Y. C. Lu and M. Kitahara), "3-D Reflection and Transmission of Sound by an Array of Rods," J. of Sound and Vibration, 125, pp. 463-476, 1988.

(with M. Kitahara, Y. Mikata and D. A. Sotiropoulos), "Reflection and Transmission of Plane Waves by a Layer of Compact Inhomogeneities," Pageoph Vol. 128, pp. 101-118, 1988.

1989

(with S. Hirose), "Time-Domain Boundary Element Analysis of Elastic Wave Interaction with a Crack," Int. J. for Numerical Methods in Engineering, Vol. 28, pp. 629-644, 1989.

(with Ch. Zhang), "Time-Domain Boundary Element Analysis of Dynamic Near-Tip Fields for Impact-Loaded Collinear Cracks," Engineering Fracture Mechanics,

Vol. 32, pp. 899-909, 1989.

(with Jennifer A. McGrath), "Sizing of Disbonds at a Thin-Layer Substrate Interface from Spectral Peaks," Res. Nondestr. Eval , pp. 133-149, 1989.

(with D. A. Sotiropoulos and Ch. Zhang), "Effects of Near-Tip Inhomogeneities on Scattering of Ultrasonic Waves by Cracks," Metallurgical Transactions A. Vol. 20A, pp. 619-626, 1989.

(with J. Qu and R. A. Roberts), "Reciprocal Relations for Transmission Coefficients: Theory and Application," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol. 36, pp. 280-286, 1989.

(with H. Zhu), "Effect of Interfacial Zone on Mechanical Behavior and Failure of Fiber-Reinforced Composites," J. Mech. Phys. Solids, Vol. 37, pp. 381-393, 1989.

(with Ch. Zhang), "Effect of an Adjacent Cavity on the Interaction of Elastic Waves with a Crack," Int. J. Engng. Sci., Vol. 27, pp. 711-722, 1989.

(with Ch. Zhang), "A New Boundary Integral Equation Formulation for Elastodynamic and Elastostatic Crack Analysis," J. of Appl. Mech. Vol. 111, pp. 284-290, 1989.

(with G. E. Kechter), "Void Characterization Using Ultrasonic Backscatter from Void Clusters," Research in Nondestructive Evaluation, 1, pp. 13-30, 1989.

(with D. A. Sotiropoulos), "Ultrasonic Reflection by a Planar Distribution of Cracks," J. of Nondestructive Evaluation, 7, pp. 123-129, 1989.

(with M. Kitahara and K. Nakagawa), "Boundary-integral equation method for elastodynamic scattering by a compact inhomogeneity," Computational Mechanics, 5, pp.129-144, 1989.

(with D. E. Budrick), "Three-dimensional elastic wave scattering by surface-breaking cracks," J. Acoust. Soc. Am., 86, pp. 395-406, 1989.

1990

(with J. C. Sung), "Heating at a Propagating Crack Tip in a Viscoplastic Material," Intl. J. of Fracture, 44, pp. 301-309, 1990.

(with Ch. Zhang), "Reflection and Transmission of Ultrasound by a Region of Damaged Material", J. of Nondestructive Evaluation, 9, pp. 71-79, 1990.

(with Ch. Zhang), "Effective Wave Velocity and Attenuation in a Material with Distributed Penny-Shaped Cracks", Int. J. Solids Structures, 27, pp. 751-767, 1990.

(with Ch. Zhang), "Dispersion and Attenuation of Surface Waves due to Distributed Surface-Breaking Cracks", J. Acoust. Soc. Am., 88, pp. 1986-1992, 1990.

(with H. Zhu), "Effect of Interphases on Micro and Macromechanical Behavior of Hexagonal-Array Fiber Composites", J. of Appl. Mechs. 57, pp. 956-963, 1990.

1991

(with H. Zhu), "Effect of Fiber-Matrix Interphase Defects on Microlevel Stress States at Neighboring Fibers", J. of Composite Materials, 25, pp. 224-238, 1991.

(with M. Gosz and B. Moran), "Effect of a Viscoelastic Interface on the Transverse Behavior of Fiber-Reinforced Composites", Int. J. Solids Structures, Vol. 27, pp. 1757-1771, 1991.

(with S. Hirose), "Acoustic Emission and Near-Tip Elastodynamic Fields of a Growing Penny-Shaped Crack", Engineering Fracture Mechanics, Vol. 39, pp. 21-36, 1991.

(with Michihiro Kitahara, Masayoshi Notake, Tetsuro Ogi), "A Method of Detection for Surface-Breaking Cracks", J. of Structural Engineering, Vol. 37A, pp. 465-477, 1991.

(with G. E. Kechter), "Combined Linear and Homomorphic Deconvolutions for Processing Bandpass Measurements", IEEE Transactions on Signal Processing, Vol. 39, pp. 1300-1304, 1991.

(with Z. L. Li), "Interaction of a Rayleigh Wave with a Disbond in a Material Interphase Normal to a Free Surface", Ultrasonics, Vol. 29, pp. 45-52, 1991.

(with T. Igusa and K.-W. Min), "Resonance Characteristics of Connected Subsystems: Theory and Simple Configurations", J. of Sound and Vibration, Vol. 146, pp.407-421, 1991.

(with T. Igusa and K.-W. Min), "Resonance Characteristics of Connected Subsystems: General Configurations", J. Sound and Vibration, Vol. 146, pp. 423-437, 1991.

(with J. G. Harris and V. S. Ahn), "Wave Analysis of the Acoustic Material Signature for the Line Focus Microscope", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol. 38, pp. 380-387, 1991.

(with H. Zhu), "Radial Matrix Cracking and Interphase Failure in Transversely Loaded Fiber Composites", Mechanics of Materials, 11, pp. 347-356, 1991.

(with Z. L. Li), "Reflection and Transmission of Rayleigh Surface Waves by a Material Interphase", J. of Appl. Mechs., 58, pp. 688-694, 1991.

(with Jin Huang), "Dual-probe laser interferometer", J. Acoust. Soc. Am., 90, pp. 1269-1274, 1991.

1992

(with J. O. Kim) "Line focus acoustic microscopy to measure anisotropic acoustic properties of thin films", Thin Films, 214, pp. 25-34, 1992.

(with Veom Seok Ahn and John G. Harris), "Numerical Analysis of the Acoustic Signature of a Surface-Breaking Crack", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 39, pp. 112-118, 1992

(with J. Bjarnason and T. Igusa), "Acoustic Radiation from a Cylindrical Shell with an Internal Plate", Wave Motion 15, pp. 23-41, 1992.

(with Kyung-Won Min and Takeru Igusa), "Frequency Window Method for Strongly Coupled and Multiply Connected Structural Systems: One-Mode Windows", J. of Applied Mechanics, 114, Part 2, pp. 236-243, 1992.

(with Kyung-Won Min and Takeru Igusa), "Frequency Window Method for Strongly Coupled and Multiply Connected Structural Systems: Multiple-Mode Windows", J. of Applied Mechanics, 114, Part 2, pp. 244-252, 1992.

(with Z. L. Li, I. Komsky and Y. C. Lee), "Reflection and Transmission of Obliquely Incident Surface Waves by an Edge of a Quarter Space: Theory and Experiment", J. of Applied Mechanics, 59, pp. 349-355, 1992.

(with K.-W. Min and T. Igusa), "Forced Vibration of strongly-coupled structural systems connected by sub-structures", Acta Mechanica, 3:23, pp. 23-24, 1992.

(with Jin O. Kim, Meenam Shinn and Scott A. Barnett), "Effective Elastic Constants and Acoustic Properties of Single-Crystal TiN/NbN Superlattices," J. Mater Res., 7, pp. 2248-2256.

"Mathematical Modeling for Quantitative Ultrasonics", Nondestr. Test Eval., Vol. 8-9, pp. 363-377, 1992.

"Modelli di misura per l'ultrasonica quantitativa", Estratto da Technica E. Ricostruzione, N>2/1992, Organo ufficiale dell'Ordine degli Ingegneri della Provincia di Catania, pp. 31-39.

(with J. O. Kim, P. B. Mirkarimi, M. Shinn and S. A. Barnett), "Elastic constants of single-crystal transition-metal nitride films measured by line-focus microscopy", J. Appl. Phys., 72, pp. 1805-1811, 1992.

(with G. R. Liu, J. O. Kim and Z. L. Li), "A combined finite element method/boundary element method technique for $V(z)$ curves of anisotropic-layer/substrate configurations", J. Acoust.Soc. Am. 92, pp. 2734-2740, 1992.

(with Jin Huang and Sridhar Krishnaswamy), "Laser-generation of narrow-band surface waves", J. Acoust. Soc. Am. 92, pp. 2527-2531, 1992.

(with Kyung-Won Min and Takeru Igusa), "Frequency window method for forced vibration of structures with connected substructures", J.Acoustic.Soc.Am.92, pp. 2726-2733, 1992.

(with I. N. Komsky, Y. C. Lee and Y. C. Angel), "Self-Calibrating Ultrasonic Technique for Crack Depth Measurement", J. of Nondestr. Eval., 11, pp. 103-108, 1992.

(with M. Gosz and B. Moran), "Load-Dependent Constitutive Response of Fiber Composites with Compliant Interphases", J. Mech.Phys.Solids 40, pp. 1789-1803, 1992.

(with O. K. Parikh), "Analysis of Nonlinearity Viscoelastic Behavior of Adhesive Bonds", J.of Nondestructive Eval., 11, pp. 221-226, 1992.

"Measurement Models for Quantitative Ultrasonics", J. Sound and Vibration", 159, pp. 385-401, 1992.

"A New Look at 2-D Time-Domain Elastodynamic Green's Functions for General Anisotropic Solids," Wave Motion, 16, pp. 389-405, 1992.

1993

(with S. Hirose), "Higher harmonics in the far field due to dynamic crack-face contacting", J. Acoustic Soc. Am. 93, pp. 142-147, 1993.

(with J. Bjarnason and T. Igusa), "Effect of a Vibrating Substructure on Acoustic Radiation from a Cylindrical Shell", J. of Vibration and Acoustics, 114, pp. 312-318, 1992.

(with M. Gosz), "Determination of Interphase properties of fiber composites from phase velocities of ultrasound," Materials Science and Engineering, A162, pp. 193-197, 1993.

(with Jin O. Kim and Jan D. Achenbach, Paul B. Mirkarimi and Scott A. Barnett), "Acoustic-microscopy measurements of the elastic properties of $TiN/(V_xNb_{1-x})N$ superlattices", Physical Review B, The American Physical Society, Vol. 48,

pp. 1726-1737, 1993.

(with Yung-Chun Lee and Jin O. Kim), "V(z) curves of layered anisotropic materials for the line-focus acoustic microscope", J. Acoust. Soc. Am. 94, pp. 923-930, 1993.

(with C-Y. Wang), "A new look at 2-D time-domain elastodynamic Green's functions for general anisotropic solids", Wave Motion 16, pp. 389-405, 1993.

(with S. M. McGuire, M. E. Fine, and O. Buck), "Nondestructive detection of fatigue cracks in PM 304 stainless steel by internal friction and elasticity", J. Mater. Res., 8, pp. 2216-2223, 1993.

1994

(with C. Y. Wang), "A new method to obtain 3-D Green's functions for anisotropic solids," Wave Motion, pp. 273-289, 1994.

(with J. Bjarnason, T. Igusa and S. H. Choi), "The effect of substructure on the acoustic radiation from axisymmetric shells of finite length," J. Acoust. Soc. Am. 96, pp. 246-255, 1994.

(with C. Y. Wang), "Elastodynamic fundamental solutions for anisotropic solids," Geophys. J. Int. 118, pp. 384-392, 1994.

(with Yung-Chun Lee and Jin O. Kim), "Measurement of stresses by line-focus acoustic microscopy," Ultrasonics, 32, pp. 359-365, 1994.

(with G. R. Liu), "A strip element method for stress analysis of anisotropic linearly elastic solids," J. of Applied Mechanics, 61, pp. 270-277, 1994.

(with J. Huang), "Measurement of Material Anisotropy by Dual-Probe Laser Interferometer," Research in Nondestr. Eval. 5, pp. 225-236, 1994.

1995

(with H. S. Choi), "Stress States at Neighboring Fibers Induced by Single-Fiber Interphase Defects", Int. J.Solids Structures, 32, pp. 1555-1570, 1995.

(with Yung-Chun Lee and Jin O. Kim), "Acoustic Microscopy Measurement of Elastic Constants and Mass Density", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 42, pp. 253-264, 1995.

(with Y.-C. Lee, M .J. Nystrom, S. R. Gilbert, B. A. Block and B. W. Wessels), "Line-Focus Acoustic Microscopy Measurements of Nb₂O₅/MgO and BaTiO₃/LaAlO₃ Thin -Film/Substrate Configurations", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 42, pp. 376-380, 1995.

(with I. Komsky, G. Andrew, B. Grills, J. Register, G. Linkert, G. Hueto, A. Steinberg, M. Ashbaugh, D. Moore and H. Weber), "An Ultrasonic Technique to Detect Corrosion in DC-9 Wing Box from Concept to Field Applications," Materials Evaluation, 52(7), pp. 848-852, 1995.

(with S. H. Choi and T. Igusa), "Nonaxisymmetric vibration and acoustic radiation of a submerged cylindrical shell of finite length containing internal substructures," J. Acoustical Society of America, 98(1), pp. 353-362, 1995.

(with C. Y. Wang), "Three-dimensional time-harmonic elastodynamic Green's functions for anisotropic solids," Proc. R. Soc. Lond., 449, pp. 441-458, 1995.

(with J. O. Kim, M. Shinn and S. Barnett), "Effective Elastic Constants of Superlattice Films Measured by Line-Focus Acoustic Microscopy," Journal of Engineering Materials and Technology, 117, pp. 395-399, 1995.

(with S.-H. Choi and T. Igusa), "Acoustic Radiation from a Finite-Length Shell with Substructures Subjected to an Impulsive Load," Wave Motion 22, 259-277, 1995,

(with G. R. Liu), "Strip Element Methods to Analyze Wave Scattering by Cracks in Anisotropic Laminated Plates," Journal of Applied Mathematics, 62, pp. 607-613, 1995.

(with John F. Dorighi, and Sridhar Krishnaswamy), "Stabilization of an Embedded Fiber Optic Fabry-Perot Sensor for Ultrasound Detection," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 42, pp. 820-824, 1995.

(with Q. C. Guo), "Radiation of ultrasound into an anisotropic solid," Ultrasonics, 33, pp. 449-456, 1995.

1996

(with A. Cheng), "A Roller Device to Scan for Surface-Breaking Cracks and to Determine Crack Depth by a Self-Calibrating Ultrasonic Technique," Research in Nondestructive Evaluation, 7, pp. 185-194, 1996.

(with K. Zgonc), "A neural network for crack sizing trained by finite element calculations," NDT&E International, 29, pp. 147-155, 1996.

(with Wei Li), "V(z) measurement of multiple leaky wave velocities for elastic constant determination," J. Acoustical Society of American, 100(3), pp. 1529-1537, 1996.

(with M. Utschig and T. Igusa), "Reduction to parts: A semianalytical approach to the structural acoustics of a cylindrical shell with hemispherical endcaps," J. Acoustical Society of America, 100(2), pp. 871-881, 1996.

(with C. Y. Wang), "Two-Dimensional Time Domain BEM for Scattering of Elastic Waves in Solids of General Anisotropy," International Journal of Solids Structures, 33, pp. 3843-3864, 1996.

(with S. H. Choi and T. Igusa), "Acoustic Radiation From a Finite-length Shell with Non-axisymmetric Substructures Using a Surface Variational Principle," J. of Sound and Vibration, 197(3), pp. 329-350, 1996.

(with C. Y. Wang), "Lamb problem for solids of general anisotropy," Wave Motion, 24, pp. 227-242, 1996.

(with Ailie Tourlog and Wei Li), "Line-focus acoustic microscopy measurements of elastic constants for materials with high acoustic velocities," Applied Physics Letters, 69(24), pp. 3680-3682, 1996.

1997

(with J. Dorigi and S. Krishnaswamy), "Response of an embedded fiber optic ultrasound sensor," J. Acoustical Society of America, 101(1), pp. 257-263, 1997.

(with A. Tourlog and J. Kushibiki), "Line-focus acoustic microscopy measurements of acoustic properties of LiTaO₃ crystal plates with an inversion layer," J. of Appl. Phys., 81(10), pp. 6616-6621, 1997.

(with Wei Li), "Determination of Elastic Constants by Time-Resolved Line-Focus Acoustic Microscopy," IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control, 44(3), pp. 681-687, 1997

(with W. A. K. Deutsch and A. Cheng), "Self-Focusing of Rayleigh Waves and Lamb Waves with a Linear Phased Array," Res Nondestr Eval, 9, pp. 81-95, 1997.

(with Z. M. Connor, W. Li and M. E. Fine), "Fatigue crack initiation and growth in riveted specimens: an optical and acoustic microscopic study," Int. J. Fatigue, 19, Supplement 1:S331-S338, 1997.

(with Zhiqi Guo and Sridhar Krishnaswamy), "EMAT generation and laser detection of single Lamb wave modes," Ultrasonics, 35:423-429, 1997.

(with P. A. Fomitchov and S. Krishnaswamy), "Compact phase-shifted Sagnac interferometer for ultrasound detection," Optics & Laser Technology, 29:6, 333-338, 1997.

"Explicit Solutions for Carrier Waves Supporting Surface Waves and Plate Waves," Wave Motion, 27, pp. 1-13, 1997.

1998

(with Scott F. Selleck, Eric N. Landis, Michael L. Peterson and Surendra P. Shah), "Ultrasonic Investigation of Concrete with Distributed Damage," Aci Materials Journal, 95-M4, pp. 27-36.

"Lamb waves as thickness vibrations superimposed on a membrane carrier wave," J. Acoust. Soc. Am., 103(5), pp. 2283-2286.

"Explicit solutions for carrier waves supporting surface waves and plate waves," Wave Motion, 28, pp 89-97, 1998.

(with Nohyu Kim), "Quantitative Characterization of Multiple Delaminations in Laminated Composites Using the Compton Backscatter Technique," J. Nondestructive Evaluation, 17(2), 53-65, 1998.

1999

(with J. S. Popovics and Won-Joon Song), "Application of new ultrasound and sound generation methods for testing concrete structures," Magazine of Concrete Research, 51, No. 1., 35-44, 1999.

(with Wolfram A. K. Deutsch and Ansheng Cheng), "Focusing of Rayleigh Waves: Simulation and Experiments," IEEE, 46(2), pp. 333-340, 1999.

(with Zhenzeng Tang and Ansheng Cheng), "Ultrasonic evaluation of adhesive bond degradation by detection of the onset of nonlinear behavior," J. Adhesion Sci. Technol., Vol. 13, No. 7, pp. 837-854, 1999.

(with Y. Xu), "Wave motion in an isotropic elastic layer generated by a time-harmonic point load of arbitrary direction," J. Acoust. Soc. Am. 106(1), pp. 83-90, July 1999.

(with Y. Xu), "Use of Elastodynamic Reciprocity to Analyze Point-Load Generated Axisymmetric Waves in a Plate," Wave Motion, 30, pp. 57-57, 1999.

(with T. W. Murray and S. Krishnaswamy), "Laser Generation of Ultrasound in Films and Coatings," Applied Physics Letters, 74(23), pp. 3561-3563, 1999.

(with M. Zhang), "Simulation of self-focusing by an array on a crack in an immersed specimen," Ultrasound 37, pp. 9-18, 1999.

2000

"Quantitative nondestructive evaluation," International Journal of Solids and Structures, 37, pp. 13-27, 2000.

- (with W. A. K. Deutsch and A. Cheng), "Calculation and Measurement of Scattering Coefficients for Surface-Breaking Cracks Sonified by a Focused Array," Res. Nondestr. Eval. **2000** 12, pp. 1-15.
- (with A. K. Kromine, P. A. Fomitchov and S. Krishnaswamy), "Laser Ultrasonic Detection of Surface Breaking Discontinuities: Scanning Laser Source Technique," Materials Evaluation, **58**(2), pp 173-177, 2000.
- "Calculation of surface wave motions due to a subsurface point force: An application of elastodynamic reciprocity," J. Acoust. Soc. Am. **107**(4), pp. 1892-1897, 2000.
- (with Zhiqi Guo), "Integration of modeling and acoustic microscopy measurements for thin films," J. Acoust. Soc. Am. **107**(5), pp. 2462-2471, 2000.
- (with C. Zhou, N. N. Hsu and J. S. Popovics), "Response of two layers overlaying a half-space to a suddenly applied point force," Wave Motion **31**, pp. 255-272, 2000.
- (with J. S. Popovics, W-J. Song, M. Ghandehari, K. V. Subramaniam and S. P. Shah, "Application of Surface Wave Transmission Measurements for Crack Depth Determination in Concrete," ACI Materials Journal **97**(2), March-April 2000.
- "Calculation of wave fields using elastodynamic reciprocity," International Journal of Solids and Structures, **37**, pp. 7043-7053, 2000.
- (with M. Zhang and A. Cheng), "Ultrasonic Self-Focusing on the Edge of a Surface-Breaking Crack: Experiment and Modeling," J. of Nondestructive Evaluation **19**(1), pp. 33-42, 2000.
- (with P. A. Fomitchov, A. K. Kromine and S. Krishnaswamy), "Sagnac-type Fiber-Optic Array Sensors for Detection of Bulk Ultrasonic Waves," IEEE Transactions, Vol. **47**, No. 3, pp. 584-589, 2000.
- "An Application of Elastodynamic Reciprocity to Reflection by an Obstacle in a Waveguide," The Chinese Journal of Mechanics, Vol. **16**, No. 2, June, pp. 97-101, 2000.
- (with B. Moran and Y. Xu), "Limit-State Surface Element Methods: Application to Fatigue Reliability with NDE Inspections," Journal of Engineering Mechanics, pp. 684-692, 2000.

(with A. T. Cheng and T. W. Murray), "Simulation of Laser-Generated Ultrasonic Waves in Layered Plates," J. Acoust. Soc. Am. **110**(2), pp. 848-855, 2001.

(with Z. Guo, A. Madan, K. Martin and M. E. Graham), "Modeling and Acoustic Microscopy Measurements for Evaluation of the Adhesion Between a Film and a Substrate," Thin Solid Films, **394**, pp. 189-200, 2001.

(with H. S. Choi and C. Kim), "Micromechanical Bilinear Behavior of Composite Lamina Subjected to Combined Thermal and Mechanical Loadings," Mec. Compos. Mater. Struct., **8**, pp. 135-156, 2001.

(with J. C. Aldrin, G. Andrew, C. P'an, B. Grills, R. T. Mullis, F. W. Spencer and M. Golis), "Case Study for the Implementation of an Automatic Ultrasonic Technique to Detect Fatigue Cracks in Aircraft Weep Holes," Materials Evaluation, **59**(11), pp. 1313-1319, 2001.

2002

"Modeling for Quantitative Non-Destructive Evaluation," Ultrasonics, **40**, pp. 1-10, 2002.

(with J. G. Harris), "On the Complex Conjugate Roots of the Rayleigh Equation: The Leaky Surface Wave," J. Acoust. Soc. Am. **112**(5), 1747-1748, 2002.

"Line Focus Acoustic Microscopy to Determine Thin-film Properties," Journal of Nanjing University, Natural Sciences, Special Issue for World Famous Scientists Forum, **38**, pp. 1-9, 2002.

2003

"Laser Excitation of Surface Wave Motion," J. Mech. Phys. Solids, **51**, pp.1885-1902, 2003.

(with I. Arias), "Thermoelastic Generation of Ultrasound by Line-Focused Laser Irradiation," Int. J. of Solids and Structures, **40**, pp. 6917-6935, 2003.

2004

"Simplifications for the Calculation of Surface Wave Pulses Generated by Laser Irradiation," J. Acoust. Soc. Am., **116**, pp. 1481-1487, 2004.

(with P.A. Fomitchov, A. Kromine and S. Krishnaswamy), "Imaging of Damage in Sandwich Structures Using a Scanning Laser Source Technique," J. of Composites B: Engineering, Special Issue, **35**, pp. 557-562, 2004.

(with I. Arias), "Rayleigh Wave Correction for the BEM Analysis of Two-Dimensional Elastodynamic Problems in a Half-Space," *Int. J. Numer. Meth. Engng.*, **60**, p.p. 2131-2146, 2004.

(with I. Arias), "A Model for the Ultrasonic Detection of Surface-Breaking Cracks by the Scanning Laser Source Technique," *Wave Motion*, **39**, p.p. 61-75, 2004.

2005

"The Thermoelasticity of Laser-Based Ultrasonics," *J. of Thermal Stresses*, **28**, pp. 713-728, 2005.

"Combination of a Virtual Wave and the Reciprocity Theorem to Analyze Surface Wave Generation on a Transversely Isotropic Solid," *Philosophical Magazine*, **85**, pp. 4143-4157, 2005.

2006

"Reciprocity and Related Topics in Elastodynamics," *Applied Mechanics Reviews*, **59**, pp. 13-32, 2006.

(with S.S. Kulkarni, L. Sun, B. Moran and S. Krishnaswamy) "Probabilistic Method to Predict Fatigue Crack Initiation," *Int. J. of Fracture*, **137**, pp. 9-17, 2006.

III. INVITED PAPERS IN HANDBOOKS, SPECIAL VOLUMES AND CONFERENCE PROCEEDINGS

1964

(with C.-C. Chao), "A Simple Viscoelastic Analogy for Stress Waves," Stress Waves In Anelastic Solids, edited by H.Kolski and W. Prager, Springer-Verlag, Berlin/Gottingen/Heidelberg, pp. 222-239,1964.

1967

"Propagation of Harmonic Waves in a Laminated Composite," in The Discrete and Continuum Concepts in Micro and Macro Mechanics, Proceedings of the ASCE-EMD Specialty Conference, Raleigh, N.C., pp. 44-48, 1967.

1968

(with S. M. Vogel and G. Herrmann), "On Stress Waves in Viscoelastic Media Conducting Heat," in Irreversible Aspects of Continuum Mechanics and Transfer of Physical Characteristics in Moving Fluids, edited by H. Parkus and L.I. Sedov, Springer-Verlag, New York, pp. 1-15, 1968.

(with G. Herrmann), "Applications of Theories of Generalized Cosserat Continua to the Dynamics of Composite-Materials," in Mechanics of Generalized Continua, edited by E. Kröner, Springer-Verlag, Berlin, Heidelberg, New York, pp. 69-79, 1968.

(with G. Herrmann), "Effective Stiffness Theory for a Laminated Composite," in Developments in Mechanics 4, edited by J.E. Cermak and J.R. Goodman, Johnson Publishing Company, pp.91-106, 1968.

(with G. Herrmann), "Wave Motion in Solids with Lamellar Structuring," in Dynamics of Structural Solids, American Society of Mechanical Engineers, p. 23, 1968.

1970

(with G. Herrmann), "Propagation of Second-Order Thermo-Mechanical Disturbances in Viscoelastic Solids," Thermoelasticity, edited by Bruno A. Boley, Springer-Verlag, Vienna, New York, pp. 1-16, 1970.

(with G. Herrmann), "Wave Propagation in Laminated and Fiber-Reinforced Composites," in Mechanics of Composite Materials, edited by F.W. Wendt, H. Liebowitz and N. Perrone, Pergamon Press, pp.337-360, 1970.

1972

(with C.-T. Sun), "The Directionally Reinforced Composite as a Homogeneous Continuum with Microstructure," Dynamics of Composite Materials, edited by E.H. Lee, American Society of Mechanical Engineers, pp. 48-69, 1972.

"Brittle Fracture under Dynamic Loading Conditions," Contributions to the Theory of Aircraft Structures, Delft University Press, pp. 379-398, 1972.

1973

(with L.M. Brock), "On Quasistatic and Dynamic Fracture," in Dynamic Crack Propagation, (G.C. Sih, Ed.), Noordhoff Int. Publ. Co. Leyden, 1973.

1974

"Dynamic Effects in Brittle Fracture," Mechanics Today 1, Ed. by S. Nemat-Nasser, pp. 1-57, 1974.

"Waves and Vibrations in Directionally Reinforced Solids," Composite Materials, 2, (eds. Broutman, Korck and Sendekyj), Academic Press, pp. 310-352, 1974.

1976

"Elastostatic and Elastodynamic Stress Singularities," Proceedings of the 3rd Symposium on the Numerical Solution of Partial Differential Equations, SYNPADE 1975, (ed. Bert Hubbard), Academic Press, pp. 1-33, 1976.

"Wave Propagation, Elastodynamic Stress Singularities, and Fracture," in Theoretical and Applied Mechanics, Proceedings of the 14th IUTAM Congress, edited by W.T. Koiter, North-Holland Publishing Co., pp. 71-87, 1976.

1977

(with P.K. Tolikas), "Elastodynamic Effects on Crack Arrest," Fast Fracture and Crack Arrest, ASTM STP 627, pp.59-76, 1977.

"Branching of Rapidly Propagating Cracks," Fracture Mechanics and Technology (edited by G.C. Sih and C.L. Chow), Noordhoff Intl. Publ., pp. 1281-1294, 1977.

1978

(with M. F. Kanninen), "Crack Tip Plasticity in Dynamic Fracture Mechanics," in Fracture Mechanics (edited by N. Perrone, H. Liebowitz, D. Mulville and W. Pilkey), University Press of Virginia, pp. 649-670, 1978.

(with A. K. Gautesen and H. McMaken), "Applications of Elastodynamic Ray Theory to Diffraction by Cracks," in Modern Problems in Elastic Wave

Propagation (edited by J. Miklowitz and J.D. Achenbach), John Wiley & Sons, Inc., pp. 219-238, 1978.

(with A. K. Gautesen and H. McMaken), "Diffraction of Elastic Waves by Cracks - Analytical Results," in Elastic Waves and Non-Destructive Testing of Materials, AMD-Vol. 29 (edited by Y.H. Pao) The American Society of Mechanical Engineers, pp. 33-52, 1978.

Dynamic Failure in Heterogeneous Solids," in Proc. ONR/AFOSR Workshop on Deflagration-to-Detonation Transition (edited by T.W. Christian) CPIA Publication 299, Chemical Propulsion Information Agency, pp. 19-38, 1978.

"Elastodynamic Fracture Mechanics," in Fracture Mechanics (edited by R. Burridge), American Mathematical Society, pp. 3-20, 1978.

1979

(with A. K. Gautesen and H. McMaken), "Application of Geometrical Diffraction Theory to QNDE Analysis," in Interdisciplinary Program for Quantitative Flaw Definition, Special Report Fourth Year Effort (edited by D.O. Thompson). Rockwell International Science Center, 1978.

(with P. Burgers and V. Dunayevsky), "Near-Trip Plastic Deformations in Dynamic Fracture Problems," in Nonlinear and Dynamic Fracture Mechanics, AMD-Vol. 35 (edited by N. Perrone and S. Atluri), The American Society of Mechanical Engineers, pp. 105-124, 1979.

"Elastic Wave Propagation Problems in Non-destructive Evaluation," in Trends in Solid Mechanics 1979, Proceedings of the Symposium dedicated to the 65th Birthday of W.T. Koiter (edited by J.F. Besseling and A.M.A. van der Heijden), Delft University Press./Sijthoff & Noordhoff International Publishers, pp. 19-38, 1979.

(with T. Bubenik), "Near-Tip Fields in a Cracked Plate According to Deformation Theory," in Fracture Mechanics in Engineering Application (edited by G.C. Sih and S.R. Valluri), Sijthoff & Noordhoff International Publishers, pp. 67-80, 1979.

1980

(with A. K. Gautesen and H. McMaken), "Application of Ray Theory to Diffraction of Elastic Waves by Cracks," in Acoustic, Electromagnetic and Elastic Wave Scattering - Focus on the T-Matrix Approach (edited by V.K. Varadan and V.V. Varadan), Pergamon Press, pp. 355-372, 1980.

(with A. Norris and K. Viswanathan), "Inversion of Crack Scattering Data in the High-Frequency Domain," in Acoustic, Electromagnetic and Elastic Wave

Scattering - Focus on the T-Matrix Approach (edited by V.K. Varadan and V.V. Varadan), Pergamon Press, pp. 591-604, 1980.

(with L. Adler), "Application of Elastodynamic Ray Theory in Diffraction by Cracks: Theory and Experiment," in Mathematical Methods and Applications of Scattering Theory (edited by J.A. deSanto, A.W. Saénz and W.W. Zachary), Lecture Notes in Physics No. 130, Springer-Verlag, pp. 106-110, 1980.

1981

"Direct and Inverse Methods for Scattering by Cracks in the High Frequency Range," in Transactions of the Twenty-Sixth Conference of Army Mathematicians, U.S. Army Research Office, P. O. Box 12211, Research Triangle Park, North Carolina, ARO Report 81-1, pp. 1-18.

(with J. Aboudi), "Transition from Brittle to Ductile Fracture for a Rapidly Propagating Crack", Preprint 81-PVP-16.

1982

(with A. Norris), "Inversion of First Arrival Crack-Scattering Data," in Elastic Wave Scattering and Propagation, (edited by Vijay K. Varadan and Vasundara V. Varadan), Ann Arbor Science, pp. 61-75, 1982.

(with J. G. Harris), "Focussing of Ground Motion Due to Curved Rupture Fronts", in Proceedings of Workshop XVI The Dynamic Characteristics of Faulting Inferred from Recordings of Strong Ground Motion, Vol. 1, (edited by John Boatwright), Report 82-591, U.S. Geological Survey, Menlo Park, CA., pp. 50-70, 1982.

(with H. K. Chung), "Crack Propagation and Arrest under Dynamic Loading Conditions in an Elastic-Plastic Strip", in Proceedings of the 29th Sagamore Army Materials Conference entitled "Material Behavior under High Stress and Ultrahigh Loading Rates, (edited by John Mescall and Volker Weiss), Plenum Press, pp. 251-264, 1982.

1983

(with A. N. Norris), "Ray Methods for Scattering of Ultrasonic Waves by Cracks," New Procedures in Nondestructive Testing, Proceedings of the Germany-U.S. Workshop Graunhofer-Institut Testing, Saarbrucken, Germany, pp. 279-379, Aug. 30 - Sept. 3, 1982.

1984

(with Y.C. Angel and W. Lin), "Scattering from Surface-Breaking and Near-Surface Cracks", in Wave Propagation in Homogeneous Media and Ultrasonic

Nondestructive Evaluation, AMD-Vol. 62, (edited by G.C. Johnson), The American Society of Mechanical Engineers, pp. 93-109, 1984.

(with J. G. Harris), "Excitation of Near- and Far-Field Ground Motions by Sliding Events on a Fault Plane", in Earthquake Source Modeling, Ground Motion, and Structural Response, PVP-Vol. 80, (edited by S.K. Datta), The American Society of Mechanical Engineers, pp. 13-27, 1984.

(with Z. L. Li), "Plastic Deformations Near a Rapidly Propagating Crack Tip", in Fundamentals of Deformation and Fracture, Eshelby Memorial Symposium Sheffield, (edited by B.A. Bilby, K.J. Miller and J.R. Willis, Cambridge University Press, Cambridge, pp. 217-232, 2-5 April 1984.

1986

(with M.-K. Kuo), "Effect of Transverse Isotropy on Strong Ground Motion Due to Strike Slip Faulting," in Earthquake Source Mechanics, (edited by Shamita Das, John Boatwright and Christopher H. Scholz), Geophysical Monograph 37, Maurice Ewing Volume 6, American Geophysical Union, Washington, D.C. pp. 111-120, 1986.

(with A. K. Gautesen), "Edge Diffraction in Acoustics and Elastodynamics," in Mechanics and Mathematical Methods, Vol.2, Low and High Frequency Asymptotics, (edited by V. K. Varadan and V. V. Varadan), North-Holland, Amsterdam, Chapter 4, pp. 335-399, 1986.

1987

(with J. G. Harris) "Asymptotic Modeling of Strong Ground Motion Excited by Subsurface Sliding Events," in Seismic Strong Motion Synthetics, Computational Techniques, (edited by Bruce A. Bolt) Academic Press, Chapter 1, pp. 1-54, 1987.

1988

"Recent Developments in Ultrasonic Modelling for Crack Detection and Characterization," in Mathematical Modelling in Non-Destructive Testing, (edited by Michael Blakemore and George A. Georgiou), Clarendon Press, Oxford, pp. 35-55, 1988.

(with Y.-C. Liu), "Dispersion Relations for Fiber-Reinforced Composites from Single-Layer Reflection and Transmission Coefficients," in Wave Propagation in Structural Composites, (edited by A. K. Mal and T. C. T. Ting), presented at The Joint ASME/SES Applied Mechanics and Engineering Sciences Conference, Berkeley, CA, pp. 99-107, June 20-22, 1988.

(with J. Qu and R. A. Roberts), "Backscatter from Porosity in Fiber-Reinforced Composites," in Mechanics of Composite Materials, (edited by G.J. Dvorak and

N. Laws), presented at The Joint ASME/SES Applied Mechanics and Engineering Sciences Conference, Berkeley, CA, pp. 69-77, June 20-22, 1988.

(with Ch. Zhang), "Boundary Element Method for the Computation of Dynamic Fields near Cracks," in Computational Mechanics '88, eds. S.N. Atluri and G. Yagawa, Springer-Verlag, pp. 3iii 1-5, 1988.

(with D. A. Sotiropoulos), "Reflection of Ultrasonic Waves by Crack-Permeated Diffusion Bonds," New Directions in the Nondestructive Evaluation of Advanced Materials, J.L. Rose and A. A. Tseng, eds., ASME, pp. 79-83, 1988.

1989

"Strength Evaluation by Ultrasonic Methods," Advances in Fracture Research, Proceedings ICF7, K. Salama, K. Ravi-Chandar, D. M. R. Taplin and P. Rama Rao, eds., Vol.5, Pergamon Press, pp.3099-3120, 1989.

1990

"From Ultrasonics to Failure Prevention", Elastic Waves and Ultrasonic Nondestructive Evaluation, Proceedings of the IUTAM Symposium on Elastic Wave Propagation and Ultrasonic Evaluation, S. K. Datta, J. D. Achenbach and Y. S. Rajapakse, eds., Elsevier Science Publishers, pp. 3-15, 1989.

(with B. Moran and M. Gosz), "Effect of a Viscoelastic Interfacial Zone on the Mechanical Behavior and Failure of Fiber-Reinforced Composites", Proceedings of the IUTAM Symposium on Inelastic Deformation of Composite Materials, George J. Dvorak, Ed., Springer-Verlag, pp. 35-49, 1990.

"Effects of Distributed Microcracking on Effective Wave Speed and Attenuation of Ultrasound," (Proc. Eighth Symposium on Energy Engineering Sciences, Argonne Nat. Lab., May 9-11, 1990, Argonne Natl. Lab.

(with D. O. Thompson) "Towards Quantitative Non-Destructive Evaluation of Aging Aircraft", in Structural Integrity of Aging Aircraft, in Springer Series in Computational Mechanics, S. N. Atluri, S. G.Sampath and P. Tong (eds.), pp. 1-13, 1990.

1992

(with H. Zhu), "Matrix Cracks and Interphase Failure in Transversely Loaded Fiber Composites", Fracture Mechanics: Proceedings, 22nd Symposium, Vol. II, Eds. Atluri/Newman/Raju/Epstein, SDP 1131, American Society of Testing Materials, Philadelphia, PA

(with J. O. Kim), "Inversion of Surface Acoustic Wave Data to Determine the Elastic Constants of Nitride Films", in Inverse Problems in Engineering

Mechanics, M. Tanaka, H. D. Bui (Eds.), presented at the IUTAM Symposium Tokyo, pp. 265-276, 1992.

(with M. Takadoya, M. Notake, M. Kitahara, Q.C. Guo and M .L. Peterson)
 "Neural Network Approach to the Inverse Problem of Crack-Depth Determination from Ultrasonic Backscattering Data", in Inverse Problems in Engineering Mechanics, M. Tanaka, H. D. Bui (Eds.), presented at the IUTAM Symposium, Tokyo, pp. 413-422, 1992.

1993

(with C.-Y. Wang), "New Green's Functions to Analyze Scattering by Flaws in Thick Composites", in AMD-Vol. 162, Mechanics of Thick Composites, Yapa D. S. Rajapakse, Ed., (presented at the 1st Joint Mechanics Meeting of ASME, ASCE, SES - Meet 'N'93), pp. 25-39, Charlottesville, VA., June 6-9, 1993.

"BEM Computations of Elastodynamic Fields in Bodies Containing Internal, Near-Surface and Surface-Breaking Cracks," (with Z.L. Li) in Avances in Boundary Element Methods for Fracture Mechanics, (M. H. Aliabodi and C. A. Brebbia eds), Elsevier Applied Science, London, 1993.

1995

(with Jin O. Kim and Yung-Chun Lee), "Measuring Thin-Film Elastic Constants by Line-Focus Acoustic Microscopy", Advances in Acoustic Microscopy, Volume 1, Edited by Andrew Briggs, Plenum Press, New York, 1995, pp. 153-208.

(with C.-Y. Wang and A. Saez), "3-D Elastodynamic Green's Functions for BEM Applications to Anisotropic Solids," Proceedings IUTAM Symposium on Anisotropy, Inhomogeneity and Nonlinearity in Solid Mechanics, edited by D. F. Parker and A. H. England, Kluwer Academic Publishers, Dordrecht/Boston/London, pp. 307-320, 1995.

1996

(with Wei Li), "Determination of Near-Surface Material Properties by Line-Focus Acoustic Microscopy," Proc. 14th Symposium on Energy Engineering Sciences, Conf. 9605186, Argonne Nat. Lab., pp. 75-82, 1996.

1997

(with P. Fomitchov, L.-S. Wang, J. S. Steckenrider and S. Krishnaswamy), "Laser-Based Ultrasonics for QNDE Applications," Proc. Int. Conference on Experimental Mechanics: Advances and Applications, SPIE, Vol. 2921, pp. 166-176, 1997.

- (with B. Moran and A. Zulfiquar), "Techniques and Instrumentation for Structural Diagnostics," in Structural Health Monitoring-Current Status and Perspectives, ed. by Fu-Kuo Chang, Technomic Publ. Co., Inc., Lancaster, PA 17604, 1997, pp. 179-190.
- 1998
 "Theory of Ultrasound Propagation in Solids," in Sensing for Materials Characterization, Processing, and Manufacturing, edited by George Birnbaum and Bert A. Auld, The American Society for Nondestructive Testing, Inc., Columbus, OH (1998).
- 1999
 (with M. E. Fine and Z. M. Connor), "Early Stages of Fatigue Damage in Riveted Alclad 2024-T3 Aluminum Alloy Lap Joint Specimens," Nondestructive Evaluation (NDE) and Material Properties IV, ed. by P. K. Liaw, R. J. Arsenault, R. E. Green, Jr., K. L. Murty and R. B. Thompson, The Minerals, Metals & Materials Society, 1999, pp. 1-9.
- 2000
 "Use of Elastodynamic Reciprocity Theorems for Field Calculations," in Integral Methods in Science and Engineering, pp. 1-14, ed. by P. Schiavone, C. Constanda and A. Mioduchowski, Birkhauser, Basel, 2002.
 (with Z. Guo), "Line Focus Acoustic Microscopy for Thin-Film Measurements," in Recent Advances in Experimental Mechanics," pp. 367-380, ed. by E. E. Gdoutos, Kluwer Academic Publishers, Dordrecht, the Netherlands, 2002.
- 2001
 (with Irene Arias), "Detection of Surface-Breaking Cracks by Laser-Based Ultrasonics," Proceedings of APCFS&ATEM '01 pp. 1-10, Japan Society of Mechanical Engineers, Tokyo, Japan, 2001.
- 2003
 "Ultrasonic Characterization of Thin Film Material Constants and Defects," Advances in Nondestructive Evaluation, proceedings of the 11th Asian Pacific Conference on NDT, pp. 8-13, ed. by Seung-Seok Lee et al., TTP Trans Tech Publications Ltd, Zuerich, Switzerland, 2003.
- 2005
 (with S.S. Kulkarni), "Structural Health Monitoring of Fatigue Damage," Proceedings of Structural Health Monitoring 2005, pp. 427-435, ed. by Fu-Kuo Chang, DES'tech Publ. MC, Lancaster, Pa., 2005.

IV. CONTRIBUTED PAPERS IN CONFERENCE PROCEEDINGS

1965

"Thickness Shear Vibrations of an Ablating Rocket," Proceedings AIAA Symposium on Structural Dynamics and Aeroelasticity, Boston, MA., pp. 465-477, 1965.

(with G. Herrmann), "Forced Vibrations of an Encased Cylinder with Eroding Inner Surface," Bulletin of the Fourth Meeting of the ICRPG Working Group on Mechanical Behavior, CPIA Publication No. 94u, pp. 517-529, 1965.

(with H. Epstein and G. Herrmann), "Attenuation of High Frequency Longitudinal Oscillations in Joined Dissimilar Solids," Proceedings of the Fifth International Congress in Acoustics, Liege, Paper L 31, 1965.

1966

(with G. Herrmann), "Influence of Material Behavior and Structural Parameters on Acoustic Stability," (Abstract only), ICRPG 3rd Combustion Conference Abstracts, CPIA Publication No. 118, pp. 150-151, 1966.

1967

(with G. Herrmann), "On Dynamic Theories of Fiber-Reinforced Composites," Proceedings of the AIAA/ASME 8th Structures, Structural Dynamics and Materials Conference, Palm Springs, CA., pp. 112-118, 1967.

(with S. M. Vogel and G. Herrmann), "Thermodynamical Influences on Stress Wave Propagation in Viscoelastic Materials," Bulletin of the 6th Annual Meeting of the ICRPG Working Group on Mechanical Behavior, CPIA Publication No. 158, 1, pp. 545-546, 1967.

1968

(with C. T. Sun and G. Herrmann), "Dispersion of Time-Harmonic Waves in a Laminated Plate," AIAA/ASME 9th Structures, Structural Dynamics and Materials Conference, Palm Springs, CA, AIAA Paper No. 68-353, 1968.

1970

(with J. C. S. Yang), "Stresses in Multilayered Structures Under High-Rate Pressure Loads," ASME Paper 70-WA/UNT-14, pp. 1-8, 1970.

1971

(with J. C. S. Yang), "Transient Stresses in a Heat Shield," AIAA Paper No. 71-351, pp. 1-8, 1971.

(with L. M. Brock), "Wave Propagation in Two Joined Elastic Quarter-Spaces," Developments in Theoretical and Applied Mechanics, 5, pp. 449-476, 1971.

1973

(with V. K. Varatjarajulu), "Skewing of a Crack under the Influence of a Transient Wave," Proceedings of the Fourth Canadian Congress of Applied Mechanics, pp. 471-72, 1973.

(with L. M. Brock), "Dynamics and Quasi-Static Extension of an Interface Flaw," Developments in Mechanics, 7, Proc. 13th Midwestern Mechanics Conference, pp. 595-607, 1973.

(with A. M. Abo-Zena), "Dynamic Analysis of Strike-Slip Faulting," Paper No. 295, Proc. Fifth World Conference on Earthquake Engineering, 1973.

1977

"Elastodynamic Effects on Crack Branching," Fracture 1977, Vol. 3, ICF 4, pp. 97-102, 1977.

1981

(with L. Adler), "Crack Detection by Ultrasonic Methods: Theory and Experiment," Advances in Fracture Research (Fracture 81) 4, ICF5, pp. 2013-2022, 1981.

(with V. Dunayevsky), "Crack-Tip Plasticity for Rapid Crack Propagation," Advances in Fracture Research (Fracture 81) 5, ICF5, pp. 2205-2213, 1981.

1982

(with K. Ohno and K. Hirashima), "The Waveforms of Acoustic Emission Due to Microcracking near a Macro Crack," Progress in Acoustic Emission, Proceedings of the 6th International Acoustic Emission Symposium, edited by M. Onoe, K. Yamaguchi, and T. Kishi, published by The Japanese Society of Non-Destructive Inspection, pp. 225-234, 1982.

(with A. Jungman, Laszlo Adler, and R. Roberts), "Theoretical and Experimental Developments in Ultrasonic Evaluation of Periodic Surfaces" in Review of Progress in Quantitative Nondestructive Evaluation Vol. 2A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 625-634, 1982.

(with A. N. Norris, L. Ahlberg and B. R. Tittmann), "Crack Mapping by Ray Methods", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 2B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 1097-1115, 1982.

(with A. Norris), "Crack Characterization by the Combined Use of Time-Domain and Frequency-Domain Scattering Data" in Review of Progress in Quantitative Nondestructive Evaluation, Vol. 1, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp.491-498, 1982.

1983

(with A. N. Norris), "Crack-Tip Diffraction in a Transversely Isotropic Solid", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 3A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 133-141, 1983.

(with A. N. Norris), "Specular Reflection by Contacting Crack Faces", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 3A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 163-173, 1983.

(with Y. C. Angel and A. N. Norris), "Scattering of Obliquely Incident Rayleigh Waves by a Surface-Breaking Crack", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 3A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 175-185, 1983.

(with A. N. Norris), "Further Results for Crack-Edge Mappings by Ray Methods," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 3A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 277-285, 1983.

(with L. Ahlberg, B. R. Tittmann and A. N. Norris), "Experimental Results on Crack Inversion", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 3A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 287-296, 1983.

(with R. Ko, L. Adler, R. Roberts, A. Jungman and G. Quentin), "Finite Beam Interaction with Periodically Rough Surfaces", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 3B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 1165-1172, 1983.

1985

(with Y. C. Angel), "Reflection of Ultrasonic Waves by an Array of Microcracks", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 4A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 83-89, 1985.

(with K.-Y. Hu and A. N. Norris), "A Model for the Ultrasonic Scattering from Multi-Branched Cracks", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 4A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 91-102, 1985.

(with R. A. Roberts), "Characterization of a Periodic Surface Profile by Pole-Zero Parameterization of Elastodynamic Pulse Reflections", in Review of Progress in Quantitative Nondestructive Evaluation Vol. 4A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp.145-151, 1985.

"Amplification of Acoustic Emission from a Microcrack Due to the Presence of a Macrocrack," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 4B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, New York and London, pp. 671-680, 1985.

(with Y. C. Angel and W. Lin), "Scattering from Surface Breaking and Near Surface Cracks," in Wave Propagation in Homogeneous Media and Ultrasonic Nondestructive Evaluation, AMD-Vol. 62 (edited by G. C. Johnson) The American Society of Mechanical Engineers, pp. 93-109, 1985.

(with Z. Li), "Plastic Deformations Near a Rapidly Propagating Crack Tip," in Proceedings Fundamentals of Deformation and Fracture, Int. Union of Theor. & Appl. Mechs., Eshelby Memorial Symposium, Sheffield, 2-5, April 1984, edited by B. A. Bilby, K. J. Miller and J.R. Willis, Cambridge Univ. Press, pp. 217-232, 1985.

1986

(with M. Kitahara), "Reflection and Transmission by an Array of Spherical Voids in an Elastic Solid," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 5A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 93-100, 1986.

(with J. Qu), "Backscattering from Flaw Distributions in Composite Materials, in Review of Progress in Quantitative Nondestructive Evaluation Vol. 5B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 1179-1188, 1986.

"Ultrasonic Scattering by Cracks for QNDE Applications," Proceedings of the Tenth U.S. National Congress of Applied Mechanics, (ed. by J. P. Lamb), ASME, pp. 351-358, 1986.

1987

(with D. A. Sotiropoulos and H. Zhu), "On the Direct and Inverse Elastic Wave Scattering Problem to Characterize Damage in Materials," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 6A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 39-43, 1987.

(with D. E. Budreck), "3-D Modeling of Ultrasonic Scattering from Inter-Granular Stress Corrosion Cracks," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 6A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 87-92, 1987.

(with T. A. Gray, R. B. Thompson, B. P. Newberry and D. E. Budreck), "Application of Models for IGSCC Inspection," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 6A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 93-100, 1987.

(with J. Qu), "Analytical Treatment of Polar Backscattering from Porous Composites," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 6B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 1137-1146, 1987.

"Masking Effects of Microcracks, Voids and Near-Tip Mechanical Behavior on Crack Detection and Characterization," Proceedings of the Fifth Symposium on Energy Engineering Sciences, Instrumentation, Diagnostics, and Material Behavior, co-sponsored by U.S. Dept. of Energy and Argonne National Laboratory, pp. 153-160, 1987.

1988

(with D. E. Budreck), "3-D Ultrasonic Scattering from Planar Cracks by the Boundary Element Method," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 7A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 103-111, 1988.

(with J. Qu), "Backscatter from Porosity in Cross-Ply Composites," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 7B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 1029-1036, 1988.

(with T. Ohyoshi), "Effect of Bottom-Surface Reflections on Backscatter from Porosity in a Composite Layer," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 7B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 1045-1052, 1988.

(with D. A. Sotiropoulos), "Reflection of Ultrasonic Waves by an Imperfect Diffusion Bond," in Review of Progress in Quantitative Nondestructive

Evaluation Vol. 7B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 1293-1300, 1988.

(with Ch. Zhang), "Acoustic Emission from Macro-Microcrack Configurations," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 7B, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 1513-1519, 1988.

1989

(with G. E. Kechter), "The Extraction of Simple Void Characteristics from Ultrasonic Backscatter from Void Clusters," in Review of Progress in Quantitative Nondestructive Evaluation Vol. 8A, (edited by Donald O. Thompson and Dale E. Chimenti), Plenum Press, pp. 55-62, 1989.

(with D. E. Budreck), "3-D Ultrasonic Scattering by Surface-Breaking Cracks," Review of Progress in Quantitative Nondestructive Evaluation Vol. 8A, (edited by D. O. Thompson and D. E. Chimenti), Plenum Press, pp. 31-38, 1989.

(with M. Kitahara and K. Nakagawa), "Backscatter from a Spherical Inclusion with Compliant Interphase Characteristics," Review of Progress in Quantitative Nondestructive Evaluation Vol. 8A, (edited by D. O. Thompson and D. E. Chimenti), Plenum Press, pp. 47-54, 1989.

(with Y. Mikata), "Scattering by a Periodic Array of Collinear Cracks," Review of Progress in Quantitative Nondestructive Evaluation Vol. 8A, (edited by D. O. Thompson and D. E. Chimenti), Plenum Press, pp. 87-94, 1989.

(with O. K. Parikh and D. A. Sotiropoulos), "Nonlinear Effects in the Reflection from Adhesive Bonds," Review of Progress in Quantitative Nondestructive Evaluation Vol. 8B, (edited by D. O. Thompson and D. E. Chimenti), Plenum Press, pp. 1401-1407, 1989.

(with Y. C. Lu), "Reflection of Ultrasonic Waves by Flaws in Thick Composites," Review of Progress in Quantitative Nondestructive Evaluation Vol. 8B, (edited by D. O. Thompson and D. E. Chimenti), Plenum Press, pp. 1597-1604, 1989.

(with D. A. Sotiropoulos), "Reflection by Distributed Microflaws in a Diffusion Bond," Review of Progress in Quantitative Nondestructive Evaluation Vol. 8B, (edited by D. O. Thompson and D. E. Chimenti), Plenum Press, pp. 1917-1923, 1989.

(with O. K. Parikh and D. A. Sotiropoulos), "Nonlinear Effects in the Reflection from Adhesive Bonds," Review of Progress in QNDE, Vol. 8B, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 1401-1407, 1989.

(with Y. C. Lu), "Reflection of Ultrasonic Waves by Flaws in Thick Composites," Review of Progress in QNDE, Vol. 8B, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 1597-1604, 1989.

1990

(with Y. Xu), "Reflection by Defective Diffusion Bonds", Proceedings IEEE 1989 Ultrasonics Symposium, Vol. 2, B. R. McAvoy, ed., pp. 1107-1111, 1990.

(with M. Kitahara and K. Nakagawa), "Scattering Characteristics of a Partially Debonded Compliant Inclusion-Matrix Interphase", in Review of Progress in QNDE, Vol. 9A, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 69-76, 1990.

(with Yonglin Xu), "Numerical Analysis of Scattering by Interface Flaws", in Review of Progress in QNDE, Vol. 9A, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 93-100, 1990.

(with G. E. Kechter), "Pulse Echo Technique to Determine Bondline Reflection Coefficients", in Review of Progress in QNDE, Vol. 9B, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 1239-1246, 1990.

(with Yichi Lu), "Localization of Ultrasound in Thick Composites", in Review of Progress in QNDE, Vol. 9B, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 1379-1386, 1990.

(with O. K Parikh and Y. C. Lu), "Wave Phenomena Related to Nonlinear Mechanical Behavior of Adhesives", in Review of Progress in QNDE, Vol. 9B, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 1693-1700, 1990.

1991

(with M. Kitahara, Q. C. Guo, M. Peterson, T. Ogi and M. Notake), "Depth Determination of Surface-Breaking Cracks by a Neural Network", in Review of Progress in QNDE, Vol. 10A, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 689-696, 1991.

(with V. S. Ahn), "BEM Analysis for the Line Focus Acoustic Microscope", Review of Progress in QNDE, Vol. 10A, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 225-232, 1991.

(with J. Huang), "Measurements of Surface Wave Speed and Attenuation by a Dual-Probe Laser Interferometer", Review of Progress in QNDE, Vol. 10A, D.O. Thompson and D.E. Chimenti, eds., Plenum Press, pp. 523-530, 1991.

(with I. Komsky), "Self-Calibrating Surface Wave Device to Characterize Near-Surface Mechanical Damage", Review of Progress in QNDE, Vol. 10A, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 1095-1102, 1991.

(with O. K. Parikh), "Ultrasonic Detection of Nonlinear Mechanical Behavior of Adhesive Bonds", Review of Progress in QNDE, Vol. 10B, D. O. Thompson and D. E. Chimenti, eds., Plenum Press, pp. 1837-1844, 1991.

(with Z. L. Li), "BEM Schemes for Elastic-Wave Scattering by Near-Surface Defects", Proc. Intl. Conf. on Computational Engr. Science, S. N. Atluri, D. E. Beskos, R. Jones and G. Yagawa, Eds., pp. 7-12, 1991.

(with Z. L. Li), "BIE/BEM Approach to Scattering of Ultrasound by Cracks", Proceedings Mathematical and Numerical Aspects of Wave Propagation Phenomena, Chapter 1, Gary Cohen, Laurence Halpern and Patrick Joly, Eds., pp. 3-14, 1991.

(with J. Huang and S. McGuire), "Accurate Non-Contact Measurements of Rayleigh Wave Speed and Attenuation", Proceedings 1990 Ultrasonics Symposium, Vol. 1, B. R. McAvoy, Ed., pp. 363-365, 1991.

(with V. S. Ahn and J. G. Harris), "Acoustic Material Signature for a Cracked Surface", Proceedings 1990 Ultrasonics Symposium, Vol. 2, B. R. McAvoy, Ed., pp. 921-930, 1991.

1992

(with M. Kitahara, Q. C. Guo, M. L. Peterson, M. Notake and M. Takadoya), "Neural Network for Crack-Depth Determination from Ultrasonic Backscattering Data", Review of Progress in Quantitative Nondestructive Evaluation, Vol. 11, D. O. Thompson and D. E. Chimenti, Eds., pp. 701-708, 1992.

(with J. O. Kim, M. Shinn and S. A. Barnett) "Elastic Constants of Single-Crystal Superlattice Films Determined by Line-Focus Acoustic Microscopy," in Acousto-Optics and Acoustic Microscopy, S. M. Gracewski and T. Kundu, eds., Am. Soc. of Mech. Engineers, New York, pp. 13-28, 1992.

(with M. Gosz and B. Moran) "Matrix Cracking in Transversely Loaded Fiber Composites with Compliant Interfaces," in Damage Mechanics in Composites, D. H. Allen and D. C. Lagoudas, eds., Am. Soc. of Mech. Engineers, New York, pp. 133-140, 1992.

(with C. Y. Wang) "Fundamental Wave Solutions for Anisotropic Elastic Solids," Proceedings of the International Symposium on Impact Engineering (ed. by I. Maekawa), Sendai, Japan, 1992.

1993

(with Jin Huang and Sridhar Krishnaswamy), "Crack-Detection in Fuselage Panels by a Narrow-Band Laser-Based Ultrasonic System", Review of Progress in

Quantitative Nondestructive Evaluation, Vol. 12A, D. O. Thompson and D. E. Chimenti, Eds., pp. 603-616, 1993.

(with M. Takadoya, M. Notake, M. Kitahara, Q. C. Guo and M. L. Peterson), "Crack-Depth Determination by a Neural Network with a Synthetic Training Data Set," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 12A, Donald O. Thompson and Dale E. Chimenti, Eds., pp. 803-810, 1993.

(with I. N. Komsky and I. M. Daniel), "Integrated Ultrasonic Technique for Characterization of Composite Materials", Review of Progress in Quantitative Nondestructive Evaluation, Vol. 12A, Donald O. Thompson and Dale E. Chimenti, Eds., pp. 1257-1264, 1993.

(with Z. L. Li), "Analysis of Bond-Stiffness Deterioration Due to Distributed Disbonds," Review of Progress in Quantitative Nondestructive Evaluation Vol.12A, Donald O. Thompson and Dale E. Chimenti, Eds., pp. 1445-1452, 1993.

(with M. Kitahara and K. Nakagawa), "Elastodynamic Scattering Cross-Sections for Three-Dimensional Whisker-Like Inclusions", Review of Progress in Quantitative Nondestructive Evaluation, Vol. 12A, Donald O. Thompson and Dale E. Chimenti, Eds., pp. 1759-1765, 1993.

(with Y. C. Lee and J. O. Kim), "Acoustic Microscopy Measurements to Correlate Surface Wave Velocity and Surface Roughness", Review of Progress in Quantitative Nondestructive Evaluation, Vol. 12A, Donald O. Thompson and Dale E. Chimenti, Eds., pp. 1791-1797, 1993.

(with Jin O. Kim), "Line-Focus Acoustic Microscopy Measurements of Thin-Film Elastic Constants", Review of Progress in Quantitative Nondestructive Evaluation, Vol. 12A, Donald O. Thompson and Dale E. Chimenti, Eds., pp. 1899-1905, 1993.

(with I. N. Komsky), "Application of a Self-Calibrating Ultrasonic Technique to the Detection of Fatigue Cracks by the Use of Lamb Waves", Review of Progress in Quantitative Nondestructive Evaluation, Vol. 12A, Donald O. Thompson and Dale E. Chimenti, Eds., pp. 2167-2174, 1993.

(with M. L. Peterson), "Ultrasonic Monitoring of Reaction Bonding Silicon Nitride", Review of Progress in Quantitative Nondestructive Evaluation, Vol. 12A, Donald O. Thompson and Dale E. Chimenti, Eds., pp. 2357-2364, 1993.

(with J. O. Kim) "Inversion of Surface Acoustic Wave Data to Determine the Elastic Constants of Nitride Films," in Inverse Problems in Engineering Mechanics, M. Tanaka and H. D. Bui, eds, Springer Verlag, Berlin, pp. 265-276, 1993.

(with M. E. Fine, C. Y. Kung and M. I. Fadragas) "Fatigue Crack Initiations and Microcrack Propagation Data Base in Precipitation Hardened Aluminum Alloys," Durability of Metal Aircraft Structures (ed. by S. N. Atluri, C. E. Harris, A. Hoggard, N. Miller and S. G. Sampath), Atlanta Technology Publications, Atlanta, GA 30357, 1993.

(with J. Kim and Y. C. Lee) "Measurement of Elastic Constants of Superlattice Films by Line-Focus Acoustic Microscopy," Proc. of the Eleventh Symposium on Energy Engineering Sciences, Argonne National Laboratory, 1993.

(with I. N. Komsky), "A Computerized Self-Compensating System for Ultrasonic Inspection of Airplane Structures," 1992 Fall Conference, American Society of Nondestructive Testing, Nov. 16-19, 1993, Chicago, IL.

(with M. L. Peterson), "Measurement and Visualization of Waveguide Modes for High Temperature Ultrasonic Applications," Review of Progress in Quantitative NDE, August 1-6, 1993, Bowdoin College, Brunswick, Maine.

(with I. N. Komsky), "A Modified Self-Compensating Ultrasonic Technique for Flaw Characterization in Steel Bridge Structures," Review of Progress in Quantitative NDE, August 1-6, 1993, Bowdoin College, Brunswick, Maine.

(with Yung-Chun Lee and Jin O. Kim), "Stress Measurement by Line-Focus Acoustic Microscopy," Review of Progress in Quantitative NDE, August 1-6, 1993, Bowdoin College, Brunswick, Maine.

(with Jin Huang and Sridhar Krishnaswamy), "Flaw Detection by a Fiber-Optic Laser-Based Ultrasonic System," Review of Progress in Quantitative NDE, August 1-6, 1993, Bowdoin College, Brunswick, Maine.

(with M. Takadoya, Y. Yabe, M. Kitahara, Q. Guo and M. L. Peterson), "Depth Estimation of Inclined Surface-Breaking Crack by a Neural Network," Review of Progress in Quantitative NDE, August 1-6, 1993, Bowdoin College, Brunswick, Maine.

(with I. N. Komsky and K. Zgonc), "Application of an Adaptive Signal Classifier to the Quantitative Characterization of Fatigue Cracks Using a Self-Compensating Ultrasonic Technique," Review of Progress in Quantitative NDE, August 1-6, 1993, Bowdoin College, Brunswick, Maine.

(with M. Gosz), "Use of Finite Element Analysis and Ultrasonic Data to Determine Interface Parameters in Composites," Review of Progress in Quantitative NDE, August 1-6, 1993, Bowdoin College, Brunswick, Maine.

(with M. Kitahara and K. Nakagawa), "Scattering Cross-Sections in Elastodynamics," Review of Progress in Quantitative NDE, August 1-6, 1993, Bowdoin College, Brunswick, Maine.

(with J. Huang, I. N. Komsky, S. Krishnaswamy and L. Lawson), "New Techniques for the Detection and Characterization of Cracks and Corrosion in Aircraft Structures," 5th International Conference on Structural Airworthiness of New and Aging Aircraft Structures," June 16-18, 1993, Hamburg, Germany.

(with Yung-Chun Lee and Jin O. Kim) "Measurement of Elastic Constants and Mass Density by Acoustic Microscopy," in Proceedings, 1993 Ultrasonics Symposium, Vol. 1, 607-612, 1993.

(with Jin O. Kim and Michael R. Gosz), "Quantitative Non-Destructive Evaluation of Advanced Materials," in Proc. 3rd Japan International, SAMPE Symposium, Vol. 2, edited by T. Kishi, N. Takeda and Y. Kagawa, 2316-2323, 1993.

1994

(with M. Kitahara and K. Nakagawa) "Scattering-Cross Sections in Elastodynamics," in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13A, pp. 45-52, Plenum Press, New York, 1994.

(with M. L. Peterson) "Measurement and Visualization of Waveguide Modes for High Temperature Ultrasonic Applications," in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13A, pp. 125-132, Plenum Press, New York, 1994.

(with Jin Huang and Sridhar Krishnaswamy) "A Fiber-Optic Heterodyne Dual-Probe Interferometer for Laser-Ultrasonic Crack Detection," in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13A, pp. 485-492, Plenum Press, New York, 1994.

(with M. Takadoya, Y. Yabe, Q. C. Guo, M. L. Peterson and M. Kitahara) "Depth Estimation of Inclined Surface-Breaking Cracks by a Neural Network," in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13A, pp. 887-894, Plenum Press, New York, 1994.

(with I. N. Komsky and K. Zgonc) "An Adaptive Signal Classifier for the Characterization of Cracks Using a Self-Compensating Ultrasonic Technique," in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13A, pp. 895-902, Plenum Press, New York, 1994.

(with S. I. Rokhlin, Y. C. Chu and M. Gosz) "Determination of Interphasial Elastic Properties in Fiber Composites from Ultrasonic Bulk Wave Velocities," in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13B, pp. 1461-1468, Plenum Press, New York, 1994.

(with M. Gosz, Y. C. Chu and S. I. Rokhlin) "Comparison of Finite Element and Analytical Determination of Fiber/Matrix Interface Stiffnesses from Ultrasonic

Data", in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13B, pp. 1469-1475, Plenum Press, New York, 1994.

(with Yung-Chun Lee and Jin O. Kim) "Stress Measurement by Line-Focus Acoustic Microscopy," in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13B, pp. 2025-2032, Plenum Press, New York, 1994.

(with I. N. Komsky) "A Modified Self-Compensating Ultrasonic Technique for Flaw Characterization in Steel Bridge Structures," in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 13B, pp. 2107-2113, Plenum Press, New York, 1994.

(with Jin Huang, Yasuaki Nagata, Sridhar Krishnaswamy), "Laser-Based Ultrasonics for Flaw Detection", Proceedings 1994 IEEE Ultrasonics Symposium, Vol. 2, pp. 1205-1209.

(with J. Huang, Y. Nagata and S. Krishnaswamy) "Laser-Based Ultrasonics for Flaw Detection," in Proceedings, 1994 Ultrasonics Symposium, Vol. 2, 1205-1209, 1994.

(with L. R. Lawson and N. Kim) "Detection and Thickness Characterization by X-Ray Backscatter of Second-Layer Corrosion in Aircraft Structures," Proceedings, 1994 Tri-Service Conference on Corrosion, pp. 57-68, 1994.

1995

(with Y. Nagata, J. Huang, and S. Krishnaswamy), "Lamb Wave Tomography using Laser-Based Ultrasonics", in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 14A, pp. 561-568, Plenum Press, New York, 1995.

(with T. Takadoya and Y. Yabe, M. Kitahara, Q. C. Guo and M. L. Peterson, "An Artificial Intelligence Technique to Characterize Surface-Breaking Cracks", in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 14A, pp. 771-778, Plenum Press, New York, 1995.

(with Kornelija Zgonc and Yung-Chun Lee), "Crack Sizing Using a Neural Network Classifier Trained with Data Obtained from Finite Element Models", in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 14A, pp. 779-786, Plenum Press, New York, 1995.

(with J. Dorigi and S. Krishnaswamy), "Stabilized Fiber Optic Sensor for Ultrasonic Detection", in Review of Progress in Acoustic Microscopy, Proc. 1995 IEEE Ultrasonics Symposium, Vol.2, pp QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 14A, pp. 1135-1142, Plenum Press, New York, 1995.

(with Yung-Chun Lee and Wei Li), "Measurements of Thin-Film Elastic Properties by Line-Focus Microscopy", in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 14B, pp. 1797-1804, Plenum Press, New York, 1995.

(with M. L. Peterson and E. Landis) "Ultrasonic Evaluation of Damage in Concrete Bridge Deck Pavements", in Review of Progress in QNDE (ed. by D. O. Thompson and D. E. Chimenti), Vol. 14B, pp. 2169-2176, Plenum Press, New York, 1995.

(with W. Li), "Measuring Thin-Film Elastic Constants by Line-Focus. 883-892, 1995.

(with J. Dorighi and S. Krishnaswamy), "Frequency Response of Fiber Optic Ultrasound Sensors," Proc. 1995 IEEE Ultrasonics Symposium, Vol. 2, pp. 961-964, 1995.

1996

(with P. Fomitchov and S. Krishnaswamy), "Fiberized Sagnac Interferometer for Ultrasound Measurement," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 15A, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 645-650, 1996.

(with J. Dorighi and S. Krishnaswamy), "A Fiber Optic Ultrasound Sensor for Monitoring the Curve of Epoxy," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 15A, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 657-664, 1996.

(with T. Ogi, T. Mandai, Y. Yabe and M. Kitahara), "A Quantitative Evaluation of Defects by Fuzzy Reasoning Based on Principal Component Analysis," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 15A, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp.781-788, 1996.

(with M. Takadoy, Q. C. Guo and M. Kitahara), "Crack Parameter Characterization by a Neural Network," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 15A, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp.797-804, 1996.

(with Y. Nagata, J. Huang and S. Krishnaswamy), "Computed Tomography Using Laser-Based Ultrasonics," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 15A, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 861-868, 1996.

(with A. Cheng, R. Roger and M. Peterson) "Ultrasonic Imaging of Anomalies in Truck Tires," Review of Progress in Quantitative Nondestructive Evaluation, Vol.

15A, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp.869-874, 1996.

(with W. Li), "Determination of Elastic Constants by Line-Focus V(Z) Measurements of Multiple SAW Modes," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 15B, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 1415-1422, 1996.

(with A. Cheng), "Depth Determination of Surface-Breaking Cracks in Concrete Slabs Using a Self-compensating Ultrasonic Technique," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 15B, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp.1763-1770, 1996.

1997

(with Liu-Sheng Wang, J. Scott Steckenrider), "A Fiber-Based Laser Ultrasonic System for Remote Inspection of Limited Access Components," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 6A, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 507-514, 1997.

(with J. Dorigi and S. Krishnaswamy), "Sensitivity of an Embedded Fiber Optic Ultrasound Sensor," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 16A, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 633-639, 1997.

(with A. Cheng), "A Self-Compensating Technique for the Characterization of a Layered Structure," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 16B, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp.1815-1822, 1997.

(with W. Li and A. Cheng), "A Time-Resolved Line-Focus Acoustic Microscopy Technique for Surface-Breaking Crack Depth Determination," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 16B, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 1823-1830, 1997.

(with Pavel Fomitchov, J. Scott Steckenrider and Sridhar Krishnaswamy), "Frequency-Shifted Low-Noise Sagnac Sensor for Ultrasonic," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 16B, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 2053-2060, 1997.

(with W. A. K. Deutsch, A. Cheng) "Self-Focusing Surface Wave Array," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 16B, edited by Donald O. Thompson and Dale E. Chimenti, Plenum Press, New York and London, pp. 2077-2084, 1997.

1998

Z. Guo, J. D. Achenbach and S. Kirshnaswamy, "EMAT Generation of Single Lamb Wave Modes," Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.17 A, Plenum Press, New York, pp. 201-208, 1998.

Pavel A. Fomitchov, Alexei Kromine, Sridhar Krishnasway and Jan D. Achenbach, "Characterization of Laser Ultrasonics Sources Using a Sagnac Interferometer," Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.17 A, Plenum Press, New York, pp. 675-681, 1998.

Zhenzeng Tang, Ansheng Cheng, J. D. Achenbach, "An Ultrasonic Technique to Detect Nonlinear Behavior Related to Degradation of Adhesive Bonds," Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.17 B, Plenum Press, New York, pp. 1347-1354, 1998.

Z. M. Connor, M. E. Fine, J. D. Achenbach, "Acoustic, Electron and Optical Microscopy Visualization of Surface and Sub-Surface Cracks," Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.17 B, Plenum Press, New York, pp. 1581-1588, 1998.

W. A. K. Deutsch, A. Cheng, J. D. Achenbach, "Self-Focusing of Rayleigh Waves: Simulation and Experiment," Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.17 B, Plenum Press, New York, pp. 1697-1704, 1998.

Ming Zhang, J. D. Achenbach, "Numerical Simulation of Self-Focusing of an Array on an Interior Crack," Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.17 B, Plenum Press, New York, pp. 1705-1712, 1998.

J. Vollmann, A. Cheng and J. D. Achenbach, "Time-Resolved Line-Focus Acoustic Microscopy using Lamb Waves for Material Characterization of Thin Plates," Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.17 B, Plenum Press, New York, pp. 1745-1752, 1998.

M. Takadoy, T. Ogi and J. D. Achenbach, "The Application of Neural Networks to Defect Sizing," Proc. Workshop on Intelligent NDE Sciences for Aging and Futuristic Aircraft, FAST Center, The University of Texas, El Paso, pp. 179-192, 1998.

1999

“An Elastodynamic Wave Potential Particularly Suited for Plate and Surface Waves,” Applied Mechanics of the Americans, Vol. 6, Am. Academy of Mechanics, pp. 895-899, 1999.

(with W. A. K Deutsch), “Wave Scattering from Surface-Breaking Cracks Sonified by a Linear Phased Array,” Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.18A, Plenum Press, New York, pp. 71-78, 1999.

(with A. K. Kromine, P. A. Fomitchov, S. Krishnaswamy), “Scanning Laser Source Technique” Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.18A, Plenum Press, New York, pp. 381-386, 1999.

(with A. P. Cheng, A. Cheng, R. Rogers), “A Neural Network for Depth Determination of Separations Between a Rubber Matrix and Reinforcing Steel Belts,” Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.18A, Plenum Press, New York, pp. 835-841, 1999.

(with M. Zhang, A. Chang, W. A. K. Deutsch), “Self-Focusing by a Linear Array on a Surface-Breaking Crack at the Opposite Side of a Plate,” Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.18A, Plenum Press, New York, pp. 1085-1092, 1999.

(with P. Fomitchov, A. Kromine, S. Krishnaswamy), “Laser-Based Ultrasonics for Crack Detection,” Proc. 2nd Joint NASA/FAA/DoD Conference on Aging Aircraft, (ed. by C. E. Harris), NASA/CP-199-208982, pp. 224-229, 1999.

(with Z. Guo), “Modeling Quantitative Acoustic Microscopy for Layered Coatings,” Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.18B, Plenum Press, New York, pp. 1409-1416, 1999.

(with J.-H. Lee, W-S. Park, J. S. Popovics), “Application of One-Sided Stress Wave Velocity Measurement Technique to Evaluate Freeze-Thaw Damage in Concrete,” Review of Progress in Quantitative Nondestructive Evaluation (ed. by D. O. Thompson and D. E. Chimenti), Vol.18B, Plenum Press, New York, 1935-1942, 1999.

(with Z. M. Connor, M. E. Fine), “Quantitative Investigation of Surface and Sub-Surface Cracks Near Rivets in Riveted Joints using Acoustic Electron and Optical Microscopy,” Proc. 2nd Joint NASA/FAA/DoD Conference on Aging Aircraft, (ed. by C. E. Harris), NASA/CP-1999-208982, pp. 240-243, 1999.

(with J. S. Popovics and Won-Joon Song), “Application of new ultrasound and sound generation methods for testing concrete structures,” Magazine of Concrete Research, 51, No. 1., 35-44, 1999.

2000

(with A. K. Kromine, P. A. Fomitchov and S. Krishnaswamy), “Scattering Laser Source Technique for Detection of Surface-Breaking and Sub-Surface Cracks,” in Review of Progress in Quantitative Non-Destructive Evaluation, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, 509, pp. 335-342, 2000.

(with Todd W. Murray, Zhiqi Guo and Sridhar Krishnaswamy), “Laser Ultrasonic Investigation of Films and Hard Coatings,” in Review of Progress in Quantitative Non-Destructive Evaluation, ed., D. O. Thompson and d. E. Chimenti, American Institute of Physics Conference Proceedings, 509, pp. 1309-1316, 2000.

(with J. D. Aldrin, A. Cheng, G. A. Andrew and R. T. Mullis), “Detection of Cracks in Weep Holes Using Neural Networks,” in Review of Progress in Quantitative Non-Destructive Evaluation, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, 509, pp. 1979-1986, 2000.

2001

(with A. Cheng and T. W. Murray), “Laser-Generated Ultrasonic Waves in Layered Plates: Simulation and Measurement,” Review in Progress in Quantitative Non-Destructive Evaluation, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, 557, pp. 1132-1139, 2001.

(with A. K. Kromine, P. A. Fomitchov and S. Krishnaswamy), “Detection of Subsurface Defects Using Laser Based Technique,” Review in Progress in Quantitative Non-Destructive Evaluation, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, 557, pp. 1612-1617, 2001.

(with J. C. Aldrin), “Refined Detection of Cracks in Weep Holes Using Spatial Signal Variation,” Review in Progress in Quantitative Non-Destructive Evaluation, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, 557, pp. 1618-1625, 2001.

(with P. A. Fomitchov, Y. K. Kim, A. K. Kromine, S. Krishnaswamy and I. M. Daniel), “Laser Ultrasonic Enabled “Smart” Mold for Composite Parts Manufacturing,” Review in Progress in Quantitative Non-Destructive Evaluation, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, 557, pp. 1802-1807, 2001.

(with P. A. Fomitchov, A. K. Kromine and S. Krishnaswamy), “Fiberized Laser Ultrasonic Source for Process Monitoring and Bio-Medical Applications,” Review in Progress in Quantitative Non-Destructive Evaluation, ed., D. O.

Thompson and (with D. E. Chimenti), American Institute of Physics Conference Proceedings, 557, pp. 1808-1814, 2001.

2002

(with J. C. Aldrin), "Model and Methodology for Crack Detection on a Cylindrical Hole containing an Elastic Insert," Review of Progress in Quantitative Non-Destructive Evaluation **21A**, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, Vol. 615, pp. 181-188, 2002.

(with A. P. Cheng, T. W. Murray and A. Cheng), "Laser-Generated Ultrasonic Signals in Anisotropic Layered Systems: Simulation and Measurement," Review of Progress in Quantitative Non-Destructive Evaluation **21A**, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, Vol. 615, pp. 308-315, 2002.

(with Irene Arias and T. W. Murray), "Near Field Analysis of Laser-Generated Ultrasound: The Effects of Thermal Diffusion and Optical Penetration," Review of Progress in Quantitative Non-Destructive Evaluation **21A**, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, Vol. 615, pp. 324-331, 2002.

(with P. A. Fomitchov, A. K. Kromine, Y. Sohn and S. Krishnaswamy), "Ultrasonic Imaging of Small Surface-Breaking Defects Using Scanning Laser Source Technique," Review of Progress in Quantitative Non-Destructive Evaluation **21A**, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, Vol. 615, pp. 356-362, 2002.

2003

(with J. C. Aldrin), "Models for Crack Detection in a Cylindrical Hole Containing an Elastic Layer and a Fluid-Filled Cylindrical Hole," Review of Progress in Quantitative Non-Destructive Evaluation, **22A**, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, Vol. 657, pp. 181-188, 2003.

(with Irene Arias), "Theoretical Model for the Ultrasonic Detection of Surface-Breaking Cracks with the Scanning Laser Source Technique," Review of Progress in Quantitative Non-Destructive Evaluation, **22A**, ed., D. O. Thompson and D. E. Chimenti, American Institute of Physics Conference Proceedings, Vol. 657, pp. 281-288, 2003.

V. BOOK REVIEWS

1969

Nonlinear Continuum Mechanics, by D.C. Leigh, American Scientist 57, No. 1, p. 74A.

Thermoelasticity, by H. Parkus, Journal of Applied Mechanics 36, 1969, p. 142.

1970

Mechanical Behavior of Materials under Dynamic Loads, edited by U. Lindholm, Applied Mechanics Reviews 23, 1970, p. 165.

1973

Diffraction of Elastic Waves and Dynamic Stress Concentrations, by Y.H. Pao and C.-C. Mow, Journal of Applied Mechanics 40, 1973, p. 872.

(with S. Nemat-Nasser), Mechanics of Solids III (Volume VI A/3) J. of the Acoustical Society of America 56, 1974, p. 226.

1974

Structure-Borne Sound, by L. Cremer and M. Heckl, Journal of Applied Mechanics 41, 1974, p. 839.

1976

Mechanics of Solids IV, Vol. VI a/4, Encyclopedia of Physics, edited by C. Truesdell, Journal of Applied Mechanics 43, 1976, p. 382.

1978

Mechanik der Polymer Werkstoffe, by A. Malmeisters, V. Tamuzs and G. Teters, Journal of Applied Mechanics 45, 1978, p. 456.

1984

Research Techniques in Nondestructive Testing, (edited by R.S. Sharpe), Journal of Applied Mechanics 51, 1984, pp. 450-451.

1987

Acoustic and Electromagnetic Waves, by D.S. Jones, Journal of Applied Mechanics, 54, 1987, p. 977.

VI. ARTICLES ON EDUCATIONAL MATTERS1973

The Place of Mechanics in the Engineering Curriculum, editor,
Association of Chairmen of Departments of Mechanics, 1973.

"Face to Face with Mechanics Reality," Mechanics 2, 1973, pp. 81-82.

1977

"A Survey of Graduate Education and Job Opportunities in Theoretical and Applied Mechanics," U.S. National Committee on Theoretical and Applied Mechanics, MECHANICS 7, 1978, p. 109, excerpts in Physics Today and Mechanical Engineering.