

Shiro Biwa

List of Publications by Year in descending order

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128
papers

1,958
citations

279798

23
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276875

41
g-index

129
all docs

129
docs citations

129
times ranked

1242
citing authors

#	ARTICLE	IF	CITATIONS
1	Multiple scattering of flexural waves on Mindlin plates with circular scatterers. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2021, 101, e202000221.	1.6	2
2	Second-harmonic generation of the lowest-order antisymmetric Lamb wave at a closed parallel crack. Journal of the Acoustical Society of America, 2020, 148, 2073-2085.	1.1	8
3	Analytical modeling of the interaction of an ultrasonic wave with a rough bone-implant interface. Ultrasonics, 2020, 108, 106223.	3.9	8
4	Flexural waves in a periodic non-uniform Euler-Bernoulli beam: Analysis for arbitrary contour profiles and applications to wave control. International Journal of Mechanical Sciences, 2020, 188, 105948.	6.7	15
5	Second-harmonic generation of two-dimensional elastic wave propagation in an infinite layered structure with nonlinear spring-type interfaces. Wave Motion, 2020, 96, 102569.	2.0	9
6	Damage localization method for plates based on the time reversal of the mode-converted Lamb waves. Ultrasonics, 2019, 91, 19-29.	3.9	59
7	The SH0 wave manipulation in graded stubbed plates and its application to wave focusing and frequency separation. Smart Materials and Structures, 2019, 28, 115004.	3.5	18
8	Transmission of Lamb waves across a partially closed crack: Numerical analysis and experiment. Ultrasonics, 2019, 92, 57-67.	3.9	18
9	Second-Harmonic Generation at Contacting Interfaces. , 2019, , 263-299.		3
10	Harmonic Generation at a Nonlinear Imperfect Joint of Plates by the S0 Lamb Wave Incidence. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	2.2	5
11	Analysis of elastic wave propagation characteristics in isogrid structures. The Proceedings of the Materials and Mechanics Conference, 2019, 2019, OS1509.	0.0	0
12	Experimental investigation of harmonic generation of Lamb wave at contacting edges of plates. The Proceedings of the Materials and Mechanics Conference, 2019, 2019, OS1206.	0.0	0
13	Analysis of flexural wave scattering by square arrangements of circular holes on an elastic plate. The Proceedings of the Materials and Mechanics Conference, 2019, 2019, OS0208.	0.0	0
14	Nondestructive Evaluation of Porosity Content in the Curved Corner Section of Composite Laminates Using Focused Ultrasonic Waves. Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems, 2018, 1, .	0.9	1
15	Non-collinear interaction of guided elastic waves in an isotropic plate. Journal of Sound and Vibration, 2018, 419, 390-404.	3.9	43
16	Multiple scattering and stop band characteristics of flexural waves on a thin plate with circular holes. Journal of Sound and Vibration, 2018, 416, 80-93.	3.9	10
17	Second-harmonic generation in a multilayered structure with nonlinear spring-type interfaces embedded between two semi-infinite media. Wave Motion, 2018, 76, 28-41.	2.0	13
18	Numerical study of the second harmonic generation of Lamb waves at an imperfect joint of plates. Proceedings of Meetings on Acoustics, 2018, , .	0.3	1

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19	Ultrasonic bandgaps in composite laminates: Experimental observation and Floquet-Bloch wave analysis. Applied Physics Letters, 2018, 113, .	3.3	2
20	Multiple scattering analysis of flexural waves on an elastic plate with multiple circular holes. The Proceedings of the Materials and Mechanics Conference, 2018, 2018, OS1033.	0.0	0
21	Experimental investigation of harmonic generation at solid-solid contacting surfaces by obliquely incident ultrasonic wave. The Proceedings of the Materials and Mechanics Conference, 2018, 2018, OS0409.	0.0	0
22	Ultrasonic wave transmission and bandgap in multidirectional composite laminates with spring-type interlayer interfaces. Journal of the Acoustical Society of America, 2017, 141, 1099-1110.	1.1	8
23	Transmission characteristics of the S0 and A0 Lamb waves at contacting edges of plates. Ultrasonics, 2017, 81, 93-99.	3.9	13
24	The counterintuitive mechanical response in simple tension of arterial models that are separable functions of the I1, I4, I6 invariants. International Journal of Non-Linear Mechanics, 2017, 90, 72-81.	2.6	19
25	Transmission characteristic of Lamb waves and interfacial stiffnesses at contacting edges of plates. The Proceedings of the Materials and Mechanics Conference, 2017, 2017, OS0414.	0.0	0
26	Transmission of Lamb waves and resonance at an adhesive butt joint of plates. Ultrasonics, 2016, 72, 80-88.	3.9	16
27	Second-harmonic generation in an infinite layered structure with nonlinear spring-type interfaces. Wave Motion, 2016, 63, 55-67.	2.0	21
28	Influence of porosity on ultrasonic wave velocity, attenuation and interlaminar interface echoes in composite laminates: Finite element simulations and measurements. Composite Structures, 2016, 152, 645-653.	5.8	21
29	Multiple Scattering of Elastic Waves in Unidirectional Composites with Coated Fibers. Physics Procedia, 2015, 70, 811-814.	1.2	1
30	Interaction of Lamb Waves with an Imperfect Joint of Plates: Reflection, Transmission and Resonance. Physics Procedia, 2015, 70, 480-483.	1.2	4
31	Transmission of ultrasonic waves at oblique incidence to composite laminates with spring-type interlayer interfaces. Journal of the Acoustical Society of America, 2015, 138, 2800-2810.	1.1	13
32	Effects of Interlayer Interfacial Stiffness on Ultrasonic Wave Propagation in Composite Laminates at Oblique Incidence. Physics Procedia, 2015, 70, 372-375.	1.2	1
33	Ultrasonic wave propagation in the corner section of composite laminate structure: Numerical simulations and experiments. Composite Structures, 2015, 123, 78-87.	5.8	23
34	Resonance of an imperfect joint of plates by the lowest-order symmetric Lamb mode. Journal of the Acoustical Society of America, 2015, 137, 3139-3148.	1.1	7
35	OS0411-386 Numerical analysis of the harmonic generation of Lamb waves at contacting edges of plates. The Proceedings of the Materials and Mechanics Conference, 2015, 2015, _OS0411-38-_OS0411-38.	0.0	0
36	OS6-11 Experimental Observation of Harmonic Generation in Rayleigh Waves Using a Laser Doppler Vibrometer(Ultrasonic NDT of Cracks and Damages (2),OS6 Ultrasonic non-destructive testing and Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2015, 2015.14, 82.	0.0	0

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37	GS0115-462 Analysis of Thermoelastic Damping in Micro-scale Resonators by Elastodynamic Finite Integration Technique. The Proceedings of the Materials and Mechanics Conference, 2015, 2015, _GS0115-46-_GS0115-46.	0.0	0
38	Frequency Dependence of Second-Harmonic Generation in Lamb Waves. Journal of Nondestructive Evaluation, 2014, 33, 169-177.	2.4	33
39	Evaluation of interlayer interfacial stiffness and layer wave velocity of multilayered structures by ultrasonic spectroscopy. Journal of the Acoustical Society of America, 2014, 136, 183-191.	1.1	18
40	OS1306 Theoretical investigation of resonant Lamb modes at an imperfect joint of plates. The Proceedings of the Materials and Mechanics Conference, 2014, 2014, _OS1306-1_-_OS1306-2_.	0.0	0
41	Computational multiple scattering analysis of elastic waves in unidirectional composites. Wave Motion, 2013, 50, 253-270.	2.0	28
42	Influence of thermal damage on linear and nonlinear acoustic properties of granite. International Journal of Rock Mechanics and Minings Sciences, 2013, 62, 96-104.	5.8	74
43	Influence of axle-wheel interface on ultrasonic testing of fatigue cracks in wheelset. Ultrasonics, 2013, 53, 239-248.	3.9	17
44	Reflection and transmission of Lamb waves at an imperfect joint of plates. Journal of Applied Physics, 2013, 113, .	2.5	31
45	Subharmonic Wave Generation at Interfaces of a Thin Layer between Metal Blocks. Japanese Journal of Applied Physics, 2013, 52, 07HC02.	1.5	5
46	Variation of Flaw Echo Height at Wheel Seat of Hollow Railway Axle in Cyclic Rotating Bending. Journal of Mechanical Systems for Transportation and Logistics, 2013, 6, 41-53.	0.2	0
47	OS0614 Influence of porosity on ultrasonic reflection characteristics of CFRP laminate. The Proceedings of the Materials and Mechanics Conference, 2013, 2013, _OS0614-1_-_OS0614-3_.	0.0	0
48	Evaluation of nonlinear low-frequency components generated by amplitude-modulated waves in a carbon/carbon composite. AIP Conference Proceedings, 2012, , .	0.4	3
49	Modeling and simulation of ultrasonic testing on miniature wheelset. , 2012, , .		0
50	Analysis of harmonic generation in Lamb waves by finite-difference time-domain method. , 2012, , .		2
51	Acoustic harmonic generation in a multilayered structure with nonlinear interfaces. , 2012, , .		3
52	A Finite-Difference Time-Domain Technique for Nonlinear Elastic Media and Its Application to Nonlinear Lamb Wave Propagation. Japanese Journal of Applied Physics, 2012, 51, 07GB14.	1.5	7
53	Ultrasonic evaluation of fatigue cracks at the wheel seat of a miniature wheelset. Nondestructive Testing and Evaluation, 2012, 27, 29-46.	2.1	10
54	Ultrasonic evaluation of interlayer interfacial stiffness of multilayered structures. Journal of Applied Physics, 2012, 111, .	2.5	16

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55	A Finite-Difference Time-Domain Technique for Nonlinear Elastic Media and Its Application to Nonlinear Lamb Wave Propagation. Japanese Journal of Applied Physics, 2012, 51, 07GB14.	1.5	19
56	Static heterogeneity in metallic glasses and its correlation to physical properties. Journal of Non-Crystalline Solids, 2011, 357, 494-500.	3.1	19
57	Phase and group velocity matching for cumulative harmonic generation in Lamb waves. Journal of Applied Physics, 2011, 109, .	2.5	84
58	OS02-1-2 Evaluation of Ultrasonic Testing of Fatigue Crack on the Fitting Part of Wheelset by Modeling of the Axle-Wheel Interface. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2011, 2011.10, OS02-1-2.	0.0	1
59	Modeling of Flexural Wave Propagation in a Plate with Contacting Interfaces. Journal of Solid Mechanics and Materials Engineering, 2010, 4, 1186-1197.	0.5	3
60	T0101-5-1 Numerical analysis of SH wave multiple scattering in unidirectional carbon-fiber-reinforced plastics. The Proceedings of the JSME Annual Meeting, 2010, 2010.8, 47-48.	0.0	0
61	S0302-1-3 Study of cumulative harmonic generation in Lamb waves. The Proceedings of the JSME Annual Meeting, 2010, 2010.1, 65-66.	0.0	0
62	Nonlinear Ultrasonic Characterization of Thermally Damaged Westerly Granite. Japanese Journal of Applied Physics, 2009, 48, 07GD03.	1.5	7
63	Pressure-Dependent Stiffnesses and Nonlinear Ultrasonic Response of Contacting Surfaces. Journal of Solid Mechanics and Materials Engineering, 2009, 3, 10-21.	0.5	24
64	Elastodynamic Doppler effects. Acta Mechanica, 2008, 195, 27-59.	2.1	8
65	Sizing of back-surface flaws by piezoelectric highpolymer film. , 2008, , .		0
66	Three dimensional evaluation of parallelepiped flaw using amorphous MI sensor and neural network in biaxial MFLT. , 2008, , .		1
67	Quantitative Evaluation of Harmonic Generation at Contacting Interface. AIP Conference Proceedings, 2008, , .	0.4	4
68	Elastic Wave Transmission and Stop Band Characteristics in Unidirectional Composites. Journal of Solid Mechanics and Materials Engineering, 2008, 2, 1195-1206.	0.5	8
69	Evaluation of Linear and Nonlinear Ultrasonic Response of Contacting Surfaces. Key Engineering Materials, 2007, 345-346, 1315-1318.	0.4	1
70	Multiple Scattering Simulation of Ultrasonic Shear Wave in Unidirectional Carbon/Epoxy Composites. Materials Transactions, 2007, 48, 1196-1201.	1.2	6
71	Stiffness evaluation of contacting surfaces by bulk and interface waves. Ultrasonics, 2007, 47, 123-129.	3.9	68
72	Closed interface crack with singular spring stiffness model. International Journal of Engineering Science, 2007, 45, 210-226.	5.0	2

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73	Influence of disordered fiber arrangement on SH wave transmission in unidirectional composites. <i>Mechanics of Materials</i> , 2007, 39, 1-10.	3.2	14
74	2205 Analysis of Elastic Wave Transmission Characteristics in Two-Phase Composites with Graded Fraction Distribution. <i>The Proceedings of the JSME Annual Meeting</i> , 2007, 2007.1, 239-240.	0.0	0
75	2611 Evaluation of Longitudinal/Transverse Wave Reflection and Normal/Tangential Stiffness of Contacting Interface. <i>The Proceedings of the JSME Annual Meeting</i> , 2007, 2007.1, 535-536.	0.0	0
76	On the stiffness of spring model for closed crack. <i>International Journal of Engineering Science</i> , 2006, 44, 874-888.	5.0	16
77	Cavitation in finite elasticity with surface energy effects. <i>International Journal of Non-Linear Mechanics</i> , 2006, 41, 1084-1094.	2.6	16
78	212 Multi-Dimensional Constitutive Equation of Thin SMA Wire for Micro Actuator. <i>Proceedings of the 1992 Annual Meeting of JSME/MMD</i> , 2006, 2006, 81-82.	0.0	0
79	Numerical and Experimental Evaluation of Ultrasonic Wave Propagation Characteristics at Contact Interface. <i>JSME International Journal Series A-Solid Mechanics and Material Engineering</i> , 2005, 48, 20-26.	0.4	7
80	Evaluation of interface wave velocity, reflection coefficients and interfacial stiffnesses of contacting surfaces. <i>Ultrasonics</i> , 2005, 43, 495-502.	3.9	44
81	1408 Influence of Disordered Fiber Arrangement on SH Wave Propagation in a Composite Material. <i>The Proceedings of the JSME Annual Meeting</i> , 2005, 2005.1, 237-238.	0.0	0
82	134 Evaluation of SH Wave Propagation Characteristics in Viscoelastic Composites by Multiple Scattering Simulation. <i>Proceedings of the 1992 Annual Meeting of JSME/MMD</i> , 2005, 2005, 69-70.	0.0	0
83	Micromechanical Stress Field for Clustered Multiple Fibers in Unidirectional Composite under Longitudinal Shear. <i>Zairyo/Journal of the Society of Materials Science, Japan</i> , 2004, 53, 410-416.	0.2	0
84	Modeling of Ultrasonic Attenuation in Uni-Directional Fiber Reinforced Composites Combining Multiple-Scattering and Viscoelastic Losses. <i>AIP Conference Proceedings</i> , 2004, , .	0.4	8
85	Surface strain sensing with polymer piezoelectric film. <i>NDT and E International</i> , 2004, 37, 57-64.	3.7	25
86	Analysis of ultrasonic attenuation in particle-reinforced plastics by a differential scheme. <i>Ultrasonics</i> , 2004, 43, 5-12.	3.9	38
87	Computational multiple scattering analysis for shear wave propagation in unidirectional composites. <i>International Journal of Solids and Structures</i> , 2004, 41, 435-457.	2.7	57
88	Wave transmission characteristics in periodic media of finite length: multilayers and fiber arrays. <i>International Journal of Solids and Structures</i> , 2004, 41, 7361-7375.	2.7	56
89	Analysis of wave attenuation in unidirectional viscoelastic composites by a differential scheme. <i>Composites Science and Technology</i> , 2003, 63, 237-247.	7.8	44
90	OS2(1)-3(OS02W0060) Influence of Contact Pressure on Guided Wave Propagation at Contact Interface. <i>The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics</i> , 2003, 2003, 153.	0.0	1

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91	OS02W0060 Influence of contact pressure on guided wave propagation at contact interface. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003.2, _OS02W0060-_OS02W0060.	0.0	1
92	Influence of Particle Size and Concentration on Ultrasonic Attenuation in Particle-Reinforced Plastics. The Proceedings of the Materials and Processing Conference, 2003, 2003.11, 231-232.	0.0	0
93	Numerical analysis of ultrasonic shear wave propagation in unidirectional composites. The Proceedings of Conference of Tokai Branch, 2003, 2003.52, 283-284.	0.0	0
94	Multiple Scattering Simulation of Pure-Mode Shear Wave in Fiber-Reinforced Composites. Zairyo/Journal of the Society of Materials Science, Japan, 2003, 52, 1122-1128.	0.2	0
95	Effect of Fiber Arrangement on Propagation/Cut-Off Behavior of Elastic Transverse Wave in Composites : An Analysis Based on Multiple Scattering Simulation. Proceedings of the 1992 Annual Meeting of JSME/MMD, 2003, 2003, 555-556.	0.0	0
96	Wave attenuation in particulate polymer composites: independent scattering/absorption analysis and comparison to measurements. Mechanics of Materials, 2002, 34, 671-682.	3.2	54
97	Experimental Investigation of Ultrasonic Attenuation Behavior in Carbon Fiber Reinforced Epoxy Composites.. Zairyo/Journal of the Society of Materials Science, Japan, 2002, 51, 451-457.	0.2	8
98	A variational method for unidirectional fiber-reinforced composites with matrix creep. International Journal of Solids and Structures, 2002, 39, 159-174.	2.7	17
99	Influence of Contact Pressure on Guided Ultrasonic Wave Dispersion at Contact Interface. The Proceedings of Conference of Tokai Branch, 2002, 2002.51, 317-318.	0.0	0
100	Analysis of Attenuation Behavior of Ultrasonic Transverse Waves in Unidirectional CFRP.. Zairyo/Journal of the Society of Materials Science, Japan, 2001, 50, 1249-1254.	0.2	3
101	Independent scattering and wave attenuation in viscoelastic composites. Mechanics of Materials, 2001, 33, 635-647.	3.2	46
102	Elastic properties of rubber particles in toughened PMMA: ultrasonic and micromechanical evaluation. Mechanics of Materials, 2001, 33, 717-728.	3.2	39
103	Modelling of Ultrasonic Attenuation in Unidirectional FRP. Formulation and analysis for Longitudinal Wave.. Zairyo/Journal of the Society of Materials Science, Japan, 2001, 50, 62-68.	0.2	4
104	356 Analysis of Ultrasound Transmission and Harmonic Generation at Contact Interface. Proceedings of the 1992 Annual Meeting of JSME/MMD, 2001, 2001, 345-346.	0.0	0
105	A Variational Method for Analysis of Fiber Stress Profiles in Unidirectional Composites with Matrix Creep.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2000, 66, 472-479.	0.2	0
106	On frictional effects at inelastic contact between spherical bodies. International Journal of Mechanical Sciences, 2000, 42, 107-128.	6.7	74
107	Elastic and ultrasonic properties of a unidirectional composite with partially debonded fibres: numerical analysis for longitudinal shear modes. Composites Science and Technology, 2000, 60, 83-93.	7.8	10
108	Numerical Evaluation of Ultrasonic Attenuation Spectrum for Unidirectional Fiber Composites (Analysis for High-Concentration Systems by Differential Scheme). The Proceedings of the Computational Mechanics Conference, 2000, 2000.13, 251-252.	0.0	0

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109	Analysis of Ultrasonic Attenuation Behavior in Particle Reinforced Viscoelastic Composites. The Proceedings of the JSME Annual Meeting, 2000, 2000.3, 115-116.	0.0	0
110	Inelastic flattening of rough surfaces. Mechanics of Materials, 1999, 31, 29-41.	3.2	30
111	Large-Scale Simulation of Lamb Wave Propagation by Hybrid Boundary Element Method.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 1999, 65, 210-217.	0.2	1
112	Ultrasonic measurements and micromechanical evaluation of constituent properties for rubber-toughened polymers. , 1999, , .		1
113	Measurement of Static Strain Distribution Using Piezoelectric Polymer Film. Principle and Application to a Holed Plate.. JSME International Journal Series A-Solid Mechanics and Material Engineering, 1999, 42, 11-16.	0.4	10
114	Measurement of Static Strain Distribution Using Piezoelectric Polymer Film. Principle and Application to a Holed Plate.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 1998, 64, 215-220.	0.2	2
115	Regularization of Inverse Problem for Wave Scattering Based on Sub-Band Decomposition by Wavelets.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 1998, 64, 801-809.	0.2	0
116	Analytical Aspects of Cumulative Superposition Procedure for Elastic Indentation Problems.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 1998, 64, 2209-2216.	0.2	0
117	Plasticity aspects of rough surface flattening. Metals and Materials International, 1998, 4, 484-488.	0.2	0
118	Finite Expansion of an Infinitesimal Void in Elastic-Plastic Materials under Equitriaxial Stress. JSME International Journal Series A-Solid Mechanics and Material Engineering, 1997, 40, 23-30.	0.1	1
119	Similarity analysis of inelastic contact. International Journal of Solids and Structures, 1997, 34, 3061-3083.	2.7	153
120	Nonmonotonic cavity growth in finite, compressible elasticity. International Journal of Solids and Structures, 1997, 34, 3859-3872.	2.7	19
121	Analysis of cold and hot isostatic compaction of spherical particles. Acta Materialia, 1996, 44, 3655-3666.	7.9	55
122	Analysis of Bias Type Actuator Using Shape Memory Alloy Based on Its Thermomechanical Constitutive Description.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 1995, 61, 2495-2500.	0.2	5
123	Critical stretch for formation of a cylindrical void in a compressible hyperelastic material. International Journal of Non-Linear Mechanics, 1995, 30, 899-914.	2.6	21
124	An analysis of fully plastic Brinell indentation. Journal of the Mechanics and Physics of Solids, 1995, 43, 1303-1333.	4.8	205
125	Effect of Constitutive Parameters on Formation of a Spherical Void in a Compressible Nonlinear Elastic Material. Journal of Applied Mechanics, Transactions ASME, 1994, 61, 395-401.	2.2	8
126	Dynamic Behavior of Differential-Type Shape Memory Alloy Actuator. Effect of Initial Strain on Maximum Displacement.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 1993, 59, 2934-2940.	0.2	1

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127	Nucleation and growth of a spherical void in a nonlinear elastic material.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 1990, 56, 2464-2470.	0.2	0
128	Nonlinear Propagation of Amplitude-Modulated Ultrasonic Wave in Composite Material. Key Engineering Materials, 0, 452-453, 757-760.	0.4	0