## Shiro Biwa

## List of Publications by Year in descending order

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128	1,958	23	276875 41 g-index
papers	citations	h-index	
129	129	129	1242
all docs	docs citations	times ranked	citing authors

#	Article	IF	CITATIONS
1	An analysis of fully plastic Brinell indentation. Journal of the Mechanics and Physics of Solids, 1995, 43, 1303-1333.	4.8	205
2	Similarity analysis of inelastic contact. International Journal of Solids and Structures, 1997, 34, 3061-3083.	2.7	153
3	Phase and group velocity matching for cumulative harmonic generation in Lamb waves. Journal of Applied Physics, $2011, 109, \ldots$	2.5	84
4	On frictional effects at inelastic contact between spherical bodies. International Journal of Mechanical Sciences, 2000, 42, 107-128.	6.7	74
5	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
6	Stiffness evaluation of contacting surfaces by bulk and interface waves. Ultrasonics, 2007, 47, 123-129.	3.9	68
7	Damage localization method for plates based on the time reversal of the mode-converted Lamb waves. Ultrasonics, 2019, 91, 19-29.	3.9	59
8	Computational multiple scattering analysis for shear wave propagation in unidirectional composites. International Journal of Solids and Structures, 2004, 41, 435-457.	2.7	57
9	Wave transmission characteristics in periodic media of finite length: multilayers and fiber arrays. International Journal of Solids and Structures, 2004, 41, 7361-7375.	2.7	56
10	Analysis of cold and hot isostatic compaction of spherical particles. Acta Materialia, 1996, 44, 3655-3666.	7.9	55
11	Wave attenuation in particulate polymer composites: independent scattering/absorption analysis and comparison to measurements. Mechanics of Materials, 2002, 34, 671-682.	3.2	54
12	Independent scattering and wave attenuation in viscoelastic composites. Mechanics of Materials, 2001, 33, 635-647.	3.2	46
13	Analysis of wave attenuation in unidirectional viscoelastic composites by a differential scheme. Composites Science and Technology, 2003, 63, 237-247.	7.8	44
14	Evaluation of interface wave velocity, reflection coefficients and interfacial stiffnesses of contacting surfaces. Ultrasonics, 2005, 43, 495-502.	3.9	44
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	Elastic properties of rubber particles in toughened PMMA: ultrasonic and micromechanical evaluation. Mechanics of Materials, 2001, 33, 717-728.	3.2	39
17	Analysis of ultrasonic attenuation in particle-reinforced plastics by a differential scheme. Ultrasonics, 2004, 43, 5-12.	3.9	38
18	Frequency Dependence of Second-Harmonic Generation in Lamb Waves. Journal of Nondestructive Evaluation, 2014, 33, 169-177.	2.4	33

#	Article	IF	CITATIONS
19	Reflection and transmission of Lamb waves at an imperfect joint of plates. Journal of Applied Physics, 2013, 113, .	2.5	31
20	Inelastic flattening of rough surfaces. Mechanics of Materials, 1999, 31, 29-41.	3.2	30
21	Computational multiple scattering analysis of elastic waves in unidirectional composites. Wave Motion, 2013, 50, 253-270.	2.0	28
22	Surface strain sensing with polymer piezoelectric film. NDT and E International, 2004, 37, 57-64.	3.7	25
23	Pressure-Dependent Stiffnesses and Nonlinear Ultrasonic Response of Contacting Surfaces. Journal of Solid Mechanics and Materials Engineering, 2009, 3, 10-21.	0.5	24
24	Ultrasonic wave propagation in the corner section of composite laminate structure: Numerical simulations and experiments. Composite Structures, 2015, 123, 78-87.	5.8	23
25	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
26	Second-harmonic generation in an infinite layered structure with nonlinear spring-type interfaces. Wave Motion, 2016, 63, 55-67.	2.0	21
27	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
28	Nonmonotonic cavity growth in finite, compressible elasticity. International Journal of Solids and Structures, 1997, 34, 3859-3872.	2.7	19
29	Static heterogeneity in metallic glasses and its correlation to physical properties. Journal of Non-Crystalline Solids, 2011, 357, 494-500.	3.1	19
30	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
31	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
32	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
33	The SHO 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
34	Transmission of Lamb waves across a partially closed crack: Numerical analysis and experiment. Ultrasonics, 2019, 92, 57-67.	3.9	18
35	A variational method for unidirectional fiber-reinforced composites with matrix creep. International Journal of Solids and Structures, 2002, 39, 159-174.	2.7	17
36	Influence of axle–wheel interface on ultrasonic testing of fatigue cracks in wheelset. Ultrasonics, 2013, 53, 239-248.	3.9	17

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37	On the stiffness of spring model for closed crack. International Journal of Engineering Science, 2006, 44, 874-888.	5.0	16
38	Cavitation in finite elasticity with surface energy effects. International Journal of Non-Linear Mechanics, 2006, 41, 1084-1094.	2.6	16
39	Ultrasonic evaluation of interlayer interfacial stiffness of multilayered structures. Journal of Applied Physics, 2012, 111, .	2.5	16
40	Transmission of Lamb waves and resonance at an adhesive butt joint of plates. Ultrasonics, 2016, 72, 80-88.	3.9	16
41	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
42	Influence of disordered fiber arrangement on SH wave transmission in unidirectional composites. Mechanics of Materials, 2007, 39, 1-10.	3.2	14
43	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
44	Transmission characteristics of the SO and AO Lamb waves at contacting edges of plates. Ultrasonics, 2017, 81, 93-99.	3.9	13
45	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
46	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
47	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
48	Ultrasonic evaluation of fatigue cracks at the wheel seat of a miniature wheelset. Nondestructive Testing and Evaluation, 2012, 27, 29-46.	2.1	10
49	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
50	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
51	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
52	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
53	Modeling of Ultrasonic Attenuation in Uni-Directional Fiber Reinforced Composites Combining Multiple-Scattering and Viscoelastic Losses. AIP Conference Proceedings, 2004, , .	0.4	8
54	Elastodynamic Doppler effects. Acta Mechanica, 2008, 195, 27-59.	2.1	8

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55	Elastic Wave Transmission and Stop Band Characteristics in Unidirectional Composites. Journal of Solid Mechanics and Materials Engineering, 2008, 2, 1195-1206.	0.5	8
56	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
57	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
58	Analytical modeling of the interaction of an ultrasonic wave with a rough bone-implant interface. Ultrasonics, 2020, 108, 106223.	3.9	8
59	Numerical and Experimental Evaluation of Ultrasonic Wave Propagation Characteristics at Contact Interface. JSME International Journal Series A-Solid Mechanics and Material Engineering, 2005, 48, 20-26.	0.4	7
60	Nonlinear Ultrasonic Characterization of Thermally Damaged Westerly Granite. Japanese Journal of Applied Physics, 2009, 48, 07GD03.	1.5	7
61	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
62	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
63	Multiple Scattering Simulation of Ultrasonic Shear Wave in Unidirectional Carbon/Epoxy Composites. Materials Transactions, 2007, 48, 1196-1201.	1.2	6
64	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
65	Subharmonic Wave Generation at Interfaces of a Thin Layer between Metal Blocks. Japanese Journal of Applied Physics, 2013, 52, 07HC02.	1.5	5
66	Harmonic Generation at a Nonlinear Imperfect Joint of Plates by the SO Lamb Wave Incidence. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	2.2	5
67	Quantitative Evaluation of Harmonic Generation at Contacting Interface. AIP Conference Proceedings, 2008, , .	0.4	4
68	Interaction of Lamb Waves with an Imperfect Joint of Plates: Reflection, Transmission and Resonance. Physics Procedia, 2015, 70, 480-483.	1.2	4
69	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
70	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
71	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
72	Evaluation of nonlinear low-frequency components generated by amplitude-modulated waves in a carbon/carbon composite. AIP Conference Proceedings, 2012, , .	0.4	3

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73	Acoustic harmonic generation in a multilayered structure with nonlinear interfaces. , 2012, , .		3
74	Second-Harmonic Generation at Contacting Interfaces. , 2019, , 263-299.		3
75	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
76	Closed interface crack with singular spring stiffness model. International Journal of Engineering Science, 2007, 45, 210-226.	5.0	2
77	Analysis of harmonic generation in Lamb waves by finite-difference time-domain method., 2012,,.		2
78	Ultrasonic bandgaps in composite laminates: Experimental observation and Floquet-Bloch wave analysis. Applied Physics Letters, $2018,113,.$	3.3	2
79	Multiple scattering of flexural waves on Mindlin plates with circular scatterers. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2021, 101, e202000221.	1.6	2
80	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
81	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
82	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
83	Ultrasonic measurements and micromechanical evaluation of constituent properties for rubber-toughened polymers. , 1999, , .		1
84	Evaluation of Linear and Nonlinear Ultrasonic Response of Contacting Surfaces. Key Engineering Materials, 2007, 345-346, 1315-1318.	0.4	1
85	Three dimensional evaluation of parallelepiped flaw using amorphous MI sensor and neural network in biaxial MFLT. , 2008, , .		1
86	Multiple Scattering of Elastic Waves in Unidirectional Composites with Coated Fibers. Physics Procedia, 2015, 70, 811-814.	1.2	1
87	Effects of Interlayer Interfacial Stiffness on Ultrasonic Wave Propagation in Composite Laminates at Oblique Incidence. Physics Procedia, 2015, 70, 372-375.	1.2	1
88	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
89	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
90	OS2(1)-3(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, 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, _OS02W0060OS02W0060.	0.0	1
92	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
93	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	O
94	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
95	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	O
96	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
97	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
98	Micromechanical Stress Field for Clustered Multiple Fibers in Unidirectional Composite under Longitudinal Shear. Zairyo/Journal of the Society of Materials Science, Japan, 2004, 53, 410-416.	0.2	0
99	Sizing of back-surface flaws by piezoelectric highpolymer film. , 2008, , .		0
100	Nonlinear Propagation of Amplitude-Modulated Ultrasonic Wave in Composite Material. Key Engineering Materials, 0, 452-453, 757-760.	0.4	0
101	Modeling and simulation of ultrasonic testing on miniature wheelset. , 2012, , .		0
102	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
103	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
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	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
106	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
107	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
108	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

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109	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
110	1408 Influence of Disordered Fiber Arrangement on SH Wave Propagation in a Composite Material. The Proceedings of the JSME Annual Meeting, 2005, 2005.1, 237-238.	0.0	0
111	134 Evaluation of SH Wave Propagation Characteristics in Viscoelastic Composites by Multiple Scattering Simulation. Proceedings of the 1992 Annual Meeting of JSME/MMD, 2005, 2005, 69-70.	0.0	0
112	212 Multi-Dimensional Constitutive Equation of Thin SMA Wire for Micro Actuator. Proceedings of the 1992 Annual Meeting of JSME/MMD, 2006, 2006, 81-82.	0.0	0
113	2205 Analysis of Elastic Wave Transmission Characteristics in Two-Phase Composites with Graded Fraction Distribution. The Proceedings of the JSME Annual Meeting, 2007, 2007.1, 239-240.	0.0	0
114	2611 Evaluation of Longitudinal/Transverse Wave Reflection and Normal/Tangential Stiffness of Contacting Interface. The Proceedings of the JSME Annual Meeting, 2007, 2007.1, 535-536.	0.0	0
115	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
116	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
117	OS0614 Influence of porosity on ultrasonic reflection characteristics of CFRP laminate. The Proceedings of the Materials and Mechanics Conference, 2013, 2013, _OS0614-1OS0614-3	0.0	0
118	OS1306 Theoretical investigation of resonant Lamb modes at an imperfect joint of plates. The Proceedings of the Materials and Mechanics Conference, 2014, 2014, _OS1306-1OS1306-2	0.0	0
119	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, _OS0411-38OS0411-38.	0.0	0
120	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) Tj ETQq0 0	O rgBŢ /Ον	erlock 10 Tf :
121	Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2015, 2015.14, 82.  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.	0.0	0
122	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
123	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
124	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
125	Analysis of elastic wave propagation characteristics in isogrid structures. The Proceedings of the Materials and Mechanics Conference, 2019, 2019, OS1509.	0.0	0
126	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

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#	Article	IF	CITATIONS
127	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	O
128	Plasticity aspects of rough surface flattening. Metals and Materials International, 1998, 4, 484-488.	0.2	0