Piervincenzo Rizzo

List of Publications by Year
in descending order

132	3,125	172386	197736
papers	citations	29 h-index	49 g-index

139	139	139	1972
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Machine learning-based approach to determining stress in rails. Structural Health Monitoring, 2023, 22, 639-656.	4.3	8
2	Wireless Node for Highly Nonlinear Solitary Wave Transducers. IEEE Sensors Journal, 2022, 22, 3540-3552.	2.4	3
3	On the Long-Term Performance of Solitary Wave-Based Transducers for Nondestructive Evaluation Applications. Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems, 2022, 5, .	0.7	0
4	A novel vibration-based method to measure stress in rails. , 2022, , .		0
5	Bridge Health Monitoring Using Strain Data and High-Fidelity Finite Element Analysis. Sensors, 2022, 22, 5172.	2.1	7
6	A Contactless Approach to Monitor Rail Vibrations. Experimental Mechanics, 2021, 61, 705-718.	1.1	12
7	Challenges in Bridge Health Monitoring: A Review. Sensors, 2021, 21, 4336.	2.1	56
8	Extracting full-field subpixel structural displacements from videos via deep learning. Journal of Sound and Vibration, 2021, 505, 116142.	2.1	24
9	Numerical investigation of the interaction of highly nonlinear solitary waves with corroded steel plates. International Journal of Mechanical Sciences, 2021, 208, 106676.	3.6	10
10	Highly Nonlinear Solitary Waves to Estimate Orientation and Degree of Anisotropy in Rocks. Materials Evaluation, 2021, 79, 991-1004.	0.1	1
11	Monitoring Local Impedance Changes with Solitary Waves. Lecture Notes in Civil Engineering, 2021, , 669-678.	0.3	0
12	Stability of continuous welded rails: A state-of-the-art review of structural modeling and nondestructive evaluation. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 2021, 235, 1291-1311.	1.3	20
13	Outlier analysis of nonlinear solitary waves for health monitoring applications. Structural Health Monitoring, 2020, 19, 1160-1174.	4.3	11
14	A review on the latest advancements in the non-invasive evaluation/monitoring of dental and trans-femoral implants. Biomedical Engineering Letters, 2020, 10, 83-102.	2.1	15
15	Modeling a new dynamic approach to measure intraocular pressure with solitary waves. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 103, 103534.	1.5	13
16	Wireless Module for Nondestructive Testing/Structural Health Monitoring Applications Based on Solitary Waves. Sensors, 2020, 20, 3016.	2.1	9
17	Highly nonlinear solitary waves for the detection of localized corrosion. Smart Materials and Structures, 2020, 29, 085051.	1.8	17
18	Asymmetric propagation of low-frequency acoustic waves in a granular chain using asymmetric intruders. Journal of Applied Physics, 2019, 126, .	1.1	4

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19	Numerical Analysis and Experimental Validation of an Nondestructive Evaluation Method to Measure Stress in Rails. Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems, 2019, 2, .	0.7	17
20	Ultrasonic-GW Tomographic Analysis and Probabilistic Reconstruction Approach for SHM Applications. Aerotecnica Missili & Spazio, 2019, 98, 131-137.	0.5	0
21	A Nondestructive Evaluation Approach to Characterize Tennis Balls. Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems, 2019, 2, .	0.7	6
22	Solitary Waves to Assess the Internal Pressure and the Rubber Degradation of Tennis Balls. Experimental Mechanics, 2019, 59, 65-77.	1.1	22
23	Non-contact modal parameters identification using a K-cluster algorithm. , 2019, , .		0
24	Numerical and Experimental Study on the Dynamic Interaction Between Highly Nonlinear Solitary Waves and Pressurized Balls. Journal of Applied Mechanics, Transactions ASME, 2018, 85, .	1.1	20
25	Multimodal structural health monitoring based on active and passive sensing. Structural Health Monitoring, 2018, 17, 395-409.	4.3	33
26	Ultrasonic inspection for the detection of debonding in CFRP-reinforced concrete. Structure and Infrastructure Engineering, 2018, 14, 807-816.	2.0	37
27	Axial stress determination using highly nonlinear solitary waves. Journal of the Acoustical Society of America, 2018, 144, 2201-2212.	0.5	28
28	Non-Contact Smartphone-Based Monitoring of Thermally Stressed Structures. Sensors, 2018, 18, 1250.	2.1	8
29	Time domain damage localization and quantification in seismically excited structures using a limited number of sensors. JVC/Journal of Vibration and Control, 2017, 23, 2942-2961.	1.5	15
30	Ultrasonic imaging algorithm for the health monitoring of pipes. Journal of Civil Structural Health Monitoring, 2017, 7, 99-121.	2.0	12
31	Impurity detection in a chain of spherical particles using time reversal and highly nonlinear solitary waves. Journal of Applied Physics, 2017, 121, 145105.	1.1	0
32	Nondestructive testing of concrete using highly nonlinear solitary waves. Nondestructive Testing and Evaluation, 2017, 32, 381-399.	1.1	31
33	Analysis of the geometric parameters of a solitary waves-based harvester to enhance its power output. Smart Materials and Structures, 2017, 26, 075004.	1.8	7
34	Assessing the pressure of tennis balls using nonlinear solitary waves: a numerical study. Sports Engineering, 2017, 20, 53-62.	0.5	5
35	Experimental parametric analysis of an energy harvester based on highly nonlinear solitary waves. Journal of Intelligent Material Systems and Structures, 2017, 28, 772-781.	1.4	10
36	Highly nonlinear solitary waves to estimate the modulus of concrete with different water-to-cement ratios. , 2017, , .		0

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37	Nondestructive assessment of waveguides using an integrated electromechanical impedance and ultrasonic waves approach. , 2017, , .		0
38	Detecting the Presence of High Water-to-Cement Ratio in Concrete Surfaces Using Highly Nonlinear Solitary Waves. Applied Sciences (Switzerland), 2016, 6, 104.	1.3	28
39	On the Reliability of a Solitary Wave Based Transducer to Determine the Characteristics of Some Materials. Sensors, 2016, 16, 5.	2.1	26
40	Nonreciprocal propagation of solitary waves in granular chains with asymmetric potential barriers. Journal of Sound and Vibration, 2016, 365, 15-21.	2.1	8
41	On the coupling dynamics between thermally stressed beams and granular chains. Archive of Applied Mechanics, 2016, 86, 541-556.	1.2	13
42	A numerical study on the optimization of a granular medium to infer the axial stress in slender structures. Mechanics of Advanced Materials and Structures, 2016, 23, 1131-1143.	1.5	15
43	An integrated structural health monitoring system based on electromechanical impedance and guided ultrasonic waves. Journal of Civil Structural Health Monitoring, 2015, 5, 337-352.	2.0	31
44	A parametric study on the optimization of a metamaterial-based energy harvester. Smart Materials and Structures, 2015, 24, 115019.	1.8	14
45	Energy Harvesting Using an Array of Granules. Journal of Vibration and Acoustics, Transactions of the ASME, 2015, 137, .	1.0	16
46	On the use of an array of ultrasonic immersion transducers for the nondestructive testing of immersed plates. Nondestructive Testing and Evaluation, 2015, 30, 26-38.	1.1	6
47	Modelling the Electromechanical Impedance Method for the Prediction of the Biomechanical Behavior of Dental Implant Stability. Procedia Engineering, 2015, 109, 128-134.	1.2	0
48	On the Use of L-shaped Granular Chains for the Assessment of Thermal Stress in Slender Structures. Experimental Mechanics, 2015, 55, 543-558.	1.1	20
49	Determination of the Neutral Temperature of Slender Beams by Using Nonlinear Solitary Waves. Journal of Engineering Mechanics - ASCE, 2015, 141, .	1.6	22
50	Granular chains for the assessment of thermal stress in slender structures. Proceedings of SPIE, 2015, , .	0.8	0
51	Energy harvesting using arrays of granular chains and solid rods. Journal of Applied Physics, 2015, 117, .	1.1	22
52	On the Repeatability of Electromechanical Impedance for Monitoring of Bonded Joints. AIAA Journal, 2015, 53, 3479-3483.	1.5	8
53	Modeling the electromechanical impedance technique for the assessment of dental implant stability. Journal of Biomechanics, 2015, 48, 1713-1720.	0.9	21
54	Outlier Analysis and Artificial Neural Network for the Noncontact Nondestructive Evaluation of Immersed Plates. Research in Nondestructive Evaluation, 2015, 26, 154-173.	0.5	15

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55	Guided ultrasonic wave testing of an immersed plate with hidden defects. Optical Engineering, 2015, 55, 011003.	0.5	6
56	On the use of the electromechanical impedance technique for the assessment of dental implant stability: Modeling and experimentation. Journal of Intelligent Material Systems and Structures, 2015, 26, 2266-2280.	1.4	22
57	Highly Nonlinear Solitary Waves for the NDT of slender beams. , 2015, , 173-177.		1
58	Solitary Waves to Infer Axial Stress in Slender Structures: A Numerical Model. Conference Proceedings of the Society for Experimental Mechanics, 2015, , 47-57.	0.3	0
59	Guided Ultrasonic Waves for the Nondestructive Evaluation Imaging of Pipes. , 2014, , .		0
60	Semi-Supervised Multiresolution Classification Using Adaptive Graph Filtering With Application to Indirect Bridge Structural Health Monitoring. IEEE Transactions on Signal Processing, 2014, 62, 2879-2893.	3.2	144
61	A Solitary Wave-Based Sensor to Monitor the Setting of Fresh Concrete. Sensors, 2014, 14, 12568-12584.	2.1	26
62	Alternative Designs of Acoustic Lenses Based on Nonlinear Solitary Waves. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	1.1	17
63	Coupling mechanism of granular medium and slender beams. , 2014, , .		0
64	On the processing of leaky guided waves propagating in immersed plates. , 2014, , .		0
65	Sensing solutions for assessing and monitoring railroad tracks. , 2014, , 497-524.		8
66	Guided Ultrasonic Wave Imaging for Immersed Plates Based on Wavelet Transform and Probabilistic Analysis. Research in Nondestructive Evaluation, 2014, 25, 63-81.	0.5	5
67	Empirical mode decomposition and neural network for the classification of electroretinographic data. Medical and Biological Engineering and Computing, 2014, 52, 619-628.	1.6	14
68	Sensor array for the health monitoring of truss structures by means of guided ultrasonic waves. Journal of Civil Structural Health Monitoring, 2014, 4, 221-234.	2.0	12
69	Indirect structural health monitoring of a simplified laboratory-scale bridge model. Smart Structures and Systems, 2014, 13, 849-868.	1.9	61
70	Guided waves for the health monitoring of sign support structures under varying environmental conditions. Structural Control and Health Monitoring, 2013, 20, 156-172.	1.9	10
71	On the coupling mechanism between nonlinear solitary waves and slender beams. International Journal of Solids and Structures, 2013, 50, 4173-4183.	1.3	44
72	Propagation of highly nonlinear solitary waves in a curved granular chain. Granular Matter, 2013, 15, 357-366.	1.1	17

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73	Reference-free damage detection by means of wavelet transform and empirical mode decomposition applied to Lamb waves. Journal of Intelligent Material Systems and Structures, 2013, 24, 194-208.	1.4	60
74	A Comparative Study on Three Different Transducers for the Measurement of Nonlinear Solitary Waves. Sensors, 2013, 13, 1231-1246.	2.1	6
75	Highly Nonlinear Solitary Waves for the Assessment of Dental Implant Mobility. Journal of Applied Mechanics, Transactions ASME, 2013, 80, 0110281-110288.	1.1	10
76	Noncontact monitoring of immersed plates by means of laser-induced ultrasounds. Structural Health Monitoring, 2013, 12, 549-565.	4.3	27
77	Signal processing for the inspection of immersed structures. Proceedings of SPIE, 2013, , .	0.8	4
78	Ultrasonic Tomography for Three-Dimensional Imaging of Internal Rail Flaws. Transportation Research Record, 2013, 2374, 162-168.	1.0	0
79	Electromechanical impedance method to assess dental implant stability. Smart Materials and Structures, 2012, 21, 115022.	1.8	19
80	Two-Stage Automated Defect Recognition Algorithm for the Analysis of Infrared Images. Research in Nondestructive Evaluation, 2012, 23, 69-88.	0.5	7
81	A unified approach for the structural health monitoring of waveguides. Structural Health Monitoring, 2012, 11, 629-642.	4.3	15
82	Monitoring the hydration of cement using highly nonlinear solitary waves. NDT and E International, 2012, 52, 76-85.	1.7	82
83	Highly Nonlinear Solitary Waves for the Inspection of Adhesive Joints. Experimental Mechanics, 2012, 52, 1493-1501.	1.1	56
84	Structural Health Monitoring of Civil Structures: New Methodologies and Field Applications 2012. Advances in Civil Engineering, 2012, 2012, 1-2.	0.4	0
85	Elastoplastic Damaging Model for Adhesive Anchor Systems. II: Numerical and Experimental Validation. Journal of Engineering Mechanics - ASCE, 2011, 137, 862-876.	1.6	8
86	Highly nonlinear solitary waves-based sensor for monitoring concrete. , 2011, , .		2
87	Semi-analytical formulation for the guided waves-based reconstruction of elastic moduli. Mechanical Systems and Signal Processing, 2011, 25, 2241-2256.	4.4	75
88	Actuators for the generation of highly nonlinear solitary waves. Review of Scientific Instruments, 2011, 82, 034902.	0.6	27
89	Laser-based excitation of nonlinear solitary waves in a chain of particles. Physical Review E, 2011, 84, 026601.	0.8	19
90	Assessment of dental implant stability by means of the electromechanical impedance method. Smart Materials and Structures, 2011, 20, 045008.	1.8	27

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91	Elastoplastic Damaging Model for Adhesive Anchor Systems. I: Theoretical Formulation and Numerical Implementation. Journal of Engineering Mechanics - ASCE, 2011, 137, 854-861.	1.6	15
92	Laser induced highly nonlinear solitary waves for structural NDE. Proceedings of SPIE, 2010, , .	0.8	2
93	Acoustic Emission Monitoring of Chemically Bonded Anchors. Journal of Nondestructive Evaluation, 2010, 29, 49-61.	1.1	22
94	Fatigue analysis of overhead sign support structures. Engineering Structures, 2010, 32, 1659-1670.	2.6	18
95	Ultrasonic Guided Waves-Based Monitoring of Rail Head: Laboratory and Field Tests. Advances in Civil Engineering, 2010, 2010, 1-13.	0.4	22
96	Water and Wastewater Pipe Nondestructive Evaluation and Health Monitoring: A Review. Advances in Civil Engineering, 2010, 2010, 1-13.	0.4	41
97	Structural Health Monitoring for Civil Structures: From the Lab to the Field. Advances in Civil Engineering, 2010, 2010, 1-1.	0.4	12
98	Ultrasonic guided waves for nondestructive evaluation/structural health monitoring of trusses. Measurement Science and Technology, 2010, 21, 045701.	1.4	38
99	Structural Health Monitoring of Immersed Structures by Means of Guided Ultrasonic Waves. Journal of Intelligent Material Systems and Structures, 2010, 21, 1397-1407.	1.4	42
100	Application of principal component analysis and wavelet transform to fatigue crack detection in waveguides. Smart Structures and Systems, 2010, 6, 349-362.	1.9	18
101	High frequency guided waves in a 7 wire strand: Warped Frequency Transform for spectro-temporal characterization. , 2009, , .		0
102	Influence of the excitation frequency in the electromechanical impedance method for SHM applications. Proceedings of SPIE, 2009, , .	0.8	9
103	Damage and plasticity at the interfaces in composite materials and structures. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3884-3901.	3.4	46
104	Acoustic emission monitoring of CFRP reinforced concrete slabs. Construction and Building Materials, 2009, 23, 2016-2026.	3.2	121
105	A Nonlinear Acoustic Technique for Crack Detection in Metallic Structures. Structural Health Monitoring, 2009, 8, 251-262.	4.3	92
106	An unsupervised learning algorithm for fatigue crack detection in waveguides. Smart Materials and Structures, 2009, 18, 025016.	1.8	45
107	A semi-analytical finite element formulation for modeling stress wave propagation in axisymmetric damped waveguides. Journal of Sound and Vibration, 2008, 318, 488-505.	2.1	149
108	Structural health monitoring by extraction of coherent guided waves from diffuse fields. Journal of the Acoustical Society of America, 2008, 123, EL8-EL13.	0.5	51

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109	Highly nonlinear waves' sensor technology for highway infrastructures. Proceedings of SPIE, 2008, , .	0.8	39
110	Digital signal processing for rail monitoring by means of ultrasonic guided waves. Insight: Non-Destructive Testing and Condition Monitoring, 2007, 49, 327-332.	0.3	11
111	Wavelet-based outlier analysis for guided wave structural monitoring: Application to multi-wire strands. Journal of Sound and Vibration, 2007, 307, 52-68.	2.1	79
112	Feature Extraction for Defect Detection in Strands by Guided Ultrasonic Waves. Structural Health Monitoring, 2006, 5, 297-308.	4.3	47
113	Laserâ€"Air-Coupled Hybrid Noncontact System for Defect Detection in Rail Tracks. Transportation Research Record, 2006, 1943, 57-64.	1.0	2
114	Ultrasonic Wave Propagation in Progressively Loaded Multi-Wire Strands. Experimental Mechanics, 2006, 46, 297-306.	1.1	49
115	Acoustic Emission Damage Assessment of Steel/CFRP Bonds for Rehabilitation. Journal of Composites for Construction, 2006, 10, 265-274.	1.7	22
116	Wavelet-based feature extraction for automatic defect classification in strands by ultrasonic structural monitoring. Smart Structures and Systems, 2006, 2, 253-274.	1.9	24
117	Ultrasonic inspection of multi-wire steel strands with the aid of the wavelet transform. Smart Materials and Structures, 2005, 14, 685-695.	1.8	55
118	High-Speed Defect Detection in Rails by Noncontact Guided Ultrasonic Testing. Transportation Research Record, 2005, 1916, 66-77.	1.0	10
119	Ultrasonic Characterization and Inspection of Open Cell Foams. Journal of Engineering Mechanics - ASCE, 2005, 131, 1200-1208.	1.6	6
120	Defect Classification in Pipes by Neural Networks Using Multiple Guided Ultrasonic Wave Features Extracted After Wavelet Processing. Journal of Pressure Vessel Technology, Transactions of the ASME, 2005, 127, 294-303.	0.4	46
121	Assessment of bond state in lap-shear joints by guided wave transmission monitoring. Insight: Non-Destructive Testing and Condition Monitoring, 2004, 46, 135-141.	0.3	5
122	Wave propagation in multi-wire strands by wavelet-based laser ultrasound. Experimental Mechanics, 2004, 44, 407-415.	1.1	76
123	Propagation of ultrasonic guided waves in lap-shear adhesive joints: Case of incident a0 Lamb wave. Journal of the Acoustical Society of America, 2004, 115, 146-156.	0.5	96
124	Wave Propagation in Multi-Wire Strands by Wavelet-Based Laser Ultrasound. Experimental Mechanics, 2004, 44, 407-415.	1.1	4
125	EFFECT OF FREQUENCY ON THE ACOUSTOELASTIC RESPONSE OF STEEL BARS. Experimental Techniques, 2003, 27, 40-43.	0.9	28
126	Stress Measurement and Defect Detection in Steel Strands by Guided Stress Waves. Journal of Materials in Civil Engineering, 2003, 15, 219-227.	1.3	136

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127	Acoustic emission monitoring of carbon-fiber-reinforced-polymer bridge stay cables in large-scale testing. Experimental Mechanics, 2001, 41, 282-290.	1.1	66
128	Pigment villonodular synovitis of the spine. Case report and review of the literature. Journal of Neurosurgical Sciences, 2001, 45, 216-9; discussion 219.	0.3	8
129	Health monitoring of UCSD's I-5/Gilman advanced technology bridge. Smart Materials Bulletin, 2000, 2000, 6-10.	0.1	4
130	Scattering of 60 keV photons by biological material and influence in diagnostic radiology. Medical Physics, 1996, 23, 1635-1642.	1.6	7
131	Advanced Ultrasonic Structural Monitoring of Waveguides. Advances in Science and Technology, 0, , .	0.2	0
132	Detection and Classification of Corrosion-related Damage Using Solitary Waves. Research in Nondestructive Evaluation, 0, , 1-20.	0.5	2