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 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
2	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
3	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
4	Acoustic emission monitoring of CFRP reinforced concrete slabs. Construction and Building Materials, 2009, 23, 2016-2026.	3.2	121
5	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
6	A Nonlinear Acoustic Technique for Crack Detection in Metallic Structures. Structural Health Monitoring, 2009, 8, 251-262.	4.3	92
7	Monitoring the hydration of cement using highly nonlinear solitary waves. NDT and E International, 2012, 52, 76-85.	1.7	82
8	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
9	Wave propagation in multi-wire strands by wavelet-based laser ultrasound. Experimental Mechanics, 2004, 44, 407-415.	1.1	76
10	Semi-analytical formulation for the guided waves-based reconstruction of elastic moduli. Mechanical Systems and Signal Processing, 2011, 25, 2241-2256.	4.4	75
11	Acoustic emission monitoring of carbon-fiber-reinforced-polymer bridge stay cables in large-scale testing. Experimental Mechanics, 2001, 41, 282-290.	1.1	66
12	Indirect structural health monitoring of a simplified laboratory-scale bridge model. Smart Structures and Systems, 2014, 13, 849-868.	1.9	61
13	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
14	Highly Nonlinear Solitary Waves for the Inspection of Adhesive Joints. Experimental Mechanics, 2012, 52, 1493-1501.	1.1	56
15	Challenges in Bridge Health Monitoring: A Review. Sensors, 2021, 21, 4336.	2.1	56
16	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
17	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
18	Ultrasonic Wave Propagation in Progressively Loaded Multi-Wire Strands. Experimental Mechanics, 2006, 46, 297-306.	1.1	49

#	Article	IF	Citations
19	Feature Extraction for Defect Detection in Strands by Guided Ultrasonic Waves. Structural Health Monitoring, 2006, 5, 297-308.	4.3	47
20	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
21	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
22	An unsupervised learning algorithm for fatigue crack detection in waveguides. Smart Materials and Structures, 2009, 18, 025016.	1.8	45
23	On the coupling mechanism between nonlinear solitary waves and slender beams. International Journal of Solids and Structures, 2013, 50, 4173-4183.	1.3	44
24	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
25	Water and Wastewater Pipe Nondestructive Evaluation and Health Monitoring: A Review. Advances in Civil Engineering, 2010, 2010, 1-13.	0.4	41
26	Highly nonlinear waves' sensor technology for highway infrastructures. Proceedings of SPIE, 2008, , .	0.8	39
27	Ultrasonic guided waves for nondestructive evaluation/structural health monitoring of trusses. Measurement Science and Technology, 2010, 21, 045701.	1.4	38
28	Ultrasonic inspection for the detection of debonding in CFRP-reinforced concrete. Structure and Infrastructure Engineering, 2018, 14, 807-816.	2.0	37
29	Multimodal structural health monitoring based on active and passive sensing. Structural Health Monitoring, 2018, 17, 395-409.	4.3	33
30	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
31	Nondestructive testing of concrete using highly nonlinear solitary waves. Nondestructive Testing and Evaluation, 2017, 32, 381-399.	1.1	31
32	EFFECT OF FREQUENCY ON THE ACOUSTOELASTIC RESPONSE OF STEEL BARS. Experimental Techniques, 2003, 27, 40-43.	0.9	28
33	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
34	Axial stress determination using highly nonlinear solitary waves. Journal of the Acoustical Society of America, 2018, 144, 2201-2212.	0.5	28
35	Actuators for the generation of highly nonlinear solitary waves. Review of Scientific Instruments, 2011, 82, 034902.	0.6	27
36	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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37	Noncontact monitoring of immersed plates by means of laser-induced ultrasounds. Structural Health Monitoring, 2013, 12, 549-565.	4.3	27
38	A Solitary Wave-Based Sensor to Monitor the Setting of Fresh Concrete. Sensors, 2014, 14, 12568-12584.	2.1	26
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	Extracting full-field subpixel structural displacements from videos via deep learning. Journal of Sound and Vibration, 2021, 505, 116142.	2.1	24
41	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
42	Acoustic Emission Damage Assessment of Steel/CFRP Bonds for Rehabilitation. Journal of Composites for Construction, 2006, 10, 265-274.	1.7	22
43	Acoustic Emission Monitoring of Chemically Bonded Anchors. Journal of Nondestructive Evaluation, 2010, 29, 49-61.	1.1	22
44	Ultrasonic Guided Waves-Based Monitoring of Rail Head: Laboratory and Field Tests. Advances in Civil Engineering, 2010, 2010, 1-13.	0.4	22
45	Determination of the Neutral Temperature of Slender Beams by Using Nonlinear Solitary Waves. Journal of Engineering Mechanics - ASCE, 2015, 141, .	1.6	22
46	Energy harvesting using arrays of granular chains and solid rods. Journal of Applied Physics, 2015, 117, .	1.1	22
47	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
48	Solitary Waves to Assess the Internal Pressure and the Rubber Degradation of Tennis Balls. Experimental Mechanics, 2019, 59, 65-77.	1.1	22
49	Modeling the electromechanical impedance technique for the assessment of dental implant stability. Journal of Biomechanics, 2015, 48, 1713-1720.	0.9	21
50	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
51	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
52	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
53	Laser-based excitation of nonlinear solitary waves in a chain of particles. Physical Review E, 2011, 84, 026601.	0.8	19
54	Electromechanical impedance method to assess dental implant stability. Smart Materials and Structures, 2012, 21, 115022.	1.8	19

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55	Fatigue analysis of overhead sign support structures. Engineering Structures, 2010, 32, 1659-1670.	2.6	18
56	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
57	Propagation of highly nonlinear solitary waves in a curved granular chain. Granular Matter, 2013, 15, 357-366.	1.1	17
58	Alternative Designs of Acoustic Lenses Based on Nonlinear Solitary Waves. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	1.1	17
59	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
60	Highly nonlinear solitary waves for the detection of localized corrosion. Smart Materials and Structures, 2020, 29, 085051.	1.8	17
61	Energy Harvesting Using an Array of Granules. Journal of Vibration and Acoustics, Transactions of the ASME, 2015, 137, .	1.0	16
62	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
63	A unified approach for the structural health monitoring of waveguides. Structural Health Monitoring, 2012, 11, 629-642.	4.3	15
64	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
65	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
66	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
67	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
68	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
69	A parametric study on the optimization of a metamaterial-based energy harvester. Smart Materials and Structures, 2015, 24, 115019.	1.8	14
70	On the coupling dynamics between thermally stressed beams and granular chains. Archive of Applied Mechanics, 2016, 86, 541-556.	1.2	13
71	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
72	Structural Health Monitoring for Civil Structures: From the Lab to the Field. Advances in Civil Engineering, 2010, 2010, 1-1.	0.4	12

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73	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
74	Ultrasonic imaging algorithm for the health monitoring of pipes. Journal of Civil Structural Health Monitoring, 2017, 7, 99-121.	2.0	12
75	A Contactless Approach to Monitor Rail Vibrations. Experimental Mechanics, 2021, 61, 705-718.	1.1	12
76	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
77	Outlier analysis of nonlinear solitary waves for health monitoring applications. Structural Health Monitoring, 2020, 19, 1160-1174.	4.3	11
78	High-Speed Defect Detection in Rails by Noncontact Guided Ultrasonic Testing. Transportation Research Record, 2005, 1916, 66-77.	1.0	10
79	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
80	Highly Nonlinear Solitary Waves for the Assessment of Dental Implant Mobility. Journal of Applied Mechanics, Transactions ASME, 2013, 80, 0110281-110288.	1.1	10
81	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
82	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
83	Influence of the excitation frequency in the electromechanical impedance method for SHM applications. Proceedings of SPIE, 2009, , .	0.8	9
84	Wireless Module for Nondestructive Testing/Structural Health Monitoring Applications Based on Solitary Waves. Sensors, 2020, 20, 3016.	2.1	9
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	Sensing solutions for assessing and monitoring railroad tracks. , 2014, , 497-524.		8
87	On the Repeatability of Electromechanical Impedance for Monitoring of Bonded Joints. AIAA Journal, 2015, 53, 3479-3483.	1.5	8
88	Nonreciprocal propagation of solitary waves in granular chains with asymmetric potential barriers. Journal of Sound and Vibration, 2016, 365, 15-21.	2.1	8
89	Non-Contact Smartphone-Based Monitoring of Thermally Stressed Structures. Sensors, 2018, 18, 1250.	2.1	8
90	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

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91	A Machine learning-based approach to determining stress in rails. Structural Health Monitoring, 2023, 22, 639-656.	4.3	8
92	Scattering of 60 keV photons by biological material and influence in diagnostic radiology. Medical Physics, 1996, 23, 1635-1642.	1.6	7
93	Two-Stage Automated Defect Recognition Algorithm for the Analysis of Infrared Images. Research in Nondestructive Evaluation, 2012, 23, 69-88.	0.5	7
94	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
95	Bridge Health Monitoring Using Strain Data and High-Fidelity Finite Element Analysis. Sensors, 2022, 22, 5172.	2.1	7
96	Ultrasonic Characterization and Inspection of Open Cell Foams. Journal of Engineering Mechanics - ASCE, 2005, 131, 1200-1208.	1.6	6
97	A Comparative Study on Three Different Transducers for the Measurement of Nonlinear Solitary Waves. Sensors, 2013, 13, 1231-1246.	2.1	6
98	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
99	Guided ultrasonic wave testing of an immersed plate with hidden defects. Optical Engineering, 2015, 55, 011003.	0.5	6
100	A Nondestructive Evaluation Approach to Characterize Tennis Balls. Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems, 2019, 2, .	0.7	6
101	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
102	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
103	Assessing the pressure of tennis balls using nonlinear solitary waves: a numerical study. Sports Engineering, 2017, 20, 53-62.	0.5	5
104	Health monitoring of UCSD's I-5/Gilman advanced technology bridge. Smart Materials Bulletin, 2000, 2000, 6-10.	0.1	4
105	Signal processing for the inspection of immersed structures. Proceedings of SPIE, 2013, , .	0.8	4
106	Asymmetric propagation of low-frequency acoustic waves in a granular chain using asymmetric intruders. Journal of Applied Physics, 2019, 126, .	1.1	4
107	Wave Propagation in Multi-Wire Strands by Wavelet-Based Laser Ultrasound. Experimental Mechanics, 2004, 44, 407-415.	1.1	4
108	Wireless Node for Highly Nonlinear Solitary Wave Transducers. IEEE Sensors Journal, 2022, 22, 3540-3552.	2.4	3

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109	Laserâ€“Air-Coupled Hybrid Noncontact System for Defect Detection in Rail Tracks. Transportation Research Record, 2006, 1943, 57-64.	1.0	2
110	Laser induced highly nonlinear solitary waves for structural NDE. Proceedings of SPIE, 2010, , .	0.8	2
111	Highly nonlinear solitary waves-based sensor for monitoring concrete. , 2011, , .		2
112	Detection and Classification of Corrosion-related Damage Using Solitary Waves. Research in Nondestructive Evaluation, 0, , 1-20.	0.5	2
113	Highly Nonlinear Solitary Waves to Estimate Orientation and Degree of Anisotropy in Rocks. Materials Evaluation, 2021, 79, 991-1004.	0.1	1
114	Highly Nonlinear Solitary Waves for the NDT of slender beams. , 2015, , 173-177.		1
115	Advanced Ultrasonic Structural Monitoring of Waveguides. Advances in Science and Technology, 0, , .	0.2	0
116	High frequency guided waves in a 7 wire strand: Warped Frequency Transform for spectro-temporal characterization. , 2009, , .		0
117	Structural Health Monitoring of Civil Structures: New Methodologies and Field Applications 2012. Advances in Civil Engineering, 2012, 2012, 1-2.	0.4	0
118	Ultrasonic Tomography for Three-Dimensional Imaging of Internal Rail Flaws. Transportation Research Record, 2013, 2374, 162-168.	1.0	0
119	Guided Ultrasonic Waves for the Nondestructive Evaluation Imaging of Pipes. , 2014, , .		0
120	Coupling mechanism of granular medium and slender beams. , 2014, , .		0
121	On the processing of leaky guided waves propagating in immersed plates. , 2014, , .		0
122	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
123	Granular chains for the assessment of thermal stress in slender structures. Proceedings of SPIE, 2015, , .	0.8	0
124	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
125	Ultrasonic-GW Tomographic Analysis and Probabilistic Reconstruction Approach for SHM Applications. Aerotecnica Missili & Spazio, 2019, 98, 131-137.	0.5	0
126	Monitoring Local Impedance Changes with Solitary Waves. Lecture Notes in Civil Engineering, 2021, , 669-678.	0.3	0

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127	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
128	Highly nonlinear solitary waves to estimate the modulus of concrete with different water-to-cement ratios. , 2017, , .		0
129	Nondestructive assessment of waveguides using an integrated electromechanical impedance and ultrasonic waves approach. , 2017, , .		0
130	Non-contact modal parameters identification using a K-cluster algorithm. , 2019, , .		0
131	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
132	A novel vibration-based method to measure stress in rails. , 2022, , .		0