

Oral BÃ¼yÃ¼kÃ¶ztÃ¼rk

List of Publications by Year in descending order

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Version: 2024-02-01

102
papers

7,700
citations

81743

39
h-index

51492

86
g-index

102
all docs

102
docs citations

102
times ranked

5370
citing authors

#	ARTICLE	IF	CITATIONS
1	Deep Learning-Based Crack Damage Detection Using Convolutional Neural Networks. <i>Computer-Aided Civil and Infrastructure Engineering</i> , 2017, 32, 361-378.	6.3	2,022
2	Autonomous Structural Visual Inspection Using Region-Based Deep Learning for Detecting Multiple Damage Types. <i>Computer-Aided Civil and Infrastructure Engineering</i> , 2018, 33, 731-747.	6.3	943
3	Modal identification of simple structures with high-speed video using motion magnification. <i>Journal of Sound and Vibration</i> , 2015, 345, 58-71.	2.1	381
4	Progress on understanding debonding problems in reinforced concrete and steel members strengthened using FRP composites. <i>Construction and Building Materials</i> , 2004, 18, 9-19.	3.2	320
5	Failure Behavior of Precracked Concrete Beams Retrofitted with FRP. <i>Journal of Composites for Construction</i> , 1998, 2, 138-144.	1.7	233
6	Deep long short-term memory networks for nonlinear structural seismic response prediction. <i>Computers and Structures</i> , 2019, 220, 55-68.	2.4	220
7	Structural Damage Detection Using Modal Strain Energy and Hybrid Multiobjective Optimization. <i>Computer-Aided Civil and Infrastructure Engineering</i> , 2015, 30, 347-358.	6.3	161
8	Structural solution using molecular dynamics: Fundamentals and a case study of epoxy-silica interface. <i>International Journal of Solids and Structures</i> , 2011, 48, 2131-2140.	1.3	137
9	Use of silica fume and natural volcanic ash as a replacement to Portland cement: Micro and pore structural investigation using NMR, XRD, FTIR and X-ray microtomography. <i>Construction and Building Materials</i> , 2018, 158, 574-590.	3.2	134
10	Shear Behavior of Joints in Precast Concrete Segmental Bridges. <i>Journal of Structural Engineering</i> , 1990, 116, 3380-3401.	1.7	132
11	Video Camera-Based Vibration Measurement for Civil Infrastructure Applications. <i>Journal of Infrastructure Systems</i> , 2017, 23, .	1.0	130
12	Imaging of concrete structures. <i>NDT and E International</i> , 1998, 31, 233-243.	1.7	128
13	Fracture characterization of concrete/epoxy interface affected by moisture. <i>Mechanics of Materials</i> , 2010, 42, 1031-1042.	1.7	128
14	Peel and Shear Fracture Characterization of Debonding in FRP Plated Concrete Affected by Moisture. <i>Journal of Composites for Construction</i> , 2006, 10, 35-47.	1.7	119
15	Optimal sensor placement in structural health monitoring using discrete optimization. <i>Smart Materials and Structures</i> , 2015, 24, 125034.	1.8	100
16	Nonlinear analysis of reinforced concrete structures. <i>Computers and Structures</i> , 1977, 7, 149-156.	2.4	87
17	Crack propagation in concrete composites influenced by interface fracture parameters. <i>International Journal of Solids and Structures</i> , 1998, 35, 4055-4066.	1.3	82
18	A methodology for determining complex permittivity of construction materials based on transmission-only coherent, wide-bandwidth free-space measurements. <i>Cement and Concrete Composites</i> , 2006, 28, 349-359.	4.6	82

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19	Impact of Embodied Energy on materials/buildings with partial replacement of ordinary Portland Cement (OPC) by natural Pozzolanic Volcanic Ash. <i>Journal of Cleaner Production</i> , 2018, 177, 547-554.	4.6	81
20	Eulerian video magnification and analysis. <i>Communications of the ACM</i> , 2016, 60, 87-95.	3.3	79
21	Debonding of concrete-epoxy interface under the coupled effect of moisture and sustained load. <i>Cement and Concrete Composites</i> , 2017, 80, 287-297.	4.6	74
22	Microstructure of cement paste with natural pozzolanic volcanic ash and Portland cement at different stages of curing. <i>Construction and Building Materials</i> , 2016, 113, 423-441.	3.2	73
23	Characterization of the intrinsic strength between epoxy and silica using a multiscale approach. <i>Journal of Materials Research</i> , 2012, 27, 1787-1796.	1.2	62
24	Probabilistic updating of building models using incomplete modal data. <i>Mechanical Systems and Signal Processing</i> , 2016, 75, 27-40.	4.4	61
25	Irradiated recycled plastic as a concrete additive for improved chemo-mechanical properties and lower carbon footprint. <i>Waste Management</i> , 2018, 71, 426-439.	3.7	61
26	Concrete in Biaxial Cyclic Compression. <i>Journal of Structural Engineering</i> , 1984, 110, 461-476.	1.7	59
27	Camera-Based Vibration Measurement of the World War I Memorial Bridge in Portsmouth, New Hampshire. <i>Journal of Structural Engineering</i> , 2018, 144, .	1.7	59
28	Development of Earthquake Energy Demand Spectra. <i>Earthquake Spectra</i> , 2015, 31, 1667-1689.	1.6	58
29	A fracture-based model for FRP debonding in strengthened beams. <i>Engineering Fracture Mechanics</i> , 2009, 76, 1897-1909.	2.0	55
30	Motion microscopy for visualizing and quantifying small motions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 11639-11644.	3.3	55
31	Impact load identification for composite structures using Bayesian regularization and unscented Kalman filter. <i>Structural Control and Health Monitoring</i> , 2017, 24, e1910.	1.9	55
32	Debonding of FRP plated concrete: A tri-layer fracture treatment. <i>Engineering Fracture Mechanics</i> , 2006, 73, 348-365.	2.0	54
33	Bayesian characterization of buildings using seismic interferometry on ambient vibrations. <i>Mechanical Systems and Signal Processing</i> , 2017, 85, 468-486.	4.4	54
34	Effect of Fiber Orientation and Ply Mix on Fiber Reinforced Polymer-Confined Concrete. <i>Journal of Composites for Construction</i> , 2005, 9, 397-407.	1.7	50
35	Degradation of epoxy/glass interface in hygrothermal environment: An atomistic investigation. <i>Composites Part B: Engineering</i> , 2021, 206, 108534.	5.9	50
36	Ductility of FRP-concrete systems: Investigations at different length scales. <i>Construction and Building Materials</i> , 2013, 49, 915-925.	3.2	49

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37	A robust nanoscale experimental quantification of fracture energy in a bilayer material system. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11990-11995.	3.3	48
38	Constitutive Model for Concrete in Cyclic Compression. Journal of Engineering Mechanics - ASCE, 1985, 111, 797-814.	1.6	43
39	A far-field airborne radar NDT technique for detecting debonding in GFRP-retrofitted concrete structures. NDT and E International, 2008, 41, 10-24.	1.7	42
40	Roadmap across the mesoscale for durable and sustainable cement paste - A bioinspired approach. Construction and Building Materials, 2016, 115, 13-31.	3.2	39
41	Analysis of engineered cement paste using silica nanoparticles and metakaolin using ²⁹ Si NMR, water adsorption and synchrotron X-ray Diffraction. Construction and Building Materials, 2018, 180, 698-709.	3.2	38
42	Fracture Analysis of Mortar-Aggregate Interfaces in Concrete. Journal of Engineering Mechanics - ASCE, 1992, 118, 2031-2046.	1.6	36
43	Far-field radar NDT technique for detecting GFRP debonding from concrete. Construction and Building Materials, 2009, 23, 1678-1689.	3.2	35
44	In situ Raman studies on cement paste prepared with natural pozzolanic volcanic ash and Ordinary Portland Cement. Construction and Building Materials, 2017, 148, 444-454.	3.2	32
45	An improved input energy spectrum verified by the shake table tests. Earthquake Engineering and Structural Dynamics, 2019, 48, 27-45.	2.5	30
46	Constitutive modeling of concrete in finite element analysis. Computers and Structures, 1985, 21, 581-610.	2.4	29
47	Water dynamics in cement paste at early age prepared with pozzolanic volcanic ash and Ordinary Portland Cement using quasielastic neutron scattering. Cement and Concrete Research, 2016, 86, 55-62.	4.6	29
48	Continuous Monitoring of High-Rise Buildings Using Seismic Interferometry. Bulletin of the Seismological Society of America, 2017, 107, 2759-2773.	1.1	29
49	Wideband Microwave Imaging of Concrete for Nondestructive Testing. Journal of Structural Engineering, 2000, 126, 1451-1457.	1.7	27
50	Operational and defect parameters concerning the acoustic-laser vibrometry method for FRP-reinforced concrete. NDT and E International, 2015, 71, 43-53.	1.7	26
51	Hydration kinetics and morphology of cement pastes with pozzolanic volcanic ash studied via synchrotron-based techniques. Journal of Materials Science, 2018, 53, 1743-1757.	1.7	26
52	Electromagnetic Properties of Concrete and Their Significance in Nondestructive Testing. Transportation Research Record, 1997, 1574, 10-17.	1.0	25
53	Particle Size Effect of Volcanic Ash towards Developing Engineered Portland Cements. Journal of Materials in Civil Engineering, 2018, 30, .	1.3	25
54	Shear Transfer Model for Reinforced Concrete. Journal of the Engineering Mechanics Division, 1979, 105, 255-275.	0.4	25

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55	Rocking Behavior of an Instrumented Unique Building on the MIT Campus Identified from Ambient Shaking Data. <i>Earthquake Spectra</i> , 2014, 30, 705-720.	1.6	23
56	Hybrid output-only structural system identification using random decrement and Kalman filter. <i>Mechanical Systems and Signal Processing</i> , 2020, 144, 106977.	4.4	22
57	Damage detection with small data set using energy-based nonlinear features. <i>Structural Control and Health Monitoring</i> , 2016, 23, 333-348.	1.9	20
58	Mechanical behavior of a composite interface: Calcium-silicate-hydrates. <i>Journal of Applied Physics</i> , 2015, 118, .	1.1	18
59	The MIT Green Building benchmark problem for structural health monitoring of tall buildings. <i>Structural Control and Health Monitoring</i> , 2018, 25, e2115.	1.9	18
60	Retarder effect on hydrating oil well cements investigated using in situ neutron/X-ray pair distribution function analysis. <i>Cement and Concrete Research</i> , 2019, 126, 105920.	4.6	18
61	Automated Structural Damage Detection Using One-Class Machine Learning. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2014, , 117-128.	0.3	18
62	A Bayesian state-space approach for damage detection and classification. <i>Mechanical Systems and Signal Processing</i> , 2017, 96, 239-259.	4.4	17
63	Conditional classifiers and boosted conditional Gaussian mixture model for novelty detection. <i>Pattern Recognition</i> , 2018, 81, 601-614.	5.1	17
64	Atomistic prediction on the degradation of vinyl ester-based composite under chloride and elevated temperature. <i>Composites Science and Technology</i> , 2022, 226, 109539.	3.8	17
65	Assessment of interfacial fracture toughness in concrete composites. <i>Cement and Concrete Composites</i> , 1993, 15, 143-151.	4.6	16
66	A symmetry measure for damage detection with mode shapes. <i>Journal of Sound and Vibration</i> , 2017, 408, 123-137.	2.1	16
67	Shear Stiffness of Concrete by Finite Elements. <i>Journal of the Structural Division</i> , 1980, 106, 1311-1327.	0.2	16
68	Constitutive response of calcium silicate hydrate layers under combined loading. <i>Journal of the American Ceramic Society</i> , 2017, 100, 713-723.	1.9	15
69	Radar imaging of concrete specimens for non-destructive testing. <i>Construction and Building Materials</i> , 1997, 11, 195-198.	3.2	14
70	Deformation and Fracture of Particulate Composite. <i>Journal of the Engineering Mechanics Division</i> , 1972, 98, 581-593.	0.4	14
71	Hybrid Model for Discrete Cracks in Concrete. <i>Journal of Engineering Mechanics - ASCE</i> , 1984, 110, 1211-1229.	1.6	13
72	Expert Interactive Design of R/C Columns Under Biaxial Bending. <i>Journal of Computing in Civil Engineering</i> , 1987, 1, 69-81.	2.5	13

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73	Computational modeling of a unique tower in Kuwait for structural health monitoring: Numerical investigations. <i>Structural Control and Health Monitoring</i> , 2019, 26, e2317.	1.9	13
74	Modeling of electromagnetic wave scattering by concrete specimens. <i>Cement and Concrete Research</i> , 1995, 25, 1011-1022.	4.6	12
75	Decentralised one-class kernel classification-based damage detection and localisation. <i>Structural Control and Health Monitoring</i> , 2017, 24, e1930.	1.9	12
76	Research on modeling shear transfer in reinforced concrete nuclear structures. <i>Nuclear Engineering and Design</i> , 1980, 59, 67-83.	0.8	11
77	Thermomechanical Behavior of Refractory Concrete Linings. <i>Journal of the American Ceramic Society</i> , 1982, 65, 301-307.	1.9	11
78	A cohesive-frictional force field (CFFF) for colloidal calcium-silicate-hydrates. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 109, 160-177.	2.3	11
79	Field Measurement-Based System Identification and Dynamic Response Prediction of a Unique MIT Building. <i>Sensors</i> , 2016, 16, 1016.	2.1	10
80	Ground Motion in Kuwait from Regional and Local Earthquakes: Potential Effects on Tall Buildings. <i>Pure and Applied Geophysics</i> , 2018, 175, 4183-4195.	0.8	10
81	Random field finite element models with cohesive-frictional interactions of a hardened cement paste microstructure. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 119, 349-368.	2.3	10
82	Structural damage detection using Bayesian inference and seismic interferometry. <i>Structural Control and Health Monitoring</i> , 2019, 26, e2445.	1.9	10
83	Collaborative duty cycling strategies in energy harvesting sensor networks. <i>Computer-Aided Civil and Infrastructure Engineering</i> , 2020, 35, 534-548.	6.3	10
84	Modal Strain Energy Based Damage Detection Using Multi-Objective Optimization. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2014, , 125-133.	0.3	8
85	Pairwise graphical models for structural health monitoring with dense sensor arrays. <i>Mechanical Systems and Signal Processing</i> , 2017, 93, 578-592.	4.4	7
86	Multi-component deconvolution interferometry for data-driven prediction of seismic structural response. <i>Engineering Structures</i> , 2021, 241, 112405.	2.6	7
87	GPS Measured Response of a Tall Building due to a Distant MwÄ7.3 Earthquake. <i>Seismological Research Letters</i> , 2019, 90, 149-159.	0.8	6
88	A power optimised and reprogrammable system for smart wireless vibration monitoring. <i>Structural Control and Health Monitoring</i> , 2020, 27, e2468.	1.9	6
89	In situ investigation of phosphonate retarder interaction in oil well cements at elevated temperature and pressure conditions. <i>Journal of the American Ceramic Society</i> , 2020, 103, 6400-6413.	1.9	6
90	Mesoscale modeling of cement matrix using the concept of building block. <i>Materials Research Society Symposia Proceedings</i> , 2015, 1759, 13.	0.1	5

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91	Damping effect on seismic input energy and its verification by shake table tests. Advances in Structural Engineering, 2021, 24, 2669-2683.	1.2	4
92	Assessment and Localization of Active Discontinuities Using Energy Distribution Between Intrinsic Modes. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 1-9.	0.3	4
93	Multiscale modeling of organic-inorganic interface: From molecular dynamics simulation to finite element modeling. Materials Research Society Symposia Proceedings, 2012, 1466, 38.	0.1	3
94	New insights into water dynamics of Portland cement paste with nano-additives using quasielastic neutron scattering. Journal of Materials Science, 2019, 54, 4710-4718.	1.7	3
95	Structural Damage Detection Based on Energy Transfer Between Intrinsic Modes. , 2013, , .		2
96	In situ examination of engineered local additives in cement paste via neutron based scattering techniques. Construction and Building Materials, 2020, 243, 118175.	3.2	2
97	Imaging of concrete specimens using inverse synthetic aperture radar. AIP Conference Proceedings, 2000, , .	0.3	0
98	Multiscale Modeling of Cohesive-Frictional Strength Properties in Cementitious Materials. , 2018, , 1-24.		0
99	Assessment of Plastic Energy Demand Spectra on Frame Systems. Lecture Notes in Civil Engineering, 2021, , 1-10.	0.3	0
100	A Novel Structural Assessment Technique to Prevent Damaged FRP-Wrapped Concrete Bridge Piers from Collapse. Geotechnical, Geological and Earthquake Engineering, 2009, , 127-141.	0.1	0
101	Roadmap for a Sustainable Built Environment: A Science-Based Multidisciplinary Research. , 2020, , 3-14.		0
102	Multiscale Modeling of Cohesive-Frictional Strength Properties in Cementitious Materials. , 2020, , 1687-1710.		0