Kenneth J Loh

List of Publications by Year
in descending order

133 papers	2,980 citations	236833 25 h-index	182361 51 g-index
139 all docs	139 docs citations	139 times ranked	2730 citing authors

#	Article	IF	Citations
1	Multifunctional layer-by-layer carbon nanotubeâ€“polyelectrolyte thin films for strain and corrosion sensing. Smart Materials and Structures, 2007, 16, 429-438.	1.8	259
2	Performance monitoring of the Geumdang Bridge using a dense network of high-resolution wireless sensors. Smart Materials and Structures, 2006, 15, 1561-1575.	1.8	216
3	Carbon Nanotube Sensing Skins for Spatial Strain and Impact Damage Identification. Journal of Nondestructive Evaluation, 2009, 28, 9-25.	1.1	213
4	Tailoring Piezoresistive Sensitivity of Multilayer Carbon Nanotube Composite Strain Sensors. Journal of Intelligent Material Systems and Structures, 2008, 19, 747-764.	1.4	155
5	Field responsive mechanical metamaterials. Science Advances, 2018, 4, eaau6419.	4.7	154
6	Spatial conductivity mapping of carbon nanotube composite thin films by electrical impedance tomography for sensing applications. Nanotechnology, 2007, 18, 315501.	1.3	111
7	Autonomous bolt loosening detection using deep learning. Structural Health Monitoring, 2020, 19, 105-122.	4.3	98
8	Self-sensing concrete enabled by nano-engineered cement-aggregate interfaces. Structural Health Monitoring, 2017, 16, 309-323.	4.3	94
9	Zinc oxide nanoparticle-polymeric thin films for dynamic strain sensing. Journal of Materials Science, 2011, 46, 228-237.	1.7	84
10	Spatial Sensing Using Electrical Impedance Tomography. IEEE Sensors Journal, 2013, 13, 2357-2367.	2.4	84
11	In situ strain monitoring of fiber-reinforced polymers using embedded piezoresistive nanocomposites. Journal of Materials Science, 2010, 45, 6786-6798.	1.7	78
12	Detection of spatially distributed damage in fiber-reinforced polymer composites. Structural Health Monitoring, 2013, 12, 225-239.	4.3	77
13	Piezoelectric Characterization of PVDF-TrFE Thin Films Enhanced With ZnO Nanoparticles. IEEE Sensors Journal, 2012, 12, 1889-1890.	2.4	75
14	Nanoengineering Ultra-High-Performance Concrete with Multiwalled Carbon Nanotubes. Transportation Research Record, 2010, 2142, 119-126.	1.0	66
15	Wearable carbon nanotube-based fabric sensors for monitoring human physiological performance. Smart Materials and Structures, 2017, 26, 055018.	1.8	57
16	In situ reduction of gold nanoparticles in PDMS matrices and applications for large strain sensing. Smart Structures and Systems, 2011, 8, 471-486.	1.9	57
17	A 2D percolation-based model for characterizing the piezoresistivity of carbon nanotube-based films. Journal of Materials Science, 2015, 50, 2973-2983.	1.7	51
18	Inductively coupled nanocomposite wireless strain and pH sensors. Smart Structures and Systems, 2008, 4, 531-548.	1.9	46

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19	Role of indentation depth and contact area on human perception of softness for haptic interfaces. Science Advances, 2019, 5, eaaw8845.	4.7	43
20	Active sensing and damage detection using piezoelectric zinc oxide-based nanocomposites. Nanotechnology, 2013, 24, 185501.	1.3	39
21	The electrical response of carbon nanotube-based thin film sensors subjected to mechanical and environmental effects. Smart Materials and Structures, 2013, 22, 025010.	1.8	30
22	Thermal response characterization and comparison of carbon nanotube-enhanced cementitious composites. Composite Structures, 2018, 202, 1042-1050.	3.1	29
23	Self-heating and electrical performance of carbon nanotube-enhanced cement composites. Construction and Building Materials, 2020, 250, 118838.	3.2	28
24	Piezoelectric nanocomposite sensors assembled using zinc oxide nanoparticles and poly(vinylidene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	1.9	27
25	Noncontact Electrical Permittivity Mapping and pH-Sensitive Films for Osseointegrated Prosthesis and Infection Monitoring. IEEE Transactions on Medical Imaging, 2017, 36, 2193-2203.	5.4	26
26	Vibration-based system identification of wind turbine system. Structural Control and Health Monitoring, 2017, 24, e1876.	1.9	25
27	Rapid Assembly of Multifunctional Thin Film Sensors for Wind Turbine Blade Monitoring. Key Engineering Materials, 0, 569-570, 515-522.	0.4	24
28	A wireless impedance analyzer for automated tomographic mapping of a nanoengineered sensing skin. Smart Structures and Systems, 2011, 8, 139-155.	1.9	23
29	Carbon nanotube thin film strain sensors: comparison between experimental tests and numerical simulations. Nanotechnology, 2017, 28, 155502.	1.3	22
30	Sensing and actuation technologies for smart socket prostheses. Biomedical Engineering Letters, 2020, 10, 103-118.	2.1	22
31	Graphene Kâ€Tape Meshes for Densely Distributed Human Motion Monitoring. Advanced Materials Technologies, 2021, 6, .	3.0	22
32	In situ crack mapping of large-scale self-sensing concrete pavements using electrical resistance tomography. Cement and Concrete Composites, 2021, 122, 104154.	4.6	22
33	Micro-patterned graphene-based sensing skins for human physiological monitoring. Nanotechnology, 2018, 29, 105503.	1.3	21
34	Printed Strain Sensors Using Graphene Nanosheets Prepared by Waterâ€Assisted Liquid Phase Exfoliation. Advanced Materials Interfaces, 2019, 6, 1900034.	1.9	21
35	Strain sensing using photocurrent generated by photoactive P3HT-based nanocomposites. Smart Materials and Structures, 2012, 21, 065016.	1.8	20
36	Sensing uniaxial tensile damage in fiber-reinforced polymer composites using electrical resistance tomography. Smart Materials and Structures, 2016, 25, 085016.	1.8	19

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37	Real-time visualization of bridge structural response through wireless MEMS sensors. , 2004, , .		18
38	Passive wireless sensing using SWNT-based multifunctional thin film patches. International Journal of Applied Electromagnetics and Mechanics, 2008, 28, 87-94.	0.3	18
39	Recent Advances in Skin-Inspired Sensors Enabled by Nanotechnology. Jom, 2012, 64, 793-801.	0.9	18
40	Cementitious Composites Engineered with Embedded Carbon Nanotube Thin Films for Enhanced Sensing Performance. Journal of Physics: Conference Series, 2015, 628, 012042.	0.3	18
41	Multifunctional Cement Composites Enhanced With Carbon Nanotube Thin Film Interfaces. Proceedings of the IEEE, 2016, 104, 1547-1560.	16.4	18
42	Passive wireless strain and pH sensing using carbon nanotube-gold nanocomposite thin films. , 2007, , .		17
43	Inkjet-printed, flexible, and photoactive thin film strain sensors. Journal of Intelligent Material Systems and Structures, 2015, 26, 1699-1710.	1.4	17
44	Laboratory validation of buried piezoelectric scour sensing rods. Structural Control and Health Monitoring, 2017, 24, e1969.	1.9	17
45	An experimental and numerical study on the mechanical properties of carbon nanotube-latex thin films. Journal of the European Ceramic Society, 2016, 36, 2255-2262.	2.8	16
46	Distributed Pressure Sensing Using Carbon Nanotube Fabrics. IEEE Sensors Journal, 2016, 16, 4663-4664.	2.4	16
47	Bio-Inspired Active Skins for Surface Morphing. Scientific Reports, 2019, 9, 18609.	1.6	16
48	Planar capacitive imaging for composite delamination damage characterization. Measurement Science and Technology, 2021, 32, 024010.	1.4	16
49	Monitoring bridge scour using dissolved oxygen probes. Structural Monitoring and Maintenance, 2015, 2, 145-164.	1.7	15
50	Noncontact Strain Monitoring of Osseointegrated Prostheses. Sensors, 2018, 18, 3015.	2.1	14
51	Vibration Analysis of a Piezoelectric Ultrasonic Atomizer to Control Atomization Rate. Applied Sciences (Switzerland), 2021, 11, 8350.	1.3	14
52	Noninvasive Monitoring of Epoxy Curing. , 2017, 1, 1-4.		13
53	Performance Characteristics of Diluted Epoxy Asphalt Binders and Their Potential Application in Chip Seal. Journal of Materials in Civil Engineering, 2019, 31, .	1.3	13
54	Piezoelectric polymeric thin films tuned by carbon nanotube fillers. , 2008, , .		12

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55	Multi-modal sensing using photoactive thin films. Smart Materials and Structures, 2014, 23, 085011.	1.8	12
56	Graphene sensing meshes for densely distributed strain field monitoring. Structural Health Monitoring, 2020, 19, 1323-1339.	4.3	12
57	Carbon nanotube thin film strain sensor models assembled using nano- and micro-scale imaging. Computational Mechanics, 2017, 60, 39-49.	2.2	11
58	Densely distributed and real-time scour hole monitoring using piezoelectric rod sensors. Advances in Structural Engineering, 2019, 22, 3395-3411.	1.2	11
59	Electrical impedance tomography of carbon nanotube composite materials. , 2007, , .		9
60	In situ phase change characterization of PVDF thin films using Raman spectroscopy. Proceedings of SPIE, 2014, , .	0.8	9
61	Static and dynamic strain monitoring of GFRP composites using carbon nanotube thin films. , 2011, , .		8
62	Effects of Ultra-low Concentrations of Carbon Nanotubes on the Electromechanical Properties of Cement Paste. , 2015, , 371-376.		8
63	Soft material actuation by atomization. Smart Materials and Structures, 2019, 28, 025030.	1.8	8
64	Characterizing the viscoelastic properties of layer-by-layer carbon nanotubeâ€“polyelectrolyte thin films. Smart Materials and Structures, 2011, 20, 075020.	1.8	7
65	Curing and subsurface damage monitoring of epoxy-based composites. Structural Health Monitoring, 2019, 18, 1040-1055.	4.3	7
66	Rapid Soft Material Actuation Through Droplet Evaporation. Soft Robotics, 2021, 8, 555-563.	4.6	7
67	Monitoring osseointegrated prosthesis loosening and fracture using electrical capacitance tomography. Biomedical Engineering Letters, 2018, 8, 291-300.	2.1	6
68	Enhancing the piezoelectric performance of PVDF-TrFE thin films using zinc oxide nanoparticles. Proceedings of SPIE, 2012, , .	0.8	5
69	EVALUATING THE PH SENSITIVITY OF CARBON NANOTUBE-POLYANILINE THIN FILMS WITH DIFFERENT DOPANTS. Nano LIFE, 2012, 02, 1242001.	0.6	5
70	Evaluation of the Damage Detection Characteristics of Electrical Impedance Tomography. , 2013, , .		5
71	Modeling the electromechanical and strain response of carbon nanotube-based nanocomposites. Proceedings of SPIE, 2014, , .	0.8	5
72	Characterizing the Conductivity and Enhancing the Piezoresistivity of Carbon Nanotube-Polymeric Thin Films. Materials, 2017, 10, 724.	1.3	5

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73	Effect of carbon nanotube alignment on nanocomposite sensing performance. Materials Research Express, 2020, 7, 046406.	0.8	5
74	Wearable nanocomposite kinesiology tape for distributed muscle engagement monitoring. MRS Advances, 2021, 6, 6-13.	0.5	5
75	Piezoelectric rod sensors for scour detection and vortex-induced vibration monitoring. Structural Health Monitoring, 2022, 21, 1031-1045.	4.3	5
76	Pressure Mapping Using Nanocomposite-Enhanced Foam and Machine Learning. Frontiers in Materials, 2022, 9, .	1.2	5
77	Validation of photocurrent-based strain sensing using a P3HT-based nanocomposite. Proceedings of SPIE, 2011, , .	0.8	4
78	Analyzing the Strain Sensing Response of Photoactive Thin Films Using Absorption Spectroscopy. Key Engineering Materials, 0, 569-570, 695-701.	0.4	4
79	Effect of Structural Change on Temperature Behavior of a Long-Span Suspension Bridge Pylon. International Journal of Steel Structures, 2019, 19, 2073-2089.	0.6	4
80	Laboratory Evaluation of Railroad Crosslevel Tilt Sensing Using Electrical Time Domain Reflectometry. Sensors, 2020, 20, 4470.	2.1	4
81	Characterization and Localization of Sub-Surface Structural Features Using Non-Contact Tomography. , 2016, , .		4
82	Passive wireless sensors for monitoring particle movement at soil-structure interfaces. Proceedings of SPIE, 2010, , .	0.8	3
83	Characterizing the self-sensing performance of carbon nanotube-enhanced fiber-reinforced polymers. , 2010, , .		3
84	Nanocomposite Fabric Sensors for Monitoring Inflatable and Deployable Space Structures. , 2016, , .		3
85	Non-contact Tomographic Imaging and Nanocomposite Thin Films for Monitoring Human-prosthesis Interfaces. Procedia Engineering, 2017, 188, 110-118.	1.2	3
86	Comparison of electrical impedance tomography inverse solver approaches for damage sensing. , 2017, , .		3
87	Discussion of userâ€defined parameters for recursive subspace identification: Application to seismic response of building structures. Earthquake Engineering and Structural Dynamics, 2020, 49, 1738-1757.	2.5	3
88	Warning Timeâ€“Based Framework for Bridge Scour Monitoring. Journal of Bridge Engineering, 2020, 25, .	1.4	3
89	Surface Morphing of Geometrically Patterned Active Skins. MRS Advances, 2020, 5, 743-750.	0.5	3
90	Liquid vaporization actuated soft structures with active cooling and heat loss control. Smart Materials and Structures, 2021, 30, 055007.	1.8	3

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91	Shaking table tests for evaluating the damage features under earthquake excitations using smartphones. , 2018, , .		3
92	Damage Detection Using Smart Concrete Engineered with Nanocomposite Cement-Aggregate Interfaces. , 0, , .		3
93	A distributed piezo-polymer scour net for bridge scour hole topography monitoring. Structural Monitoring and Maintenance, 2014, 1, 183-195.	1.7	3
94	Distributed Strain Monitoring Using Nanocomposite Paint Sensing Meshes. Sensors, 2022, 22, 812.	2.1	3
95	Remote Sensing with the Synthetic Aperture Radar (SAR) for Urban Damage Detection. , 2004, , 223.		2
96	Mechanical-electrical characterization of carbon-nanotube thin films for structural monitoring applications. , 2006, , .		2
97	Spatial structural sensing by carbon nanotube-based skins. , 2008, , .		2
98	Design and characterization of a piezoelectric sensor for monitoring scour hole evolution. Proceedings of SPIE, 2014, , .	0.8	2
99	Dissolved Oxygen Sensors for Scour Monitoring. IEEE Sensors Journal, 2016, , 1-1.	2.4	2
100	Strain sensing and structural health monitoring using nanofilms and nanocomposites. , 2016, , 303-326.		2
101	Recent advances in adaptive and active materials 2017. Smart Materials and Structures, 2018, 27, 110201.	1.8	2
102	Characterization of Carbon Nanotube Strain Sensors Using Experimental Tests and Percolation Modeling. , 0, , .		2
103	Active scour monitoring using ultrasonic time domain reflectometry of buried slender sensors. Smart Materials and Structures, 2022, 31, 015045.	1.8	2
104	Ankle Sprain Bracing Solutions and Future Design Consideration for Civilian and Military Use. Expert Review of Medical Devices, 2022, , .	1.4	2
105	Topological design of strain sensing nanocomposites. Scientific Reports, 2022, 12, .	1.6	2
106	Development of a portable electrical impedance tomography data acquisition system for near-real-time spatial sensing. , 2015, , .		1
107	Sensing human physiological response using wearable carbon nanotube-based fabrics. , 2016, , .		1
108	Distributed Strain Sensing Using Electrical Time Domain Reflectometry With Nanocomposites. IEEE Sensors Journal, 2018, 18, 9515-9525.	2.4	1

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109	Graphene Nanosheets: Printed Strain Sensors Using Graphene Nanosheets Prepared by Waterâ€Assisted Liquid Phase Exfoliation (Adv. Mater. Interfaces 9/2019). Advanced Materials Interfaces, 2019, 6, 1970060.	1.9	1
110	Characterization of a Soft Gripper with Detachable Fingers through Rapid Evaporation. , 2020, , .		1
111	Special issue of biomedical engineering letters on advances in intelligent prostheses. Biomedical Engineering Letters, 2020, 10, 1-3.	2.1	1
112	Atomization Control to Improve Soft Actuation Through Vaporization. Frontiers in Robotics and AI, 2021, 8, 747440.	2.0	1
113	Characterization of Soft Actuation Through Ultrasonic Atomization. Minerals, Metals and Materials Series, 2020, , 881-888.	0.3	1
114	Carbon Nanotube Sensing Skins for Spatial Strain and Impact Damage Identification. , 2009, 28, 9.		1
115	Self-Sensing Photoactive Thin Films for Monitoring Space Structures. , 2012, , .		1
116	Actuation of soft materials through ultrasonic atomization. , 2018, , .		1
117	Noncontact and Noninvasive Strain Monitoring of Osseointegrated Prostheses. , 0, , .		1
118	Laboratory Validation of a Piezoelectric Scour Monitoring Sensor. , 0, , .		1
119	Vibration-based identification of rotating blades using Rodrigues' rotation formula from a 3-D measurement. Wind and Structures, an International Journal, 2015, 21, 677-691.	0.8	1
120	Design and Validation of Carbon Nanotube Thin Film Wireless Sensors for pH and Corrosion Monitoring. , 2008, , .		0
121	Layer-by-layer carbon nanotube bio-templates for in situ monitoring of the metabolic activity of nitrifying bacteria. Proceedings of SPIE, 2009, , .	0.8	0
122	Embedded Piezoresistive Thin Films for Monitoring GFRP Composites. , 2010, , .		0
123	Piezoelectric and Mechanical Performance Characterization of ZnO-Based Nanocomposites. , 2010, , .		0
124	Analyzing the dynamic response of rotating blades in small-scale wind turbines. , 2014, , .		0
125	Photoactive and self-sensing P3HT-based thin films for strain and corrosion monitoring. , 2014, , .		0
126	Operational model updating of spinning finite element models for HAWT blades. Proceedings of SPIE, 2014, , .	0.8	0

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127	Conductivity-Based Damage Detection in Carbon Fiber Composites. , 2012, , .		0
128	A planar array capacitive imaging system for detecting damage in composite structures: a numerical study. , 2018, , .		0
129	Large area distributed strain monitoring using patterned nanocomposite sensing meshes. , 2019, , .		0
130	Topological design of carbon nanotube-based nanocomposites for strain sensing. , 2019, , .		0
131	Enhancing the imaging performance of electrical capacitance tomography for monitoring osseointegrated prostheses. , 2019, , .		0
132	Passive Multi-Degree-of-Freedom Piezoelectric Rods for Continuous Monitoring of Scour Holes. , 2022, 6, 1-4.		0
133	Selective Heating Through Yâ€Junction Waveguide Designed by Acoustic Shape Optimization. Advanced Engineering Materials, 0, , 2200756.	1.6	0