

Bin Gao

List of Publications by Year in descending order

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128
papers

3,501
citations

109264

35
h-index

161767

54
g-index

128
all docs

128
docs citations

128
times ranked

2591
citing authors

#	ARTICLE	IF	CITATIONS
1	Structural Health Monitoring Framework Based on Internet of Things: A Survey. IEEE Internet of Things Journal, 2017, 4, 619-635.	5.5	300
2	Automatic Defect Identification of Eddy Current Pulsed Thermography Using Single Channel Blind Source Separation. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 913-922.	2.4	127
3	Impact Damage Detection and Identification Using Eddy Current Pulsed Thermography Through Integration of PCA and ICA. IEEE Sensors Journal, 2014, 14, 1655-1663.	2.4	119
4	Single-Channel Source Separation Using EMD-Subband Variable Regularized Sparse Features. IEEE Transactions on Audio Speech and Language Processing, 2011, 19, 961-976.	3.8	109
5	Multidimensional Tensor-Based Inductive Thermography With Multiple Physical Fields for Offshore Wind Turbine Gear Inspection. IEEE Transactions on Industrial Electronics, 2016, 63, 6305-6315.	5.2	96
6	Temporal and spatial deep learning network for infrared thermal defect detection. NDT and E International, 2019, 108, 102164.	1.7	95
7	Physical interpretation and separation of eddy current pulsed thermography. Journal of Applied Physics, 2013, 113, .	1.1	92
8	Unsupervised Sparse Pattern Diagnostic of Defects With Inductive Thermography Imaging System. IEEE Transactions on Industrial Informatics, 2016, 12, 371-383.	7.2	87
9	Quantitative Surface Crack Evaluation Based on Eddy Current Pulsed Thermography. IEEE Sensors Journal, 2017, 17, 412-421.	2.4	69
10	Lateral heat conduction based eddy current thermography for detection of parallel cracks and rail tread oblique cracks. Measurement: Journal of the International Measurement Confederation, 2015, 66, 54-61.	2.5	67
11	Eddy Current Pulsed Thermography with Different Excitation Configurations for Metallic Material and Defect Characterization. Sensors, 2016, 16, 843.	2.1	63
12	Pipeline In-Line Inspection Method, Instrumentation and Data Management. Sensors, 2021, 21, 3862.	2.1	62
13	Unsupervised Single-Channel Separation of Nonstationary Signals Using Gammatone Filterbank and Itakura's Saito Nonnegative Matrix Two-Dimensional Factorizations. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 662-675.	3.5	61
14	Physics-Based Image Segmentation Using First Order Statistical Properties and Genetic Algorithm for Inductive Thermography Imaging. IEEE Transactions on Image Processing, 2018, 27, 2160-2175.	6.0	61
15	Variational Regularized 2-D Nonnegative Matrix Factorization. IEEE Transactions on Neural Networks and Learning Systems, 2012, 23, 703-716.	7.2	56
16	A Lightweight Spatial and Temporal Multi-Feature Fusion Network for Defect Detection. IEEE Transactions on Image Processing, 2021, 30, 472-486.	6.0	56
17	Quantitative non-destructive evaluation method for impact damage using eddy current pulsed thermography. Composites Part B: Engineering, 2013, 54, 169-179.	5.9	55
18	Variational Bayesian Subgroup Adaptive Sparse Component Extraction for Diagnostic Imaging System. IEEE Transactions on Industrial Electronics, 2018, 65, 8142-8152.	5.2	55

#	ARTICLE	IF	CITATIONS
19	Remote Authentication Schemes for Wireless Body Area Networks Based on the Internet of Things. IEEE Internet of Things Journal, 2018, 5, 4926-4944.	5.5	55
20	Coupling pulse eddy current sensor for deeper defects NDT. Sensors and Actuators A: Physical, 2019, 293, 189-199.	2.0	50
21	Machine Learning Source Separation Using Maximum a Posteriori Nonnegative Matrix Factorization. IEEE Transactions on Cybernetics, 2014, 44, 1169-1179.	6.2	49
22	IoT Structured Long-Term Wearable Social Sensing for Mental Wellbeing. IEEE Internet of Things Journal, 2019, 6, 3652-3662.	5.5	48
23	Micro-macro characteristics between domain wall motion and magnetic Barkhausen noise under tensile stress. Journal of Magnetism and Magnetic Materials, 2020, 493, 165719.	1.0	48
24	Natural Crack Diagnosis System Based on Novel L-Shaped Electromagnetic Sensing Thermography. IEEE Transactions on Industrial Electronics, 2020, 67, 9703-9714.	5.2	47
25	Automatic seeded region growing for thermography debonding detection of CFRP. NDT and E International, 2018, 99, 36-49.	1.7	46
26	A Deep-Learning-Driven Light-Weight Phishing Detection Sensor. Sensors, 2019, 19, 4258.	2.1	46
27	Adaptive Sparsity Non-Negative Matrix Factorization for Single-Channel Source Separation. IEEE Journal on Selected Topics in Signal Processing, 2011, 5, 989-1001.	7.3	45
28	Thermal Pattern Contrast Diagnostic of Microcracks With Induction Thermography for Aircraft Braking Components. IEEE Transactions on Industrial Informatics, 2018, 14, 5563-5574.	7.2	44
29	Spatial and Time Patterns Extraction of Eddy Current Pulsed Thermography Using Blind Source Separation. IEEE Sensors Journal, 2013, 13, 2094-2101.	2.4	43
30	Unsupervised Diagnostic and Monitoring of Defects Using Waveguide Imaging With Adaptive Sparse Representation. IEEE Transactions on Industrial Informatics, 2016, 12, 405-416.	7.2	41
31	Thermography pattern analysis and separation. Applied Physics Letters, 2014, 104, .	1.5	40
32	Characterization of applied tensile stress using domain wall dynamic behavior of grain-oriented electrical steel. Journal of Magnetism and Magnetic Materials, 2017, 432, 250-259.	1.0	40
33	AKAloTs: authenticated key agreement for Internet of Things. Wireless Networks, 2019, 25, 3081-3101.	2.0	38
34	Online Noisy Single-Channel Source Separation Using Adaptive Spectrum Amplitude Estimator and Masking. IEEE Transactions on Signal Processing, 2016, 64, 1881-1895.	3.2	37
35	Single-Channel Blind Separation Using Pseudo-Stereo Mixture and Complex 2-D Histogram. IEEE Transactions on Neural Networks and Learning Systems, 2013, 24, 1722-1735.	7.2	36
36	Computational Deep Intelligence Vision Sensing for Nutrient Content Estimation in Agricultural Automation. IEEE Transactions on Automation Science and Engineering, 2018, 15, 1243-1257.	3.4	35

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37	Heart-rate-Dependent Heartwave Biometric Identification With Thresholding-Based GMM-HMM Methodology. <i>IEEE Transactions on Industrial Informatics</i> , 2019, 15, 45-53.	7.2	35
38	Variational mode decomposition linked wavelet method for EMAT denoise with large lift-off effect. <i>NDT and E International</i> , 2019, 107, 102149.	1.7	34
39	Wavelet-Integrated Alternating Sparse Dictionary Matrix Decomposition in Thermal Imaging CFRP Defect Detection. <i>IEEE Transactions on Industrial Informatics</i> , 2019, 15, 4033-4043.	7.2	33
40	Electromagnetic Thermography Nondestructive Evaluation: Physics-based Modeling and Pattern Mining. <i>Scientific Reports</i> , 2016, 6, 25480.	1.6	32
41	Smooth Nonnegative Matrix Factorization for Defect Detection Using Microwave Nondestructive Testing and Evaluation. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2014, 63, 923-934.	2.4	31
42	Halogen optical referred pulse-compression thermography for defect detection of CFRP. <i>Infrared Physics and Technology</i> , 2019, 102, 103006.	1.3	31
43	Attention-Block Deep Learning Based Features Fusion in Wearable Social Sensor for Mental Wellbeing Evaluations. <i>IEEE Access</i> , 2020, 8, 89258-89268.	2.6	30
44	Cochleagram-based audio pattern separation using two-dimensional non-negative matrix factorization with automatic sparsity adaptation. <i>Journal of the Acoustical Society of America</i> , 2014, 135, 1171-1185.	0.5	29
45	Thermography spatial-transient-stage mathematical tensor construction and material property variation track. <i>International Journal of Thermal Sciences</i> , 2014, 85, 112-122.	2.6	29
46	HOOSC: heterogeneous online/offline signcryption for the Internet of Things. <i>Wireless Networks</i> , 2018, 24, 3141-3160.	2.0	29
47	Pattern Deep Region Learning for Crack Detection in Thermography Diagnosis System. <i>Metals</i> , 2018, 8, 612.	1.0	29
48	Deep Temporal Convolution Network for Time Series Classification. <i>Sensors</i> , 2021, 21, 603.	2.1	28
49	Domain wall characterization inside grain and around grain boundary under tensile stress. <i>Journal of Magnetism and Magnetic Materials</i> , 2019, 471, 39-48.	1.0	26
50	High sensitivity flexible double square winding eddy current array for surface micro-defects inspection. <i>Sensors and Actuators A: Physical</i> , 2020, 309, 111844.	2.0	26
51	Sparse Low-Rank Tensor Decomposition for Metal Defect Detection Using Thermographic Imaging Diagnostics. <i>IEEE Transactions on Industrial Informatics</i> , 2021, 17, 1810-1820.	7.2	25
52	Evaluation of Atmospheric Corrosion on Coated Steel Using -Band Sweep Frequency Microwave Imaging. <i>IEEE Sensors Journal</i> , 2016, 16, 3025-3033.	2.4	24
53	Wearable Social Sensing: Content-Based Processing Methodology and Implementation. <i>IEEE Sensors Journal</i> , 2017, 17, 7167-7176.	2.4	24
54	Multi-Layer Magnetic Focusing Sensor Structure for Pulsed Remote Field Eddy Current. <i>IEEE Sensors Journal</i> , 2019, 19, 2490-2499.	2.4	24

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55	Multiphysics Structured Eddy Current and Thermography Defects Diagnostics System in Moving Mode. IEEE Transactions on Industrial Informatics, 2021, 17, 2566-2578.	7.2	24
56	Electromagnetic pulsed thermography for natural cracks inspection. Scientific Reports, 2017, 7, 42073.	1.6	22
57	DefectNet: Joint loss structured deep adversarial network for thermography defect detecting system. Neurocomputing, 2020, 417, 441-457.	3.5	22
58	Differential Coupling Double-Layer Coil for Eddy Current Testing With High Lift-Off. IEEE Sensors Journal, 2021, 21, 18146-18155.	2.4	22
59	Wearable Audio Monitoring: Content-Based Processing Methodology and Implementation. IEEE Transactions on Human-Machine Systems, 2014, 44, 222-233.	2.5	20
60	Wearable Long-Term Social Sensing for Mental Wellbeing. IEEE Sensors Journal, 2019, 19, 8532-8542.	2.4	20
61	Diffusion and separation mechanism of transient electromagnetic and thermal fields. International Journal of Thermal Sciences, 2016, 102, 308-318.	2.6	19
62	Repeatability and stability study of residual magnetic field for domain wall characterization. Journal of Magnetism and Magnetic Materials, 2019, 485, 391-400.	1.0	19
63	Ensemble Joint Sparse Low-Rank Matrix Decomposition for Thermography Diagnosis System. IEEE Transactions on Industrial Electronics, 2021, 68, 2648-2658.	5.2	19
64	Single-channel blind separation using L1-sparse complex non-negative matrix factorization for acoustic signals. Journal of the Acoustical Society of America, 2015, 137, EL124-EL129.	0.5	18
65	Ensemble variational Bayes tensor factorization for super resolution of CFRP debond detection. Infrared Physics and Technology, 2017, 85, 335-346.	1.3	18
66	Underdetermined Convolutional Source Separation Using GEM-MU With Variational Approximated Optimum Model Order NMF2D. IEEE/ACM Transactions on Audio Speech and Language Processing, 2017, 25, 35-49.	4.0	16
67	Ensemble tensor decomposition for infrared thermography cracks detection system. Infrared Physics and Technology, 2020, 105, 103203.	1.3	16
68	Crack Evaluation Based on Novel Circle-Ferrite Induction Thermography. IEEE Sensors Journal, 2017, 17, 5637-5645.	2.4	15
69	Sparse ensemble matrix factorization for debond detection in CFRP composites using optical thermography. Infrared Physics and Technology, 2018, 92, 392-401.	1.3	14
70	Transfer Learning for Wearable Long-Term Social Speech Evaluations. IEEE Access, 2018, 6, 61305-61316.	2.6	13
71	Deep Multiview Heartwave Authentication. IEEE Transactions on Industrial Informatics, 2019, 15, 777-786.	7.2	13
72	Passive UHF RFID Tag as a Sensor for Crack Depths. IEEE Sensors Journal, 2018, 18, 9867-9873.	2.4	12

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73	Weld Crack Detection Based on Region Electromagnetic Sensing Thermography. IEEE Sensors Journal, 2019, 19, 751-762.	2.4	11
74	Temperature recovery from degenerated infrared image based on the principle for temperature measurement using infrared sensor. Journal of Applied Physics, 2014, 115, .	1.1	10
75	Spatial-time-state fusion algorithm for defect detection through eddy current pulsed thermography. Infrared Physics and Technology, 2018, 90, 133-145.	1.3	10
76	Physic perspective fusion of electromagnetic acoustic transducer and pulsed eddy current testing in non-destructive testing system. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190608.	1.6	10
77	Hierarchical low-rank and sparse tensor micro defects decomposition by electromagnetic thermography imaging system. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190584.	1.6	10
78	Structured iterative alternating sparse matrix decomposition for thermal imaging diagnostic system. Infrared Physics and Technology, 2020, 107, 103288.	1.3	10
79	Automatic Relevance Determination of Adaptive Variational Bayes Sparse Decomposition for Micro-Cracks Detection in Thermal Sensing. IEEE Sensors Journal, 2017, 17, 5220-5230.	2.4	9
80	Periodic Pulsed Thermography for Inner Defects Detection of Lead-Steel Bonded Structure. IEEE Sensors Journal, 2018, 18, 4679-4688.	2.4	9
81	Fusion model of inductive thermography and ultrasound for nondestructive testing. Infrared Physics and Technology, 2019, 101, 162-170.	1.3	9
82	Single-Channel Signal Separation Using Spectral Basis Correlation with Sparse Nonnegative Tensor Factorization. Circuits, Systems, and Signal Processing, 2019, 38, 5786-5816.	1.2	9
83	Nondestructive Evaluation of Early Contact Fatigue Using Eddy Current Pulsed Thermography. IEEE Sensors Journal, 2015, 15, 4409-4419.	2.4	8
84	Unsupervised Learning for Monaural Source Separation Using Maximization"Minimization Algorithm with Time"Frequency Deconvolution. Sensors, 2018, 18, 1371.	2.1	8
85	Single channel informed signal separation using artificial"stereophonic mixtures and exemplar"guided matrix factor deconvolution. International Journal of Adaptive Control and Signal Processing, 2018, 32, 1259-1281.	2.3	8
86	Pulsed Air-Flow Thermography for Natural Crack Detection and Evaluation. IEEE Sensors Journal, 2020, 20, 8091-8097.	2.4	8
87	AR-Aided Smart Sensing for In-Line Condition Monitoring of IGBT Wafer. IEEE Transactions on Industrial Electronics, 2019, 66, 8197-8204.	5.2	7
88	Physical perspective forward-inverse learning for ultrasonic sensing diagnosis in small diameter and thin-wall tube. Ultrasonics, 2020, 105, 106115.	2.1	7
89	Magnetic Barkhausen Noise Transient Analysis for Microstructure Evolution Characterization with Tensile Stress in Elastic and Plastic Status. Sensors, 2021, 21, 8310.	2.1	7
90	Nondestructive Testing for Multi-Layer Metal-Metal Bonded Structure by Using Inductive Lock-In Thermography. IEEE Sensors Journal, 2017, 17, 6716-6723.	2.4	6

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91	Reverberant signal separation using optimized complex sparse nonnegative tensor deconvolution on spectral covariance matrix. , 2018, 83, 9-23.		6
92	Microcracks Detection Based on Shuttle-Shaped Electromagnetic Thermography. IEEE Sensors Journal, 2020, 20, 12961-12971.	2.4	6
93	Memory Linked Anomaly Metric Learning of Thermography Rail Defects Detection System. IEEE Sensors Journal, 2021, 21, 24720-24730.	2.4	6
94	UHF RFID Sensor Array for Bending stress assessment. , 2019, , .		5
95	Single Channel Blind Source Separation using the Best Characteristic Basis. , 2008, , .		4
96	Fast partial differential equation de-noising filter for mechanical vibration signal. Mathematical Methods in the Applied Sciences, 2015, 38, 4879-4890.	1.2	4
97	Wearable Social Sensing and Its Application in Anxiety Assesment. , 2017, , .		4
98	Investigation of ultrasonic NDT for small diameter and thin-wall tube. , 2019, , .		4
99	Time-Response-Histogram-Based Feature of Magnetic Barkhausen Noise for Material Characterization Considering Influences of Grain and Grain Boundary under In Situ Tensile Test. Sensors, 2021, 21, 2350.	2.1	4
100	Early contact fatigue evaluation of gear using eddy current pulsed thermography. , 2014, , .		3
101	Underdetermined reverberant acoustic source separation using weighted full-rank nonnegative tensor models. Journal of the Acoustical Society of America, 2015, 138, 3411-3426.	0.5	3
102	Impact damage detection and characterization using eddy current pulsed thermography. , 2016, , .		3
103	Variational Bayes Sub-Group Adaptive Sparse Component Extraction for Diagnostic Imaging System. , 2018, , .		3
104	Mechanism Hybrid EMAT and Eddy Current Sensing Detection for Surface and Internal Defects NDT. , 2019, , .		3
105	Sensor Signal and Information Processing II. Sensors, 2020, 20, 3751.	2.1	3
106	Influence of Varying Tensile Stress on Domain Motion. Materials, 2022, 15, 3399.	1.3	3
107	<i>RLC</i> Parameters Measurement and Fusion for High-Sensitivity Inductive Sensors. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-11.	2.4	3
108	Thermography spatial-transient-stage tensor model and materal property characterization. , 2014, , .		2

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109	Wavelet domain based directional dictionaries for single image super-resolution. , 2017, , .		2
110	Hybrid RFEC and Transmission NDT for Detection of Lead-Steel Multilayers. , 2017, , .		2
111	Induction Thermography for Rail Nondestructive Testing under Speed Effect. , 2018, , .		2
112	Deep Adversarial Network for CFRP Thermal Imaging Debond Diagnosis. , 2019, , .		2
113	Comparison of Repeatability and Stability of Residual Magnetic Field for Stress Characterization in Elastic and Plastic Ranges of Silicon Steels. Sensors, 2022, 22, 3052.	2.1	2
114	Nonlinear single channel source separation. , 2010, , .		1
115	Feasibility study of debonding NDT for multi-layer metal-metal bonding structure by using eddy current pulsed thermography. , 2016, , .		1
116	Novel Yoke Structured Electromagnetic Thermography for Inspection of Natural Fatigue Cracks. , 2019, , .		1
117	Comparison on pipeline welds and integrity through different electromagnetic NDT techniques. , 2020, , .		1
118	Resonant frequency tracking mode on eddy current pulsed thermography non-destructive testing. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190607.	1.6	1
119	Intelligent Classification of Different Types of Plastics using Deep Transfer Learning. , 2021, , .		1
120	Electromagnetic Multiphysics Sensing Nondestructive Testing. , 2023, , 101-128.		1
121	EMD of EMAT NDT in X70 Pipeline Weld Defects. , 2017, , .		0
122	Hybrid of TSR and Seeded Region Growing for Debonding Detection Using Optical Thermography. , 2017, , .		0
123	Spatial-Time-Step Features Fusion Algorithm in Eddy Current Pulsed Thermography. , 2017, , .		0
124	Electrostatic Induction Thermography. , 2017, , .		0
125	Attention structured Pattern Deep Learning for region induction thermography NDT. , 2019, , .		0
126	Sensor Signal and Information Processing III. Sensors, 2020, 20, 6749.	2.1	0

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127	Instrumental Configuration of Electromagnetic Thermography and Optical Thermography. Studies in Applied Electromagnetics and Mechanics, 2020, , .	0.2	0
128	Dynamic Electromagnetic Thermography System for Rail Inspection. , 2021, , .		0