

# Zhenmao Chen

## List of Publications by Year in descending order

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Version: 2024-02-01

44  
papers

787  
citations

516710  
16  
h-index

526287  
27  
g-index

44  
all docs

44  
docs citations

44  
times ranked

374  
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantitative non-destructive evaluation of wall thinning defect in double-layer pipe of nuclear power plants using pulsed ECT method. NDT and E International, 2015, 75, 87-95.	3.7	69
2	Rapid prediction of eddy current testing signals using A <sup>2</sup> T method and database. NDT and E International, 1999, 32, 29-36.	3.7	65
3	Efficient Numerical Solver for Simulation of Pulsed Eddy-Current Testing Signals. IEEE Transactions on Magnetics, 2011, 47, 4582-4591.	2.1	59
4	Thermo-magneto-elastoplastic coupling model of metal magnetic memory testing method for ferromagnetic materials. Journal of Applied Physics, 2018, 123, .	2.5	47
5	Development of a very fast simulator for pulsed eddy current testing signals of local wall thinning. NDT and E International, 2012, 51, 45-50.	3.7	45
6	Reconstruction of crack shapes from the MFLT signals by using a rapid forward solver and an optimization approach. IEEE Transactions on Magnetics, 2002, 38, 1025-1028.	2.1	37
7	Pulse-modulation eddy current inspection of subsurface corrosion in conductive structures. NDT and E International, 2016, 79, 142-149.	3.7	37
8	Enhancements of eddy current testing techniques for quantitative nondestructive testing of key structural components of nuclear power plants. Nuclear Engineering and Design, 2008, 238, 1651-1656.	1.7	36
9	Pulse-modulation eddy current probes for imaging of external corrosion in nonmagnetic pipes. NDT and E International, 2017, 88, 51-58.	3.7	36
10	Remote inspection of surface cracks in metallic structures with fiber-guided laser array spots thermography. NDT and E International, 2017, 92, 213-220.	3.7	29
11	Quantitative Inversion of Stress and Crack in Ferromagnetic Materials Based on Metal Magnetic Memory Method. IEEE Transactions on Magnetics, 2018, 54, 1-11.	2.1	27
12	Recognition and evaluation of corrosion profile via pulse-modulation eddy current inspection in conjunction with improved Canny algorithm. NDT and E International, 2019, 106, 18-28.	3.7	25
13	An efficient electromagnetic and thermal modelling of eddy current pulsed thermography for quantitative evaluation of blade fatigue cracks in heavy-duty gas turbines. Mechanical Systems and Signal Processing, 2020, 142, 106781.	8.0	23
14	Reconstruction of Cracks with Multiple Eddy Current Coils Using a Database Approach. Journal of Nondestructive Evaluation, 1999, 18, 149-160.	2.4	20
15	Inversion techniques for eddy current NDE using optimization strategies and a rapid 3D forward simulator. International Journal of Applied Electromagnetics and Mechanics, 2004, 20, 179-187.	0.6	20
16	Dependence of deformation-induced magnetic field on plastic deformation for SUS304 stainless steel. International Journal of Applied Electromagnetics and Mechanics, 2012, 38, 17-26.	0.6	20
17	Quantitative mapping of depth profile of fatigue cracks using eddy current pulsed thermography assisted by PCA and 2D wavelet transformation. Mechanical Systems and Signal Processing, 2022, 175, 109139.	8.0	18
18	Inversion Technique for Quantitative Infrared Thermography Evaluation of Delamination Defects in Multilayered Structures. IEEE Transactions on Industrial Informatics, 2020, 16, 4592-4602.	11.3	14

#	ARTICLE	IF	CITATIONS
19	Development of a Fast Numerical Simulator for Infrared Thermography Testing Signals of Delamination Defect in a Multilayered Plate. IEEE Transactions on Industrial Informatics, 2018, 14, 5544-5552.	11.3	11
20	A funnel-shaped probe for sensitivity enhancement in pulse-modulation eddy current inspection of subsurface flaws in conductors. Sensors and Actuators A: Physical, 2020, 307, 111991.	4.1	11
21	Efficient numerical simulation of eddy current pulsed thermography NDT signals based on FEM-BEM method and energy equivalent principle. Infrared Physics and Technology, 2019, 101, 138-145.	2.9	10
22	An inversion scheme for sizing of wall thinning defects from pulsed eddy current testing signals. International Journal of Applied Electromagnetics and Mechanics, 2012, 39, 203-211.	0.6	9
23	Numerical simulation method for IR thermography NDE of delamination defect in multilayered plate. International Journal of Applied Electromagnetics and Mechanics, 2016, 52, 381-389.	0.6	9
24	Simulation of surface cracks measurement in first walls by laser spot array thermography. Fusion Engineering and Design, 2016, 109-111, 1237-1241.	1.9	9
25	Quantitative evaluation of electrical conductivity inside stress corrosion crack with electromagnetic NDE methods. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190589.	3.4	8
26	Remote measurement and shape reconstruction of surface-breaking fatigue cracks by laser-line thermography. International Journal of Fatigue, 2021, 142, 105950.	5.7	8
27	A Flexible Thin-Film Magnetostrictive Patch Guided-Wave Transducer for Structural Health Monitoring. IEEE Sensors Journal, 2022, 22, 12237-12244.	4.7	8
28	Electromagneto-mechanical coupling analysis of a test module in J-TEXT Tokamak during plasma disruption. Fusion Engineering and Design, 2016, 109-111, 634-641.	1.9	7
29	Inspection of delamination defect in first wall with a flexible EMAT-scanning system. Fusion Engineering and Design, 2018, 136, 549-553.	1.9	7
30	Pulse-Modulation Eddy Current Imaging for 3D Profile Reconstruction of Subsurface Corrosion in Metallic Structures of Aviation. IEEE Sensors Journal, 2021, 21, 28087-28096.	4.7	7
31	Efficient numerical simulation of DC potential drop signals for application to NDT of metallic foam. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2013, 33, 147-156.	0.9	6
32	An Efficient Numerical Scheme for Sizing of Cavity Defect in Metallic Foam From Signals of DC Potential Drop Method. IEEE Transactions on Magnetics, 2014, 50, 125-128.	2.1	6
33	An FEM-BEM method for halo current problem and its application to HL-2M Tokamak. Fusion Engineering and Design, 2018, 136, 667-673.	1.9	6
34	Joint effect of residual stress and plastic deformation on pulsed eddy current response signals in 304 austenitic stainless steel. International Journal of Applied Electromagnetics and Mechanics, 2020, 63, 19-30.	0.6	6
35	Pulse-Modulation Eddy Current Evaluation of Interlaminar Corrosion in Stratified Conductors: Semi-Analytical Modeling and Experiments. Sensors, 2022, 22, 3458.	3.8	6
36	Inspection of Delamination Defect in First Wall Panel of Tokamak Device by Using Laser Infrared Thermography Technique. IEEE Transactions on Plasma Science, 2018, 46, 2699-2707.	1.3	5

#	ARTICLE	IF	CITATIONS
37	Advanced Multi-Media Element for Simulating Distribution of Magnetic Flux Density Influenced by Narrow Crack. IEEE Transactions on Magnetics, 2019, 55, 1-4.	2.1	5
38	Pulse-modulation eddy current imaging and evaluation of subsurface corrosion via the improved small sub-domain filtering method. NDT and E International, 2021, 119, 102404.	3.7	5
39	Quantitative sizing of compound location defects based on PECT-EMAT hybrid testing methods. Mechanical Systems and Signal Processing, 2022, 178, 109267.	8.0	4
40	A Reconstruction Scheme Using an Average Conductivity Element for Pitting Corrosion Defects in Steam Generator Tubes From Eddy Current Testing Signals. IEEE Transactions on Magnetics, 2021, 57, 1-6.	2.1	2
41	Reconstruction of complex shaped crack from ECT signals based on a fast forward solver using an advanced multi-media element. International Journal of Applied Electromagnetics and Mechanics, 2020, 64, 621-629.	0.6	2
42	Enhancement of crack reconstruction through inversion of eddy current testing signals with a new crack model and a deterministic optimization method. Measurement Science and Technology, 2022, 33, 055011.	2.6	2
43	A Simplified Analytical Model for the Analysis of Magnetomechanical Dynamic Response of a Test Module in J-TEXT Tokamak. IEEE Transactions on Plasma Science, 2019, 47, 4402-4408.	1.3	1
44	A Stable FEM-BEM Hybrid Method for the Numerical Simulation of Magnetomechanical Coupled Problem With Both Inductive and Conductive Current Excitations Aiming to Application to Tokamak In-Vessel Structures. IEEE Transactions on Plasma Science, 2020, 48, 2902-2907.	1.3	0