

Tetsuya Uchimoto

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2671940/publications.pdf>

Version: 2024-02-01

118
papers

1,641
citations

331670

21
h-index

377865

34
g-index

118
all docs

118
docs citations

118
times ranked

842
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	Application of low frequency ECT method in noncontact detection and visualization of CFRP material. Composites Part B: Engineering, 2017, 110, 141-152.	12.0	69
3	Role of interlaminar interface on bulk conductivity and electrical anisotropy of CFRP laminates measured by eddy current method. NDT and E International, 2014, 68, 1-12.	3.7	61
4	Efficient Numerical Solver for Simulation of Pulsed Eddy-Current Testing Signals. IEEE Transactions on Magnetics, 2011, 47, 4582-4591.	2.1	59
5	Design of an eddy-current array probe for crack sizing in steam generator tubes. NDT and E International, 2003, 36, 515-522.	3.7	53
6	Large-scale parallel computation for the reconstruction of natural stress corrosion cracks from eddy current testing signals. NDT and E International, 2003, 36, 449-459.	3.7	47
7	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
8	Characterization of ductile cast iron by eddy current method. NDT and E International, 2005, 38, 623-626.	3.7	44
9	Investigation of electromagnetic nondestructive evaluation of residual strain in low carbon steels using the eddy current magnetic signature (EC-MS) method. Journal of Magnetism and Magnetic Materials, 2019, 479, 212-221.	2.3	44
10	Governing conditions of repeatable Barkhausen noise response. Journal of Magnetism and Magnetic Materials, 2009, 321, 2956-2962.	2.3	43
11	Features extraction and discussion in a novel frequency-band-selecting pulsed eddy current testing method for the detection of a certain depth range of defects. NDT and E International, 2020, 111, 102211.	3.7	41
12	Synthesis of Ti ₃ SiC ₂ /TiC composites from TiH ₂ /SiC/TiC powders. Materials Letters, 2005, 59, 2342-2346.	2.6	37
13	Magnetic incremental permeability non-destructive evaluation of 12 Cr-Mo-W-V steel creep test samples with varied ageing levels and thermal treatments. NDT and E International, 2019, 104, 42-50.	3.7	37
14	Sizing of Wall Thinning Defects Using Pulsed Eddy Current & Testing Signals Based on a Hybrid Inverse Analysis Method. IEEE Transactions on Magnetics, 2013, 49, 1653-1656.	2.1	35
15	An arrayed uniform eddy current probe design for crack monitoring and sizing of surface breaking cracks with the aid of a computational inversion technique. NDT and E International, 2014, 61, 29-34.	3.7	35
16	Novel electromagnetic modeling approach of carbon fiber-reinforced polymer laminate for calculation of eddy currents and eddy current testing signals. Journal of Composite Materials, 2015, 49, 617-631.	2.4	35
17	Magnetic anisotropy of plastically deformed low-carbon steel. Journal Physics D: Applied Physics, 2010, 43, 195003.	2.8	33
18	Research advances in eddy current testing for maintenance of carbon fiber reinforced plastic composites. International Journal of Applied Electromagnetics and Mechanics, 2016, 51, 261-284.	0.6	33

#	ARTICLE	IF	CITATIONS
19	Quantitative Nondestructive Evaluation of Plastic Deformation in Carbon Steel Based on Electromagnetic Methods. <i>Materials Transactions</i> , 2014, 55, 1806-1815.	1.2	30
20	Ultrasonic phased array with surface acoustic wave for imaging cracks. <i>AIP Advances</i> , 2017, 7, .	1.3	27
21	Tribological properties of partly polished diamond coatings. <i>Diamond and Related Materials</i> , 2005, 14, 2118-2121.	3.9	24
22	Machinable ceramic substrate for CVD diamond coating. <i>Diamond and Related Materials</i> , 2004, 13, 819-822.	3.9	23
23	An efficient electromagnetic and thermal modelling of eddy current pulsed thermography for quantitative evaluation of blade fatigue cracks in heavy-duty gas turbines. <i>Mechanical Systems and Signal Processing</i> , 2020, 142, 106781.	8.0	23
24	Profile reconstruction of simulated natural cracks from eddy current signals. <i>NDT and E International</i> , 2002, 35, 9-18.	3.7	21
25	Identification of Multiple Cracks from Eddy-Current Testing Signals With Noise Sources by Image Processing and Inverse Analysis. <i>IEEE Transactions on Magnetics</i> , 2004, 40, 1112-1115.	2.1	21
26	Application of EMAT/EC dual probe to monitoring of wall thinning in high temperature environment. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2010, 33, 1317-1327.	0.6	21
27	Dependence of deformation-induced magnetic field on plastic deformation for SUS304 stainless steel. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2012, 38, 17-26.	0.6	20
28	Crack Shape Reconstruction in Ferromagnetic Materials Using a Novel Fast Numerical Simulation Method. <i>IEEE Transactions on Magnetics</i> , 2004, 40, 1374-1377.	2.1	19
29	Evaluation of fatigue cracks by an angle beam EMAT-ET dual probe. <i>NDT and E International</i> , 2015, 72, 10-16.	3.7	19
30	Evaluation of a Nitrided Case Depth by the Magnetic Barkhausen Noise. <i>Journal of Nondestructive Evaluation</i> , 2017, 36, 1.	2.4	19
31	Non-destructive testing on creep degraded 12% Cr-Mo-W-V ferritic test samples using Barkhausen noise. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 498, 166102.	2.3	19
32	Alternative magnetic parameters for characterization of plastic tension. <i>NDT and E International</i> , 2010, 43, 671-676.	3.7	18
33	Numerical analysis of correlation between fibre orientation and eddy current testing signals of carbon-fibre reinforced polymer composites. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2012, 39, 251-259.	0.6	18
34	Thickness evaluation of thermal spraying on boiler tubes by eddy current testing. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2012, 39, 419-425.	0.6	17
35	Nondestructive investigation of wall thinning in layered ferromagnetic material by magnetic adaptive testing. <i>NDT and E International</i> , 2012, 47, 51-55.	3.7	16
36	Influence of Plastic Deformation and Fatigue Damage on Electromagnetic Properties of 304 Austenitic Stainless Steel. <i>IEEE Transactions on Magnetics</i> , 2018, 54, 1-10.	2.1	16

#	ARTICLE	IF	CITATIONS
37	Physical interpretation of the microstructure for aged 12 Cr-Mo-V-W steel creep test samples based on simulation of magnetic incremental permeability. <i>Journal of Magnetism and Magnetic Materials</i> , 2019, 486, 165250.	2.3	16
38	A novel frequency-band-selecting pulsed eddy current testing method for the detection of a certain depth range of defects. <i>NDT and E International</i> , 2019, 107, 102154.	3.7	15
39	Nondestructive characterization of ductile cast iron by magnetic adaptive testing. <i>Journal of Magnetism and Magnetic Materials</i> , 2010, 322, 3117-3121.	2.3	14
40	Numerical simulation of magnetic incremental permeability for ferromagnetic material. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2014, 45, 379-386.	0.6	14
41	Evaluation of an EMAT-EC dual probe in sizing extent of wall thinning. <i>NDT and E International</i> , 2014, 62, 160-166.	3.7	14
42	Comparison of electromagnetic inspection methods for creep-degraded high chromium ferritic steels. <i>NDT and E International</i> , 2021, 118, 102399.	3.7	14
43	Evaluation of plastic deformation and characterization of electromagnetic properties using pulsed eddy current testing method. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2014, 45, 755-761.	0.6	13
44	Electromagnetic pulse-induced acoustic testing and the pulsed guided wave propagation in composite/metal adhesive bonding specimens. <i>Composites Science and Technology</i> , 2021, 201, 108499.	7.8	13
45	A novel circumferential eccentric eddy current probe and its application for defect detection of small-diameter tubes. <i>Sensors and Actuators A: Physical</i> , 2021, 331, 113023.	4.1	12
46	Fast numerical calculation for crack modeling in eddy current testing of ferromagnetic materials. <i>Journal of Applied Physics</i> , 2003, 94, 5866-5872.	2.5	11
47	An accurately controllable imitative stress corrosion cracking for electromagnetic nondestructive testing and evaluations. <i>Nuclear Engineering and Design</i> , 2012, 245, 1-7.	1.7	11
48	Nondestructive characterization of flake graphite cast iron by magnetic adaptive testing. <i>NDT and E International</i> , 2015, 74, 8-14.	3.7	11
49	Evaluation of chill structure in ductile cast iron by incremental permeability method. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2016, 52, 1599-1605.	0.6	11
50	Experimental and numerical evaluation of rotation speed degradation of radial type superconducting magnetic bearing. <i>Physica C: Superconductivity and Its Applications</i> , 2001, 357-360, 882-885.	1.2	10
51	Investigation of numerical precision of 3-D RFECT signal simulations. <i>IEEE Transactions on Magnetics</i> , 2005, 41, 1968-1971.	2.1	10
52	Minor hysteresis loops measurements for characterization of cast iron. <i>Physica B: Condensed Matter</i> , 2006, 372, 156-159.	2.7	10
53	A numerical simulation method of nonlinear magnetic flux leakage testing signals for nondestructive evaluation of plastic deformation in a ferromagnetic material. <i>Mechanical Systems and Signal Processing</i> , 2021, 155, 107670.	8.0	10
54	Direct simulation of Monte Carlo analysis of nano-floating effect on diamond-coated surface. <i>Diamond and Related Materials</i> , 2005, 14, 2122-2126.	3.9	9

#	ARTICLE	IF	CITATIONS
55	An inversion scheme for sizing of wall thinning defects from pulsed eddy current testing signals. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2012, 39, 203-211.	0.6	9
56	A study on influence of plastic deformation on the global conductivity and permeability of carbon steel. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2014, 45, 371-378.	0.6	9
57	Evaluation of detectability of differential type probe using directional eddy current for fibre waviness in CFRP. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20190587.	3.4	9
58	Development of Eddy Current Testing System for Complicated-Shaped Components. <i>Transactions of the Atomic Energy Society of Japan</i> , 2008, 7, 142-151.	0.3	8
59	Temperature Dependence of Magnetic Descriptors of Magnetic Adaptive Testing. <i>IEEE Transactions on Magnetics</i> , 2010, 46, 509-512.	2.1	8
60	A Numerical Method for Simulation of Nonlinear Eddy Current Testing Signals Based on Transient Formulation. <i>Materials Transactions</i> , 2013, 54, 964-968.	1.2	8
61	Evaluation of the electromagnetic characteristics of type 316L stainless steel welds from the viewpoint of eddy current inspections. <i>Journal of Nuclear Science and Technology</i> , 2014, 51, 127-132.	1.3	8
62	A Fast Forward Simulation Scheme for Eddy Current Testing of Crack in a Structure of Carbon Fiber Reinforced Polymer Laminate. <i>IEEE Access</i> , 2019, 7, 152278-152288.	4.2	8
63	Mechanism study of the residual stress evaluation of low-carbon steels using the eddy current magnetic signature method. <i>Journal of Magnetism and Magnetic Materials</i> , 2021, 538, 168268.	2.3	8
64	Three-dimensional inversion of volumetric defects profiles from electromagnetic nondestructive testing signals by means of stochastic methods with the aid of parallel computation. <i>Inverse Problems in Science and Engineering</i> , 2005, 13, 47-63.	1.2	7
65	High-Selectivity imaging of the closed fatigue crack due to thermal environment using surface-acoustic-wave phased array (SAW PA). <i>Ultrasonics</i> , 2022, 119, 106629.	3.9	7
66	Magnetic force microscopy observation of sensitized Inconel 600. <i>Journal of Applied Physics</i> , 2002, 91, 7011.	2.5	6
67	Hot filament CVD diamond coating of TiC sliders. <i>Diamond and Related Materials</i> , 2007, 16, 609-615.	3.9	6
68	Electromagnetic Nondestructive Evaluation of Graphite Structures in Flake Graphite Cast Iron. <i>Materials Transactions</i> , 2010, 51, 1114-1119.	1.2	6
69	Electromagnetic modeling of fatigue cracks in plant environment for eddy current testing. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2012, 39, 261-268.	0.6	6
70	Investigation of measurement conditions of eddy current magnetic signature method for evaluating plastic deformation in carbon steels. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2019, 59, 1213-1220.	0.6	6
71	Nondestructive evaluation of plastic damage in a RAFM steel considering the influence of loading history. <i>Journal of Nuclear Materials</i> , 2019, 523, 248-259.	2.7	6
72	Evaluation of CVD Diamond Coating Using Back-Reflected Rayleigh Surface Wave. <i>Solid State Phenomena</i> , 2006, 110, 117-122.	0.3	5

#	ARTICLE	IF	CITATIONS
73	Evaluation of susceptibility to stress corrosion cracking based on non-linear eddy current method. International Journal of Applied Electromagnetics and Mechanics, 2010, 33, 1303-1308.	0.6	5
74	Comparisons of damage-induced magnetizations between austenitic stainless and carbon steel. International Journal of Applied Electromagnetics and Mechanics, 2014, 46, 991-996.	0.6	5
75	Thickness evaluation of thermally sprayed coatings after exposure to boiler tube environments by eddy current testing. International Journal of Applied Electromagnetics and Mechanics, 2015, 47, 993-1001.	0.6	5
76	Development and performance evaluation of a high-temperature electromagnetic acoustic transducer for monitoring metal processing. International Journal of Applied Electromagnetics and Mechanics, 2018, 58, 309-318.	0.6	5
77	Mechanism study for directivity of TR probe when applying Eddy current testing to ferro-magnetic structural materials. NDT and E International, 2021, 122, 102464.	3.7	5
78	Development of Eddy Current Testing Probe for Thick-Walled Metal Plate and Quantitative Evaluation of Cracks.. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2003, 69, 455-462.	0.2	4
79	In-situ eddy current monitoring under high temperature environment. International Journal of Applied Electromagnetics and Mechanics, 2004, 20, 163-170.	0.6	4
80	SCC susceptibility of cold-worked stainless steel with minor element additions. Journal of Nuclear Materials, 2011, 417, 883-886.	2.7	4
81	Flake Graphite Cast Iron Investigated by a Magnetic Method. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	4
82	High precision ultrasonic guided wave technique for inspection of power transmission line. Chinese Journal of Mechanical Engineering (English Edition), 2017, 30, 170-179.	3.7	4
83	Novel electromagnetic acoustic transducer for measuring the thickness of small specimen areas. International Journal of Applied Electromagnetics and Mechanics, 2019, 59, 1495-1504.	0.6	4
84	Changes in eddy current testing signals of fatigue cracks by heat processing. International Journal of Applied Electromagnetics and Mechanics, 2016, 52, 677-684.	0.6	4
85	Stochastic fluid dynamics simulations of the velocity distribution in protoplasmic streaming. Physics of Fluids, 2020, 32, 121902.	4.0	4
86	EMAR monitoring system applied to the thickness reduction of carbon steel in a corrosive environment. Materials and Corrosion - Werkstoffe Und Korrosion, 0, , .	1.5	4
87	Water Uptake in Epoxy Ionic Liquid Free Film Polymer by Gravimetric Analysis and Comparison with Nondestructive Dielectric Analysis. Nanomaterials, 2022, 12, 651.	4.1	4
88	Material characterization of cast irons with an EMAT/EC dual probe. International Journal of Applied Electromagnetics and Mechanics, 2010, 33, 1135-1141.	0.6	3
89	Magnetic Dynamic Process of Magnetic Layers Around Grain Boundary for Sensitized Alloy 600. IEEE Transactions on Magnetics, 2011, 47, 1118-1121.	2.1	3
90	Dielectric analysis of water uptake in polymer coating using spatially defined Fick's law and mixing rule. Progress in Organic Coatings, 2020, 148, 105846.	3.9	3

#	ARTICLE	IF	CITATIONS
91	Reduction of toroidal ripple by using high Tc superconductors. Fusion Engineering and Design, 1995, 27, 528-535.	1.9	2
92	Application of High-Temperature Superconductors to Enhance Nuclear Fusion Reactors. Fusion Science and Technology, 1999, 36, 92-103.	0.6	2
93	Evaluation of Sensitization of Ni Base Alloys Using Electromagnetic Nondestructive Evaluation Method. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2009, 75, 1777-1783.	0.2	2
94	Application of EMAT/EC Dual Probe to Monitoring of Wall Thinning in High Temperature Environment. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2010, 76, 587-593.	0.2	2
95	Extraction of crack indications from ECT signals using signal phase characteristics of a multi-coil probe. International Journal of Applied Electromagnetics and Mechanics, 2010, 33, 1179-1184.	0.6	2
96	Development of a magnetic sensor system for predictive IASCC diagnosis on stainless steels in a nuclear reactor. International Journal of Applied Electromagnetics and Mechanics, 2011, 35, 123-139.	0.6	2
97	Graphite structure and magnetic parameters of flake graphite cast iron. Journal of Magnetism and Magnetic Materials, 2017, 442, 397-402.	2.3	2
98	Evaluation of wall thinning defect in magnetic material based on PECT method under magnetic saturation. International Journal of Applied Electromagnetics and Mechanics, 2017, 55, 49-59.	0.6	2
99	A simulation method to evaluate electrical conductivity of closed-cell aluminum foam. International Journal of Applied Electromagnetics and Mechanics, 2018, 58, 289-307.	0.6	2
100	In-situ eddy current monitoring of structural components in nuclear power plants. Journal of Advanced Science, 2005, 17, 68-69.	0.1	1
101	Quantitative Evaluation of CVD Diamond Coating Layer Using Rayleigh-like Waves. Journal of Intelligent Material Systems and Structures, 2008, 19, 367-371.	2.5	1
102	Evaluation of Local Wall Thinning by the Use of RFECT for Flat Plates(Maintenance Inspection and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2009, 75, 431-433.	0.2	1
103	Extraction of Crack Indications from Detection Signals based on Signal Phase Characteristics in Eddy Current Testing. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2010, 76, 117-125.	0.2	1
104	Nondestructive Inspection of Ductile Cast Iron by Measurement of Minor Magnetic Hysteresis Loops. Materials Science Forum, 2010, 659, 355-360.	0.3	1
105	Optimum design of a truncated-cone antenna element used in microwave irradiation of liquid objects. International Journal of Applied Electromagnetics and Mechanics, 2016, 52, 1525-1530.	0.6	1
106	Novel NDT methods for composite materials in aerospace structures. International Journal of Applied Electromagnetics and Mechanics, 2016, 52, 25-33.	0.6	1
107	Characterization of Multiple Cracks from Eddy Current Testing Signals by a Template Matching Method and Inverse Analysis. , 2003, , 185-194.		1
108	Crack Sizing of Deep Cracks in Eddy Current Testing Using 3D Electromagnetic Field Analysis. , 2004, , .		1

#	ARTICLE	IF	CITATIONS
109	Evaluation of CVD Diamond Coating Using Back-Reflected Rayleigh Surface Wave. Solid State Phenomena, 0, , 117-122.	0.3	1
110	Particle Simulation of Relativistic Charged Beams Using Integral Kernel Method. Japanese Journal of Applied Physics, 1995, 34, 661-669.	1.5	0
111	Evaluation of flux flow resistivity of high Tc superconducting cable for application to fusion reactors. Fusion Engineering and Design, 1998, 42, 409-415.	1.9	0
112	Applicability of High Tc Superconducting Plasma Stabilizer to Tokamak Reactor.. Nippon Genshiryoku Gakkaishi/Journal of the Atomic Energy Society of Japan, 1998, 40, 387-396.	0.0	0
113	Probabilistic Approach to Rationalization of Plants Maintenance.. Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C, 2001, 67, 2381-2386.	0.2	0
114	Material Characterization of Cast Irons with an EMAT/EC Dual Probe. Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, 2010, 76, 968-975.	0.2	0
115	Hysteresis properties for local magnetic sites distribution on grain boundary. Physica B: Condensed Matter, 2012, 407, 1420-1423.	2.7	0
116	Visualization method for detecting of residual stress using magnetic domain scope. International Journal of Applied Electromagnetics and Mechanics, 2016, 52, 1213-1219.	0.6	0
117	Application of Monte Carlo method for magnetic clusters introduced thermal distributions. , 2016, , .		0
118	Equivalent Circuit Analysis and Demonstration of Eddy Current Testing using Resonance. IEEJ Transactions on Fundamentals and Materials, 2014, 134, 340-346.	0.2	0