

Theodoros P Theodoulidis

List of Publications by Year in descending order

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78
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257450

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78
all docs

78
docs citations

78
times ranked

591
citing authors

#	ARTICLE	IF	CITATIONS
1	Impedance evaluation of rectangular coils for eddy current testing of planar media. NDT and E International, 2002, 35, 407-414.	3.7	109
2	Series expansions in eddy current nondestructive evaluation models. Journal of Materials Processing Technology, 2005, 161, 343-347.	6.3	102
3	Magnetic Field-Based Eddy-Current Modeling for Multilayered Specimens. IEEE Transactions on Magnetics, 2007, 43, 4010-4015.	2.1	94
4	Interaction of an Eddy-Current Coil With a Right-Angled Conductive Wedge. IEEE Transactions on Magnetics, 2010, 46, 1034-1042.	2.1	67
5	Model of ferrite-cored probes for eddy current nondestructive evaluation. Journal of Applied Physics, 2003, 93, 3071-3078.	2.5	65
6	Optimization of Single-Phase Induction Motors Part I: Maximum Energy Efficiency Control. IEEE Transactions on Energy Conversion, 2005, 20, 187-195.	5.2	65
7	Rapid computation of eddy current signals from narrow cracks. NDT and E International, 2010, 43, 13-19.	3.7	54
8	Eddy currents induced in a conducting rod of finite length by a coaxial encircling coil. Journal Physics D: Applied Physics, 2005, 38, 2861-2868.	2.8	51
9	Eddy-current interaction of a long coil with a slot in a conductive plate. IEEE Transactions on Magnetics, 2005, 41, 1238-1247.	2.1	47
10	Eddy current coil interaction with a right-angled conductive wedge. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2005, 461, 3123-3139.	2.1	46
11	Analytical model for tilted coils in eddy-current nondestructive inspection. IEEE Transactions on Magnetics, 2005, 41, 2447-2454.	2.1	41
12	Developments in Calculating the Transient Eddy-Current Response From a Conductive Plate. IEEE Transactions on Magnetics, 2008, 44, 1894-1896.	2.1	40
13	Eddy currents induced in a finite length layered rod by a coaxial coil. IEEE Transactions on Magnetics, 2005, 41, 2455-2461.	2.1	35
14	Analytical and numerical solution of the eddy-current problem in spherical coordinates based on the second-order vector potential formulation. IEEE Transactions on Magnetics, 1997, 33, 2461-2472.	2.1	34
15	Coil impedance variation due to induced current at the edge of a conductive plate. Journal Physics D: Applied Physics, 2006, 39, 2862-2868.	2.8	32
16	Impedance of a horizontal coil in a borehole: a model for eddy-current bolthole probes. Journal Physics D: Applied Physics, 2004, 37, 485-494.	2.8	30
17	An analytical model of a ferrite-cored inductor used as an eddy current probe. Journal of Applied Physics, 2012, 111, .	2.5	29
18	Extension of a model for eddy current inspection of cracks to pulsed excitations. NDT and E International, 2012, 47, 144-149.	3.7	28

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19	Impedance of curved rectangular spiral coils around a conductive cylinder. Journal of Applied Physics, 2008, 104, 014912.	2.5	27
20	Eddy Current Modeling of Narrow Cracks in Planar-Layered Metal Structures. IEEE Transactions on Magnetics, 2012, 48, 2551-2559.	2.1	27
21	The Truncated Region Eigenfunction Expansion Method for the Solution of Boundary Value Problems in Eddy Current Nondestructive Evaluation. AIP Conference Proceedings, 2005, , .	0.4	25
22	Impedance of an induction coil at the opening of a borehole in a conductor. Journal of Applied Physics, 2008, 103, .	2.5	25
23	Solution to the eddy-current induction problem in a conducting half-space with a vertical cylindrical borehole. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 1758-1777.	2.1	25
24	Evaluation of Eddy-Current Probe Signals Due to Cracks in Fastener Holes. IEEE Transactions on Magnetics, 2012, 48, 1159-1170.	2.1	25
25	Mutual Impedance of Cylindrical Coils at an Arbitrary Position and Orientation Above a Planar Conductor. IEEE Transactions on Magnetics, 2007, 43, 3368-3370.	2.1	24
26	Eddy Current Probe Signals Due to a Crack at a Right-Angled Corner. IEEE Transactions on Magnetics, 2012, 48, 4735-4746.	2.1	24
27	Efficient Modeling of ECT Signals for Realistic Cracks in Layered Half-Space. IEEE Transactions on Magnetics, 2013, 49, 2886-2892.	2.1	24
28	Exact Solution of Pollaczek's Integral for Evaluation of Earth-Return Impedance for Underground Conductors. IEEE Transactions on Electromagnetic Compatibility, 2012, 54, 806-814.	2.2	23
29	Solution and Extension of a New Benchmark Problem for Eddy-Current Nondestructive Testing. IEEE Transactions on Magnetics, 2015, 51, 1-7.	2.1	23
30	Impedance inversion in eddy current testing of layered planar structures via neural networks. NDT and E International, 1997, 30, 69-74.	3.7	22
31	Impedance Calculation of a Bobbin Coil in a Conductive Tube With Eccentric Walls. IEEE Transactions on Magnetics, 2010, 46, 3885-3892.	2.1	22
32	Analytical solutions in eddy current testing of layered metals with continuous conductivity profiles. IEEE Transactions on Magnetics, 1995, 31, 2254-2260.	2.1	20
33	Developments in efficiently modelling eddy current testing of narrow cracks. NDT and E International, 2010, 43, 591-598.	3.7	20
34	Eddy-Current Induction by a Coil Whose Axis is Perpendicular to that of a Tube. IEEE Transactions on Magnetics, 2017, 53, 1-9.	2.1	20
35	Analytical Treatment of Eddy-Current Induction in a Conducting Half-Space With a Cylindrical Hole Parallel to the Surface. IEEE Transactions on Magnetics, 2011, 47, 4592-4599.	2.1	19
36	Eddy Current Interaction of an Arbitrarily Positioned Probe Coil With a Conductive Cylinder. IEEE Transactions on Magnetics, 2012, 48, 2392-2394.	2.1	18

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37	End effect modelling in eddy current tube testing with bobbin coils. International Journal of Applied Electromagnetics and Mechanics, 2004, 19, 207-212.	0.6	17
38	Impedance of a curved circular spiral coil around a conductive cylinder. NDT and E International, 2014, 64, 1-6.	3.7	17
39	On the Closed-Form Expression of Carson's Integral. Periodica Polytechnica Electrical Engineering and Computer Science, 2015, 59, 26-29.	1.0	17
40	Measurement of the Radius of Metallic Plates Based on a Novel Finite Region Eigenfunction Expansion (FREE) Method. IEEE Sensors Journal, 2020, 20, 15099-15106.	4.7	17
41	Coil impedance due to a sphere of arbitrary radial conductivity and permeability profiles. IEEE Transactions on Magnetics, 2002, 38, 1452-1460.	2.1	16
42	Boundary Element Calculation of Eddy Currents in Cylindrical Structures Containing Cracks. IEEE Transactions on Magnetics, 2009, 45, 1012-1015.	2.1	16
43	Investigation of the magnetic field response from eddy current inspection of defects. International Journal of Advanced Manufacturing Technology, 2011, 54, 223-230.	3.0	14
44	Impedance of a Coil at an Arbitrary Position and Orientation Inside a Conductive Borehole or Tube. IEEE Transactions on Magnetics, 2015, 51, 1-6.	2.1	13
45	Calculation of the Eddy-Current Flow Around a Cylindrical Through-Hole in a Finite-Thickness Plate. IEEE Transactions on Magnetics, 2015, 51, 1-7.	2.1	13
46	Coupled approach VIM-BEM for efficient modeling of ECT signal due to narrow cracks and volumetric flaws in planar layered media. NDT and E International, 2014, 62, 178-183.	3.7	12
47	ANALYTICAL SOLUTION FOR THE EDDY CURRENT PROBLEM INSIDE A CONDUCTING CYLINDER USING THE SECOND ORDER MAGNETIC VECTOR POTENTIAL. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 1995, 14, 45-48.	0.9	11
48	Optimization of Single-Phase Induction Motors Part II: Magnetic and Torque Performance Under Optimal Control. IEEE Transactions on Energy Conversion, 2005, 20, 196-203.	5.2	10
49	Theoretical Simulations and Quantitative Magnetic Field Measurements for Eddy-Current Testing with an HTS SQUID System. IEEE Transactions on Applied Superconductivity, 2013, 23, 1603012-1603012.	1.7	10
50	ECT-Signal Calculation of Cracks Near Fastener Holes Using an Integral Equation Formalism With Dedicated Green's Kernel. IEEE Transactions on Magnetics, 2016, 52, 1-8.	2.1	10
51	Study of the non-linear eddy-current response in a ferromagnetic plate: Theoretical analysis for the 2D case. NDT and E International, 2018, 93, 150-156.	3.7	10
52	Efficient calculation of transient eddy current response from multi-layer cylindrical conductive media. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190588.	3.4	8
53	Calculation of AC resistance of single-layer coils using boundary element method. IET Electric Power Applications, 2021, 15, 1-12.	1.8	8
54	Eddy current detection of crack orientation using elliptical excitation. IET Science, Measurement and Technology, 1994, 141, 41-47.	0.7	7

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55	A Modal Approach for the Solution of the Non-Linear Induction Problem in Ferromagnetic Media. IEEE Transactions on Magnetics, 2016, 52, 1-11.	2.1	7
56	FDM-based second order vector potential formulation for 3D eddy current curvilinear problems. IEEE Transactions on Magnetics, 1997, 33, 1287-1290.	2.1	6
57	Impedance of a coil above a planar conductor with an arbitrary continuous conductivity depth profile. International Journal of Applied Electromagnetics and Mechanics, 2019, 59, 1179-1185.	0.6	6
58	Analytical solution for magnetic field of cylindrical defect in eddy current nondestructive testing. Physica Scripta, 2020, 95, 015501.	2.5	6
59	Analytical Modeling of Wobble in Eddy Current Tube Testing with Bobbin Coils. Research in Nondestructive Evaluation, 2002, 14, 111-126.	1.1	6
60	Semi-analytical calculation of the low-frequency electromagnetic scattering from a near-surface spherical inclusion in a conducting half-space. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20140269.	2.1	4
61	A Benchmark Problem for Eddy Current Nondestructive Evaluation. IEEE Transactions on Magnetics, 2014, 50, 1053-1056.	2.1	4
62	An analytical model of an eddy-current coil near the edge of a conductive plate. IET Electric Power Applications, 2022, 16, 1017-1029.	1.8	4
63	Efficient calculation of the lightning generated underground electric field. , 2011, , .		3
64	Efficient calculation of the lightning generated electric field above ground. , 2012, , .		3
65	Semianalytical method for the identification of inclusions by air-cored coil interaction in ferromagnetic media. Mathematical Methods in the Applied Sciences, 2018, 41, 6422-6442.	2.3	3
66	The Effect of Opening on Eddy Current Probe Response for an Idealized through Crack. AIP Conference Proceedings, 2006, , .	0.4	2
67	2013 eddy current benchmark problem: Solution via a coupled integral approach. , 2014, , .		2
68	A Fast and Robust Semi-Analytical Approach for the Calculation of Coil Transient Eddy-Current Response Above Planar Specimens. IEEE Transactions on Magnetics, 2022, 58, 1-9.	2.1	2
69	Eddy Current Modeling of Coils in Boreholes. AIP Conference Proceedings, 2007, , .	0.4	1
70	Numerical results for the WFNDEC 2012 eddy current benchmark problem. AIP Conference Proceedings, 2013, , .	0.4	1
71	Solution of the WFNDEC 2015 eddy current benchmark with surface integral equation method. AIP Conference Proceedings, 2016, , .	0.4	1
72	ECT simulation and measurements in ferromagnetic tube using DC homogeneous magnetic field. Nondestructive Testing and Evaluation, 2022, 37, 229-243.	2.1	1

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73	An Experimental and Theoretical Study of Eddy-Current End Effects In Finite Rods and Finite Length Holes. AIP Conference Proceedings, 2006, , .	0.4	0
74	BOBBIN COIL SIGNAL VARIATION DUE TO AN AXISYMMETRIC CIRCUMFERENTIAL GROOVE IN A TUBE. , 2009, , .		0
75	ECT SIMULATION OF COIL TILT EFFECT ON 3D FLAWS RESPONSES IN PLANAR GEOMETRIES. , 2009, , .		0
76	Mutual impedance calculation between buried conductors of finite length. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2011, 30, 1248-1259.	0.9	0
77	A fast integral equation model with a dedicated Greenâ€™s kernel for eddy-current inspection of fastener holes. , 2015, , .		0
78	Preface: advanced electromagnetic non-destructive evaluation and smart monitoring. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190580.	3.4	0