

# Pavel Karban

## List of Publications by Year in descending order

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91  
papers

751  
citations

687363

13  
h-index

580821

25  
g-index

99  
all docs

99  
docs citations

99  
times ranked

642  
citing authors

#	ARTICLE	IF	CITATIONS
1	Robust Ultraminiature Capsule Antenna for Ingestible and Implantable Applications. IEEE Transactions on Antennas and Propagation, 2017, 65, 6107-6119.	5.1	93
2	Numerical solution of coupled problems using code Agros2D. Computing (Vienna/New York), 2013, 95, 381-408.	4.8	81
3	Robust Design Optimization and Emerging Technologies for Electrical Machines: Challenges and Open Problems. Applied Sciences (Switzerland), 2020, 10, 6653.	2.5	81
4	Electromagnetic Radiation Efficiency of Body-Implanted Devices. Physical Review Applied, 2018, 9, .	3.8	45
5	FEM based robust design optimization with Agros and Artap. Computers and Mathematics With Applications, 2021, 81, 618-633.	2.7	29
6	Non-Linear Multi-Physics Analysis and Multi-Objective Optimization in Electroheating Applications. IEEE Transactions on Magnetics, 2014, 50, 673-676.	2.1	28
7	Multiphysics field analysis and multiobjective design optimization: a benchmark problem. Inverse Problems in Science and Engineering, 2014, 22, 1214-1225.	1.2	26
8	Induction heating of cylindrical nonmagnetic ingots by rotation in static magnetic field generated by permanent magnets. Journal of Computational and Applied Mathematics, 2012, 236, 4732-4744.	2.0	23
9	FEM Based Preliminary Design Optimization in Case of Large Power Transformers. Applied Sciences (Switzerland), 2020, 10, 1361.	2.5	23
10	Conformal antennas for miniature in-body devices: The quest to improve radiation performance. URSI Radio Science Bulletin, 2017, 2017, 52-64.	0.1	18
11	Higher-order finite element modeling of rotational induction heating of nonferromagnetic cylindrical billets. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2011, 30, 1517-1527.	0.9	17
12	Continual induction hardening of steel bodies. Mathematics and Computers in Simulation, 2010, 80, 1771-1782.	4.4	16
13	Increasing the radiation efficiency and matching stability of in-body capsule antennas. , 2016, , .		16
14	Numerical Model of Induction Shrink Fits in Monolithic Formulation. IEEE Transactions on Magnetics, 2012, 48, 315-318.	2.1	14
15	Artap: Robust Design Optimization Framework for Engineering Applications. , 2019, , .		14
16	Reduced-Order Model Based Temperature Control of Induction Brazing Process. , 2019, , .		13
17	Limit Operation Regimes of Actuators Working on the Principle of Thermoelasticity. IEEE Transactions on Magnetics, 2008, 44, 810-813.	2.1	12
18	Finite-Element 2-D Model of Induction Heating of Rotating Billets in System of Permanent Magnets and its Experimental Verification. IEEE Transactions on Industrial Electronics, 2014, 61, 2584-2591.	7.9	12

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19	Modelling of continual induction hardening in quasi-coupled formulation. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2005, 24, 251-260.	0.9	11
20	Model of Induction Heating of Rotating Non-Magnetic Billets and its Experimental Verification. IEEE Transactions on Magnetics, 2014, 50, 309-312.	2.1	11
21	Bayes approach to solving T.E.A.M. benchmark problems 22 and 25 and its comparison with other optimization techniques. Applied Mathematics and Computation, 2018, 319, 681-692.	2.2	10
22	Comparison of simplified techniques for solving selected coupled electroheat problems. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2020, 39, 220-230.	0.9	10
23	Optimization of the system for induction heating of nonmagnetic cylindrical billets in rotating magnetic field produced by permanent magnets. Computing (Vienna/New York), 2013, 95, 537-552.	4.8	9
24	Calibration of Numerical Model of Magnetic Induction Brazing. IEEE Transactions on Magnetics, 2019, 55, 1-4.	2.1	9
25	Evolutionary algorithm-based multi-criteria optimization of triboelectrostatic separator. Journal of Computational and Applied Mathematics, 2014, 270, 134-142.	2.0	8
26	Impedance analysis of transmission line cells for EMC applications using Agros2D. Applied Mathematics and Computation, 2016, 289, 381-387.	2.2	8
27	434 MHz ISM band antenna for in-body biotelemetry capsules. , 2017, , .		8
28	Optimization of electrical properties of parallel plate antenna for EMC testing. Journal of Computational and Applied Mathematics, 2014, 270, 283-293.	2.0	7
29	Numerical model of a thermoelastic actuator solved as a coupled contact problem. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2007, 26, 1063-1072.	0.9	5
30	Hard-coupled model of local direct resistance heating of thin sheets. Journal of Computational and Applied Mathematics, 2012, 236, 4725-4731.	2.0	5
31	Modeling of rotational induction heating of nonmagnetic cylindrical billets. Applied Mathematics and Computation, 2013, 219, 7170-7180.	2.2	5
32	Shape optimization of electromagnetic actuators. , 2014, , .		5
33	Model of induction brazing of nonmagnetic metals using model order reduction approach. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2018, 37, 1515-1524.	0.9	5
34	Accurate Control of Position by Induction Heating-Produced Thermoelasticity. IEEE Transactions on Magnetics, 2010, 46, 2888-2891.	2.1	4
35	Power Transformer Design Optimization for Carbon Footprint. , 2019, , .		4
36	Optimization of Reluctance Motor with Printed Rotor. , 2019, , .		4

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37	FEM-based transformer design optimization technique with evolutionary algorithms and geometric programming. International Journal of Applied Electromagnetics and Mechanics, 2021, 64, S41-S49.	0.6	4
38	Performance Comparison of Quantized Control Synthesis Methods of Antenna Arrays. Electronics (Switzerland), 2022, 11, 994.	3.1	4
39	Computation of general nonstationary 2D eddy currents in linear moving arrangements using integrodifferential approach. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2006, 25, 635-641.	0.9	3
40	Advanced adaptive algorithms in 2D finite element method of higher order of accuracy. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2013, 32, 834-849.	0.9	3
41	Utilization of algebraic multigrid for solving electromagnetic field by HP-FEM. , 2016, , .		3
42	Fast algorithm for evaluation of critical parameters of smart overalls. , 2016, , .		3
43	Optimization of selected operation characteristics of array antennas. Journal of Computational and Applied Mathematics, 2022, 399, 113726.	2.0	3
44	Inductively Heated Incompressible Flow of Electrically Conductive Liquid in Pipe. IEEE Transactions on Magnetics, 2010, 46, 2899-2902.	2.1	2
45	Modeling of loudspeaker using hp-adaptive methods. Computing (Vienna/New York), 2013, 95, 473-485.	4.8	2
46	Optimized control of field current in thermoelastic actuator for accurate setting of position. Applied Mathematics and Computation, 2013, 219, 7187-7193.	2.2	2
47	Optimization of Selected Electroheat Models Based on Calibration of Material Properties. IEEE Transactions on Magnetics, 2020, 56, 1-4.	2.1	2
48	Advanced adaptive algorithms in finite element method of higher order of accuracy. , 2011, , .		1
49	Optimized arrangement of device for electrostatic separation of plastic particles. , 2012, , .		1
50	Estimation of charges and critical velocity of plastic particles in triboelectric separator. , 2014, , .		1
51	Fourth international conference on finite element methods in engineering and sciences (FEMTEC 2013). Journal of Computational and Applied Mathematics, 2014, 270, 1.	2.0	1
52	Optimization of process of induction clamping. , 2016, , .		1
53	Experimental electrostatic separator for charged particles of plastic mixture. , 2016, , .		1
54	Fully adaptive higher-order finite element analysis of fast transient phenomena on overhead lines. Electrical Engineering, 2017, 99, 1255-1261.	2.0	1

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55	Numerical modeling of acoustic field of loudspeaker. , 2017, , .		1
56	Shape optimization of laboratory induction pump. , 2018, , .		1
57	Induction clamping of high-revolution tools by rotation in a system of unmovable permanent magnets. International Journal of Microstructure and Materials Properties, 2018, 13, 99.	0.1	1
58	Shape and Topology Optimization of High Power Converter Busbar. , 2018, , .		1
59	Optimal design of MHD pump. , 2018, , .		1
60	Calibration of laser welding model based on optimization techniques. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2019, 39, 43-52.	0.9	1
61	Design of Linear Peristaltic Pump. , 2019, , .		1
62	Advanced Adaptive Algorithms in 2D Finite Element Method of Higher Order of Accuracy. Studies in Computational Intelligence, 2013, , 255-271.	0.9	1
63	Hard-Coupled Modeling of Induction Shrink Fit of Gas-Turbine Active Wheel. Studies in Computational Intelligence, 2013, , 325-339.	0.9	1
64	Separation of Plastic Particles in Electrostatic Field Produced by Electrodes of Optimized Shape. Communications - Scientific Letters of the University of Zilina, 2013, 15, 40-45.	0.6	1
65	Optimization of electromagnetic shielding of induction device for isothermic stirring of Molten Steel. , 2005, , .		0
66	Design of power magnetic chute separator and minimization of its external magnetic field. , 2005, , .		0
67	Dynamic behavior of actuator working on principle of thermoelasticity. , 2008, , .		0
68	Higher-order finite element modeling of electromagnetically driven flow of molten metal in pipe. , 2009, , .		0
69	Integrodifferential approach to solution of eddy currents in linear structures with motion. Mathematics and Computers in Simulation, 2010, 80, 1636-1646.	4.4	0
70	Hard-coupled modeling of induction shrink fit of gas-turbine active wheel. , 2011, , .		0
71	Nonlinear Coupled Problems Solved by hp-FEM. , 2011, , .		0
72	Monolithic model of continuous induction hardening of a steel mandrel. , 2011, , .		0

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73	Hard-coupled nonlinear model of induction heating of nonmagnetic cylindrical billets in rotation. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2012, 31, 1368-1378.	0.9	0
74	Genetic algorithms for multicriteria shape optimization of induction furnace. , 2012, , .		0
75	Cross-correlation as a new evaluation tool in pulsed eddy current defectoscopy. , 2014, , .		0
76	Induction heating of rotating cylindrical nonmagnetic billets with prescribed temperature profile. , 2014, , .		0
77	Model-based determination of nonlinear material parameters of metals with low melting points. , 2014, , .		0
78	Higher-Order Eggshell Method for Computation of Forces Acting on Ferromagnetic Bodies. , 2014, , .		0
79	Numerical analysis for reducing negative impact of power transformers on the environment. , 2016, , .		0
80	Cross-correlation technique for revealing defects in differential pulsed eddy current defectoscopy. , 2016, , .		0
81	Modeling of fast transients on transmission line using higher-order adaptive methods. , 2016, , .		0
82	Utilization of advanced optimization and penalization techniques for calibration of numerical models. , 2016, , .		0
83	Calibration of numerical models based on advanced optimization and penalization techniques. Journal of Electrical Engineering, 2017, 68, 396-400.	0.7	0
84	Subsurface cracks evaluation using pulsed eddy current and cross correlation. , 2018, , .		0
85	Numerical models of array of electroacoustic transducers in anechoic chamber. , 2018, , .		0
86	Calculation of radiation field iso-surfaces using numerical continuation method. , 2018, , .		0
87	Structural Optimization of BLDC Machine and its Control. , 2019, , .		0
88	Model of Self-Sensing Microactuator with Embedded Sensor and its Control. , 2019, , .		0
89	Hard-Coupled Modeling of Induction Shrink Fit of Gas-Turbine Active Wheel. Studies in Computational Intelligence, 2013, , 287-301.	0.9	0
90	Induction heating of rotating nonmagnetic billet in magnetic field produced by high-parameter permanent magnets. Electrical Engineering & Electromechanics, 2014, .	0.6	0

#	ARTICLE	IF	CITATIONS
91	Sensitivity analysis of time of induction heating process on charge parameters. , 2020, , .		0