

# Anna Pietrenko-Dabrowska

## List of Publications by Year in descending order

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115  
papers

1,410  
citations

331670

21  
h-index

414414

32  
g-index

123  
all docs

123  
docs citations

123  
times ranked

180  
citing authors

#	ARTICLE	IF	CITATIONS
1	Reliable EM-Driven Size Reduction of Antenna Structures by Means of Adaptive Penalty Factors. IEEE Transactions on Antennas and Propagation, 2022, 70, 1389-1401.	5.1	18
2	Constrained multi-objective optimization of compact microwave circuits by design triangulation and pareto front interpolation. European Journal of Operational Research, 2022, 299, 302-312.	5.7	23
3	Knowledge-based performance-driven modeling of antenna structures. Knowledge-Based Systems, 2022, 237, 107698.	7.1	14
4	Generalized Formulation of Response Features for Reliable Optimization of Antenna Input Characteristics. IEEE Transactions on Antennas and Propagation, 2022, 70, 3733-3748.	5.1	14
5	Optimization-based robustness enhancement of compact microwave component designs with response feature regression Surrogates. Knowledge-Based Systems, 2022, 240, 108161.	7.1	4
6	A Comprehensive Survey on Antennas On-Chip Based on Metamaterial, Metasurface, and Substrate Integrated Waveguide Principles for Millimeter-Waves and Terahertz Integrated Circuits and Systems. IEEE Access, 2022, 10, 3668-3692.	4.2	108
7	Expedited Gradient-Based Design Closure of Antennas Using Variable-Resolution Simulations and Sparse Sensitivity Updates. IEEE Transactions on Antennas and Propagation, 2022, 70, 4925-4930.	5.1	9
8	Design specification management with automated decision-making for reliable optimization of miniaturized microwave components. Scientific Reports, 2022, 12, 829.	3.3	7
9	Tolerance-Aware Multi-Objective Optimization of Antennas by Means of Feature-Based Regression Surrogates. IEEE Transactions on Antennas and Propagation, 2022, 70, 5636-5646.	5.1	15
10	Reduced-cost two-level surrogate antenna modeling using domain confinement and response features. Scientific Reports, 2022, 12, 4667.	3.3	9
11	Design of a Coplanar Waveguide-Fed Wideband Compact-Size Circularly Polarized Antenna and polarization-sense alteration. Wireless Networks, 2022, 28, 1797-1804.	3.0	3
12	Performance-Driven Yield Optimization of High-Frequency Structures by Kriging Surrogates. Applied Sciences (Switzerland), 2022, 12, 3697.	2.5	5
13	An innovative antenna array with high inter element isolation for sub-6GHz 5G MIMO communication systems. Scientific Reports, 2022, 12, 7907.	3.3	23
14	Low-Cost Feature-Based Tolerance Optimization of Multi-Band Antennas. , 2022, , .		1
15	Tolerance Optimization of Antenna Structures by Means of Response Feature Surrogates. IEEE Transactions on Antennas and Propagation, 2022, 70, 10988-10997.	5.1	8
16	Design and Characterization of a Planar Structure Wideband Millimeter-Wave Antenna With Wide Beamwidth for Wearable Off-Body Communication Applications. IEEE Antennas and Wireless Propagation Letters, 2022, 21, 2070-2074.	4.0	2
17	Fast EM-driven parameter tuning of microwave circuits with sparse sensitivity updates via principal directions. Knowledge-Based Systems, 2022, 252, 109388.	7.1	5
18	Rapid design centering of multi-band antennas using knowledge-based inverse models and response features. Knowledge-Based Systems, 2022, 252, 109360.	7.1	7

#	ARTICLE	IF	CITATIONS
19	Kriging metamodels and design reuse utilization for fast parameter tuning of antenna structures. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2021, 34, .	1.9	2
20	Accelerated Gradient-Based Optimization of Antenna Structures Using Multifidelity Simulations and Convergence-Based Model Management Scheme. IEEE Transactions on Antennas and Propagation, 2021, 69, 8778-8789.	5.1	21
21	Improved Design Closure of Compact Microwave Circuits by Means of Performance Requirement Adaptation. Lecture Notes in Computer Science, 2021, , 185-199.	1.3	0
22	Low-Cost Modeling of Microwave Components by Means of Two-Stage Inverse/Forward Surrogates and Domain Confinement. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 5189-5202.	4.6	25
23	Reduced-Cost Microwave Design Closure by Multi-Resolution EM Simulations and Knowledge-Based Model Management. IEEE Access, 2021, 9, 116326-116337.	4.2	8
24	Rapid Multi-Criterial Antenna Optimization by Means of Pareto Front Triangulation and Interpolative Design Predictors. IEEE Access, 2021, 9, 35670-35680.	4.2	6
25	Robust Parameter Tuning of Antenna Structures by Means of Design Specification Adaptation. IEEE Transactions on Antennas and Propagation, 2021, 69, 8790-8798.	5.1	13
26	Recent advances in accelerated multi-objective design of high-frequency structures using knowledge-based constrained modeling approach. Knowledge-Based Systems, 2021, 214, 106726.	7.1	26
27	Accurate Modeling of Antenna Structures by Means of Domain Confinement and Gradient-Enhanced Kriging. , 2021, , .		0
28	Accelerated parameter tuning of antenna structures using inverse and feature-based forward kriging surrogates. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2021, 34, e2880.	1.9	8
29	Robust Design of Antenna Structures by Means of Domain-Confinement Metamodels. , 2021, , .		0
30	Cost-Efficient EM-Driven Size Reduction of Antenna Structures by Multi-Fidelity Simulation Models. Electronics (Switzerland), 2021, 10, 1536.	3.1	7
31	Frequency-Based Regularization for Improved Reliability Optimization of Antenna Structures. IEEE Transactions on Antennas and Propagation, 2021, 69, 4246-4251.	5.1	14
32	Expedited Acquisition of Database Designs for Reduced-Cost Performance-Driven Modeling and Rapid Dimension Scaling of Antenna Structures. IEEE Transactions on Antennas and Propagation, 2021, 69, 4975-4987.	5.1	7
33	Fast and reliable knowledge-based design closure of antennas by means of iterative prediction-correction scheme. Engineering Computations, 2021, 38, 3710-3731.	1.4	4
34	Global EM-driven optimization of multi-band antennas using knowledge-based inverse response-feature surrogates. Knowledge-Based Systems, 2021, 227, 107189.	7.1	18
35	Expedited Trust-Region-Based Design Closure of Antennas by Variable-Resolution EM Simulations. Lecture Notes in Computer Science, 2021, , 91-104.	1.3	0
36	Iterative Global Sensitivity Analysis Algorithm with Neural Network Surrogate Modeling. Lecture Notes in Computer Science, 2021, , 298-311.	1.3	1

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37	On Fast Multi-objective Optimization of Antenna Structures Using Pareto Front Triangulation and Inverse Surrogates. Lecture Notes in Computer Science, 2021, , 116-130.	1.3	0
38	Fast Design Closure of Compact Microwave Components by Means of Feature-Based Metamodels. Electronics (Switzerland), 2021, 10, 10.	3.1	17
39	<scp>Lowâ€cost multiâ€criteria</scp> design optimization of compact microwave passives using constrained surrogates and dimensionality reduction. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2021, 34, e2855.	1.9	3
40	Domain-Constrained Metamodels for Expedited Robust Design of Compact Microwave Components. , 2021, , .		0
41	Constrained Surrogates and Dimensionality Reduction for Low-Cost Multi-Objective Optimization of Compact Microwave Components. , 2021, , .		0
42	Low-Cost Antenna Optimization by Means of Gradient Search and Principal Components. , 2021, , .		0
43	On EM-Driven Size Reduction of Antenna Structures With Explicit Constraint Handling. IEEE Access, 2021, 9, 165766-165772.	4.2	8
44	Two-Level Antenna Modeling with Domain Confinement and Explicit Dimensionality Reduction. , 2021, , .		0
45	Globalized parametric optimization of microwave components by means of response features and inverse metamodels. Scientific Reports, 2021, 11, 23718.	3.3	14
46	On geometry parameterization for simulation-driven design closure of antenna structures. Scientific Reports, 2021, 11, 24304.	3.3	1
47	Planar Broadband Dual-Sense Circularly Polarized Multiple-Input-Multiple-Output Antenna for IoT Integrated Systems. , 2021, , .		0
48	Design Centering of Compact Microwave Components Using Response Features and Trust Regions. Energies, 2021, 14, 8550.	3.1	8
49	Low-Cost Antenna Modeling Using Constrained Domains with Adaptive Lateral Dimensions. , 2021, , .		0
50	Reduced-cost surrogate modelling of compact microwave components by two-level kriging interpolation. Engineering Optimization, 2020, 52, 960-972.	2.6	33
51	Accelerated multiobjective design of miniaturized microwave components by means of nested kriging surrogates. International Journal of RF and Microwave Computer-Aided Engineering, 2020, 30, e22124.	1.2	21
52	Low-Cost Surrogate Modeling of Miniaturized Microwave Components Using Nested Kriging. , 2020, , .		0
53	Nested Kriging with Variable Domain Thickness for Rapid Surrogate Modeling and Design Optimization of Antennas. Electronics (Switzerland), 2020, 9, 1621.	3.1	4
54	Design-oriented modeling of antenna structures by means of two-level kriging with explicit dimensionality reduction. AEU - International Journal of Electronics and Communications, 2020, 127, 153466.	2.9	11

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55	On Inadequacy of Sequential Design of Experiments for Performance-Driven Surrogate Modeling of Antenna Input Characteristics. IEEE Access, 2020, 8, 78417-78426.	4.2	2
56	Antenna Modeling Using Variable-Fidelity EM Simulations and Constrained Co-Kriging. IEEE Access, 2020, 8, 91048-91056.	4.2	34
57	Cost-efficient surrogate modeling of high-frequency structures using nested kriging with automated adjustment of model domain lateral dimensions. AEU - International Journal of Electronics and Communications, 2020, 121, 153224.	2.9	6
58	Expedited Yield Optimization of Narrow- and Multi-Band Antennas Using Performance-Driven Surrogates. IEEE Access, 2020, 8, 143104-143113.	4.2	46
59	Fast Globalized Gradient-Based Optimization of Multi-Band Antennas By Means Smart Jacobian Updates and Response Features. , 2020, , .		0
60	Design-Oriented Two-Stage Surrogate Modeling of Miniaturized Microstrip Circuits With Dimensionality Reduction. IEEE Access, 2020, 8, 121744-121754.	4.2	10
61	Low-cost performance-driven modelling of compact microwave components with two-layer surrogates and gradient kriging. AEU - International Journal of Electronics and Communications, 2020, 126, 153419.	2.9	19
62	Fast Multi-Objective Optimization of Antenna Structures by Means of Data-Driven Surrogates and Dimensionality Reduction. IEEE Access, 2020, 8, 183300-183311.	4.2	28
63	Recent Advances in High Frequency Modeling by Means of Domain Confinement and Nested Kriging. IEEE Access, 2020, 8, 189326-189342.	4.2	10
64	Rapid<scp>tolerance-aware</scp>design of miniaturized microwave passives by means of<scp>confined-domain</scp>surrogates. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2779.	1.9	14
65	Cost-Efficient Bi-Layer Modeling of Antenna Input Characteristics Using Gradient Kriging Surrogates. IEEE Access, 2020, 8, 140831-140839.	4.2	21
66	Low-Cost Design-Oriented Surrogate Modeling Of Multi-Band Antennas By Nested Kriging And Response Features. , 2020, , .		0
67	Improved-Efficacy Optimization of Compact Microwave Passives by Means of Frequency-Related Regularization. IEEE Access, 2020, 8, 195317-195326.	4.2	8
68	On Computationally-Efficient Reference Design Acquisition for Reduced-Cost Constrained Modeling and Re-Design of Compact Microwave Passives. IEEE Access, 2020, 8, 203317-203330.	4.2	10
69	Editorial for the special issue on advances in forward and inverse surrogate modeling for <scp>high-frequency</scp> design. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2813.	1.9	0
70	Surrogate modeling of impedance matching transformers by means of<scp>variable-fidelity</scp>electromagnetic simulations and nested<scp>co-kriging</scp>. International Journal of RF and Microwave Computer-Aided Engineering, 2020, 30, e22268.	1.2	24
71	Expedited Feature-Based Quasi-Global Optimization of Multi-Band Antenna Input Characteristics With Jacobian Variability Tracking. IEEE Access, 2020, 8, 83907-83915.	4.2	62
72	Reliable Surrogate Modeling of Antenna Input Characteristics by Means of Domain Confinement and Principal Components. Electronics (Switzerland), 2020, 9, 877.	3.1	12

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73	Accelerated design optimization of miniaturized microwave passives by design reusing and Kriging interpolation surrogates. AEU - International Journal of Electronics and Communications, 2020, 118, 153165.	2.9	9
74	<scp>Costâ€efficient performanceâ€driven</scp> modelling of <scp>multiâ€band</scp> antennas by <scp>variableâ€fidelity</scp> electromagnetic simulations and customized space mapping. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2778.	1.9	5
75	Performance-Driven Surrogate Modeling of High-Frequency Structures. , 2020, , .		44
76	Computationallyâ€efficient design optimisation of antennas by accelerated gradient search with sensitivity and design change monitoring. IET Microwaves, Antennas and Propagation, 2020, 14, 165-170.	1.4	44
77	Expedited Design Closure of Antenna Input Characteristics by Trust Region Gradient Search and Principal Component Analysis. IEEE Access, 2020, 8, 8502-8511.	4.2	7
78	Expedited Globalized Antenna Optimization by Principal Components and Variable-Fidelity EM Simulations: Application to Microstrip Antenna Design. Electronics (Switzerland), 2020, 9, 673.	3.1	19
79	Quasi-Global Optimization of Antenna Structures Using Principal Components and Affine Subspace-Spanned Surrogates. IEEE Access, 2020, 8, 50078-50084.	4.2	28
80	Rapid Optimization of Compact Microwave Passives Using Kriging Surrogates and Iterative Correction. IEEE Access, 2020, 8, 53587-53594.	4.2	11
81	Design-oriented computationally-efficient feature-based surrogate modelling of multi-band antennas with nested kriging. AEU - International Journal of Electronics and Communications, 2020, 120, 153202.	2.9	25
82	Recent Advances in Performanceâ€Driven Surrogate Modeling of Highâ€Frequency Structures. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2020, 33, e2706.	1.9	1
83	Lowâ€cost dataâ€driven modelling of microwave components using domain confinement and PCAâ€based dimensionality reduction. IET Microwaves, Antennas and Propagation, 2020, 14, 1643-1650.	1.4	8
84	Simulation-Driven Antenna Modeling by Means of Response Features and Confined Domains of Reduced Dimensionality. IEEE Access, 2020, 8, 228942-228954.	4.2	17
85	Low-Cost Antenna Surrogates By Domain Confinement and Principal Components. , 2020, , .		1
86	Constrained Modeling for Efficient Multi-objective Optimization. , 2020, , 277-314.		0
87	Metamodels and Iterative Design Correction for Rapid Optimization of Compact Microwave Components. , 2020, , .		0
88	Antenna Modeling by Nested Kriging with Automated Domain Thickness Determination. , 2020, , .		0
89	Constrained Modeling Using Principal Component Analysis. , 2020, , 227-247.		0
90	Reduced-Cost Constrained Modeling of Microwave and Antenna Components: Recent Advances. Lecture Notes in Computer Science, 2020, , 40-56.	1.3	0

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91	Nested Kriging Modeling. , 2020, , 179-205.		0
92	Warm-Start Design Optimization. , 2020, , 315-340.		0
93	Feature-Based Constrained Modeling. , 2020, , 207-225.		0
94	Accelerated Antenna Optimization Using Design Database and Kriging Surrogates. , 2020, , .		1
95	Nested Kriging Surrogates for Rapid Multi-Objective Optimization of Compact Microwave Components. , 2020, , .		0
96	Fast Antenna Optimization Using Gradient Monitoring and Variable-Fidelity EM Models. , 2020, , .		0
97	Warm-Start Expedited Optimization of Antenna Structures Using Kriging Surrogates and Iterative Correction Scheme. , 2020, , .		0
98	Reliable Modeling of Antenna Input Characteristics by Means of Domain Confinement and Variable-Fidelity EM Simulations. , 2020, , .		1
99	Reduced-Cost Design Optimization of High-Frequency Structures Using Adaptive Jacobian Updates. Lecture Notes in Computer Science, 2019, , 508-522.	1.3	0
100	Reliable data-driven modeling of high-frequency structures by means of nested kriging with enhanced design of experiments. Engineering Computations, 2019, 36, 2293-2308.	1.4	17
101	A novel trustâ€regionâ€based algorithm with flexible Jacobian updates for expedited optimization of highâ€frequency structures. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2019, 32, e2613.	1.9	0
102	Variable-Fidelity Simulation Models and Sparse Gradient Updates for Cost-Efficient Optimization of Compact Antenna Input Characteristics. Sensors, 2019, 19, 1806.	3.8	34
103	Numerically efficient algorithm for compact microwave device optimization with flexible sensitivity updating scheme. International Journal of RF and Microwave Computer-Aided Engineering, 2019, 29, e21714.	1.2	26
104	Enhanced uniform data sampling for constrained dataâ€driven modeling of antenna input characteristics. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2019, 32, e2584.	1.9	3
105	Performance-Based Nested Surrogate Modeling of Antenna Input Characteristics. IEEE Transactions on Antennas and Propagation, 2019, 67, 2904-2912.	5.1	103
106	Expedited optimization of antenna input characteristics with adaptive Broyden updates. Engineering Computations, 2019, 37, 851-862.	1.4	30
107	Expedited antenna optimization with numerical derivatives and gradient change tracking. Engineering Computations, 2019, 37, 1179-1193.	1.4	20
108	Rapid multi-objective optimization of antennas using nested kriging surrogates and single-fidelity EM simulation models. Engineering Computations, 2019, 37, 1491-1512.	1.4	23

#	ARTICLE	IF	CITATIONS
109	Accelerated Antenna Optimization Using Gradient Search with Selective Broyden Updates. , 2019, , .		2
110	Expedited Design Optimization of Antenna Input Characteristics Using Trust-Region Search with Adaptive Jacobian Updates. , 2019, , .		1
111	Reduced-cost electromagnetic-driven optimisation of antenna structures by means of trust-region gradient search with sparse Jacobian updates. IET Microwaves, Antennas and Propagation, 2019, 13, 1646-1652.	1.4	60
112	Computationally-Efficient and Reliable Surrogate Modeling of Antenna Structures Using Performance-Driven Nested Kriging. , 2019, , .		2
113	Surrogate Modeling of High-Frequency Structures Using Nested Kriging and Improved Sampling Strategy. , 2019, , .		1
114	Efficiency of new method of removing the noisy background from the sequence of MRI scans depending on structuring elements used to morphological processing. , 2008, , .		2
115	Parametric Modeling of DSC-MRI Data with Stochastic Filtration and Optimal Input Design Versus Non-Parametric Modeling. Annals of Biomedical Engineering, 2007, 35, 453-464.	2.5	4