Alenka G ZajiÄ

List of Publications by Year
in descending order

115 papers	2,335 citations	304743 22 h-index	289244 40 g-index
115 all docs	115 docs citations	115 times ranked	1243 citing authors

#	Article	IF	Citations
1	MarCNNet: A Markovian Convolutional Neural Network for Malware Detection and Monitoring Multi-Core Systems. IEEE Transactions on Computers, 2023, 72, 1122-1135.	3.4	1
2	THz Bistatic Backscatter Side-Channel Sensing at a Distance. IEEE Transactions on Antennas and Propagation, 2022, 70, 1440-1450.	5.1	4
3	PITEM: Permutations-Based Instruction Tracking Via Electromagnetic Side-Channel Signal Analysis. IEEE Transactions on Computers, 2022, 71, 1156-1169.	3.4	0
4	Leveraging On-Chip Transistor Switching for Communication and Sensing in Neural Implants and Gastrointestinal Devices. IEEE Transactions on Biomedical Engineering, 2022, 69, 377-389.	4.2	5
5	Intra-device and Proximity Channel Modeling. Springer Series in Optical Sciences, 2022, , 109-116.	0.7	0
6	A generalized approach to estimation of memoryless covert channel information leakage capacity. Array, 2022, 14, 100131.	4.0	1
7	Generalized Modeling and Propagation Characterization of THz Wireless Links in Computer Desktop Environment. Radio Science, 2022, 57, .	1.6	2
8	Comparison of Statistical and Deep Learning Path Loss Model for Motherboard Desktop Environment. , 2022, , .		4
9	Novel Feature Selection for Non-destructive Detection of Hardware Trojans Using Hyperspectral Scanning. Journal of Hardware and Systems Security, 2022, 6, 32-46.	1.3	1
10	Leveraging EM Side-Channels for Recognizing Components on a Motherboard. IEEE Transactions on Electromagnetic Compatibility, 2021, 63, 502-515.	2.2	5
11	Digital Electronics as RFID Tags: Impedance Estimation and Propagation Characterization at 26.5 GHz and 300 GHz. IEEE Journal of Radio Frequency Identification, 2021, 5, 29-39.	2.3	5
12	PRIMER: Profiling Interrupts using Electromagnetic Side-Channel for Embedded Devices. IEEE Transactions on Computers, 2021, , 1-1.	3.4	4
13	Near Field Modeling for THz Wireless Channel in Nettop Size Metal Enclosures. , 2021, , .		2
14	Deep Learning Classification of Motherboard Components by Leveraging EM Side-Channel Signals. Journal of Hardware and Systems Security, 2021, 5, 114-126.	1.3	4
15	Side-Channel Propagation Measurements and Modeling for Hardware Security in IoT Devices. IEEE Transactions on Antennas and Propagation, 2021, 69, 3470-3484.	5.1	11
16	An Efficient Method for Localization of Magnetic Field Sources That Produce High-Frequency Side-Channel Emanations. IEEE Transactions on Electromagnetic Compatibility, 2021, , 1-13.	2.2	2
17	Nonce@Once: A Single-Trace EM Side Channel Attack on Several Constant-Time Elliptic Curve Implementations in Mobile Platforms. , 2021, , .		4
18	A Hierarchical Subsequence Clustering Method for Tracking Program States in Spectrograms. , 2021, , .		0

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19	Electromagnetic Side Channel Information Leakage Created by Execution of Series of Instructions in a Computer Processor. IEEE Transactions on Information Forensics and Security, 2020, 15, 776-789.	6.9	17
20	Communication Model and Capacity Limits of Covert Channels Created by Software Activities. IEEE Transactions on Information Forensics and Security, 2020, 15, 1891-1904.	6.9	9
21	Characterization of Propagation Phenomena Relevant for 300 GHz Wireless Data Center Links. IEEE Transactions on Antennas and Propagation, 2020, 68, 1074-1087.	5.1	34
22	REMOTE: Robust External Malware Detection Framework by Using Electromagnetic Signals. IEEE Transactions on Computers, 2020, 69, 312-326.	3.4	30
23	Investigation of Resonance Based Propagation Loss Modeling for THz Chip-to-Chip Wireless Communications. , 2020, , .		6
24	Terahertz MIMO Fading Analysis and Doppler Modeling in a Data Center Environment. , 2020, , .		12
25	Geometric Analysis of the Doppler Frequency for General Non-Stationary 3D Mobile-to-Mobile Channels Based on Prolate Spheroidal Coordinates. IEEE Transactions on Vehicular Technology, 2020, 69, 10419-10434.	6.3	6
26	Remote Monitoring and Propagation Modeling of EM Side-Channel Signals for IoT Device Security. , 2020, , .		2
27	EMSim: A Microarchitecture-Level Simulation Tool for Modeling Electromagnetic Side-Channel Signals. , 2020, , .		10
28	Cell-Phone Classification: A Convolutional Neural Network Approach Exploiting Electromagnetic Emanations. , 2020, , .		4
29	Near-Field Backscattering-Based Sensing for Hardware Trojan Detection. IEEE Transactions on Antennas and Propagation, 2020, 68, 8082-8090.	5.1	15
30	THz Cluster-Based Modeling and Propagation Characterization in a Data Center Environment. IEEE Access, 2020, 8, 56544-56558.	4.2	43
31	Modeling of 300 GHz Chip-to-Chip Wireless Channels in Metal Enclosures. IEEE Transactions on Wireless Communications, 2020, 19, 3214-3227.	9.2	31
32	A Comparison of Backscattering, EM, and Power Side-Channels and Their Performance in Detecting Software and Hardware Intrusions. Journal of Hardware and Systems Security, 2020, 4, 150-165.	1.3	10
33	A novel clustering technique using backscattering side channel for counterfeit IC detection. , 2020, , .		1
34	Effects of Modes on THz Wireless Channels Inside Metal Enclosures. , 2020, , .		1
35	A New Side-Channel Vulnerability on Modern Computers by Exploiting Electromagnetic Emanations from the Power Management Unit. , 2020, , .		18
36	High-Gain Quad Array of Nonuniform Helical Antennas. International Journal of Antennas and Propagation, 2019, 2019, 1-12.	1.2	4

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37	A Compact Probe for EM Side-Channel Attacks on Cryptographic Systems. , 2019, , .		3
38	Design and Optimization of Nonuniform Helical Antennas With Linearly Varying Geometrical Parameters. IEEE Access, 2019, 7, 136855-136866.	4.2	9
39	Malware Detection in Embedded Systems Using Neural Network Model for Electromagnetic Side-Channel Signals. Journal of Hardware and Systems Security, 2019, 3, 305-318.	1.3	37
40	Terahertz Near-Field Focusing Using a 3-D Printed Cassegrain Configuration for Backscattered Side-Channel Detection. IEEE Transactions on Antennas and Propagation, 2019, 67, 6627-6638.	5.1	6
41	Zero-Overhead Path Prediction with Progressive Symbolic Execution. , 2019, , .		9
42	IDEA: Intrusion Detection through Electromagnetic-Signal Analysis for Critical Embedded and Cyber-Physical Systems. IEEE Transactions on Dependable and Secure Computing, 2019, , 1-1.	5.4	18
43	THz Channel Characterization of Chip-to-Chip Communication in Desktop Size Metal Enclosure. IEEE Transactions on Antennas and Propagation, 2019, 67, 7550-7560.	5.1	22
44	Exploiting Switching of Transistors in Digital Electronics for RFID Tag Design. IEEE Journal of Radio Frequency Identification, 2019, 3, 67-76.	2.3	9
45	Hyperdimensional Bayesian Time Mapping (HyperBaT): A Probabilistic Approach to Time Series Mapping of Non-Identical Sequences. IEEE Transactions on Signal Processing, 2019, 67, 3719-3731.	5.3	2
46	Creating a Backscattering Side Channel to Enable Detection of Dormant Hardware Trojans. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2019, 27, 1561-1574.	3.1	39
47	Capacity of EM Side Channel Created by Instruction Executions in a Processor. , 2019, , .		1
48	Detecting Cellphone Camera Status at Distance by Exploiting Electromagnetic Emanations. , 2019, , .		7
49	Path Loss Model as a Function of Antenna Height for 300 GHz Chip-to-Chip Communications. , 2019, , .		2
50	On the Surface Roughness and Smoothing in the 3D Printed THz Reflectors. , 2019, , .		1
51	The Flipped Classroom Approach to Engineering Electromagnetics: A Case Study. , 2019, , .		1
52	THz MIMO Channel Characterization for Wireless Data Center-Like Environment. , 2019, , .		11
53	Instruction level program tracking using electromagnetic emanations. , 2019, , .		7
54	A Method for Efficient Localization of Magnetic Field Sources Excited by Execution of Instructions in a Processor. IEEE Transactions on Electromagnetic Compatibility, 2018, 60, 613-622.	2.2	18

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55	A Nonisovelocity Geometry-Based Underwater Acoustic Channel Model. IEEE Transactions on Vehicular Technology, 2018, 67, 2864-2879.	6.3	20
56	Capacity of the EM Covert/Side-Channel Created by the Execution of Instructions in a Processor. IEEE Transactions on Information Forensics and Security, 2018, 13, 605-620.	6.9	28
57	Capacity of Deliberate Side-Channels Created by Software Activities. , 2018, , .		6
58	THz Near Field Focusing using Cassegranian Configuration for EM Side-channel Detection. , 2018, , .		3
59	Experimental Validation of Localization Method for Finding Magnetic Sources on IOT Devices. , 2018, , .		3
60	Characterization of 300 GHz Wireless Channels for Rack-to-Rack Communications in Data Centers. , 2018, , .		11
61	EMPROF: Memory Profiling Via EM-Emanation in IoT and Hand-Held Devices. , 2018, , .		9
62	Modelling Jitter in Wireless Channel Created by Processor-Memory Activity. , 2018, , .		8
63	A Directive Antenna Based on Conducting Disks for Detecting Unintentional EM Emissions at Large Distances. IEEE Transactions on Antennas and Propagation, 2018, 66, 6751-6761.	5.1	14
64	Path loss prediction for electromagnetic side-channel signals. , 2017, , .		6
65	Comparison of path loss models for indoor 30 GHz, 140 GHz, and 300 GHz channels. , 2017, , .		55
66	A Method for Finding Frequency-Modulated and Amplitude-Modulated Electromagnetic Emanations in Computer Systems. IEEE Transactions on Electromagnetic Compatibility, 2017, 59, 34-42.	2.2	48
67	EDDIE. , 2017, , .		73
68	Statistical Modeling and Simulation of Short-Range Device-to-Device Communication Channels at Sub-THz Frequencies. IEEE Transactions on Wireless Communications, 2016, 15, 6423-6433.	9.2	64
69	An algorithm for finding carriers of amplitude-modulated electromagnetic emanations in computer systems. , 2016, , .		3
70	Spectral profiling: Observer-effect-free profiling by monitoring EM emanations. , 2016, , .		47
71	300 GHz path loss measurements on a computer motherboard. , 2016, , .		2
72	UTD-based modeling of diffraction loss by dielectric circular cylinders at D-band. , 2016, , .		1

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73	Zero-overhead profiling via EM emanations. , 2016, , .		41
74	Characterization of 300-GHz Wireless Channel on a Computer Motherboard. IEEE Transactions on Antennas and Propagation, 2016, 64, 5411-5423.	5.1	57
75	Revitalizing electromagnetics education with the flipped classroom. , 2015, , .		3
76	The state of the art in propagation and mobile channel modeling [From the Guest Editors]. IEEE Vehicular Technology Magazine, 2015, 10, 26-103.	3.4	1
77	D-Band Channel Measurements and Characterization for Indoor Applications. IEEE Transactions on Antennas and Propagation, 2015, 63, 3198-3207.	5.1	54
78	The design of measurement-based underwater acoustic channel simulators using the INLSA algorithm. , 2015, , .		11
79	Three hundred-gigahertz linearly tapered slot antenna design and measurements. Microwave and Optical Technology Letters, 2015, 57, 713-717.	1.4	0
80	Comparison of electromagnetic side-channel energy available to the attacker from different computer systems. , 2015, , .		14
81	FASE. , 2015, , .		44
82	Statistical Characterization of 300-GHz Propagation on a Desktop. IEEE Transactions on Vehicular Technology, 2015, 64, 3330-3338.	6.3	67
83	D-band indoor path loss measurements. , 2014, , .		0
84	Experimental Verification of the Non-Stationary Statistical Model for V2V Scatter Channels. , 2014, , .		8
85	Experimental Demonstration of Electromagnetic Information Leakage From Modern Processor-Memory Systems. IEEE Transactions on Electromagnetic Compatibility, 2014, 56, 885-893.	2.2	89
86	Impact of Moving Scatterers on Vehicle-to-Vehicle Narrow-Band Channel Characteristics. IEEE Transactions on Vehicular Technology, 2014, 63, 3094-3106.	6.3	50
87	A geometry-based channel model for shallow underwater acoustic channels under rough surface and bottom scattering conditions. , 2014, , .		27
88	A Practical Methodology for Measuring the Side-Channel Signal Available to the Attacker for Instruction-Level Events. , 2014, , .		88
89	Feasibility Study of Underwater Acoustic Communications Between Buried and Bottom-Mounted Sensor Network Nodes. IEEE Journal of Oceanic Engineering, 2013, 38, 109-116.	3.8	5
90	Automatic OpenCL work-group size selection for multicore CPUs. , 2013, , .		0

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91	Simulation Model for Wideband Mobile-to-Mobile Underwater Fading Channels. , 2013, , .		1
92	Envelope level crossing rate in mobile-to-mobile underwater fading channels. , 2013, , .		0
93	Temporal Leakage in Analysis of Electromagnetic Systems. IEEE Antennas and Propagation Magazine, 2012, 54, 92-101.	1.4	4
94	Wideband multilayer directional coupler with tight coupling and high directivity. Microwave and Optical Technology Letters, 2012, 54, 2261-2267.	1.4	7
95	Estimation of Mobile Velocities and Direction of Movement in Mobile-to-Mobile Wireless Fading Channels. IEEE Transactions on Vehicular Technology, 2012, 61, 130-139.	6.3	10
96	Statistical Modeling of MIMO Mobile-to-Mobile Underwater Channels. IEEE Transactions on Vehicular Technology, 2011, 60, 1337-1351.	6.3	106
97	Modeling and design of milled microwave printed circuit boards. Microwave and Optical Technology Letters, 2011, 53, 264-270.	1.4	3
98	Statistical Modeling of Underwater Wireless Channels. , 2010, , .		4
99	A Spaceâ€“Time Code Design for CPM: Diversity Order and Coding Gain. IEEE Transactions on Information Theory, 2009, 55, 3781-3798.	2.4	8
100	Wideband MIMO Mobile-to-Mobile Channels: Geometry-Based Statistical Modeling With Experimental Verification. IEEE Transactions on Vehicular Technology, 2009, 58, 517-534.	6.3	133
101	Three-dimensional modeling and simulation of wideband MIMO mobile-to-mobile channels. IEEE Transactions on Wireless Communications, 2009, 8, 1260-1275.	9.2	99
102	Space-Time Correlated Mobile-to-Mobile Channels: Modelling and Simulation. IEEE Transactions on Vehicular Technology, 2008, 57, 715-726.	6.3	170
103	Three-Dimensional Modeling, Simulation, and Capacity Analysis of Spaceâ€“Time Correlated Mobile-to-Mobile Channels. IEEE Transactions on Vehicular Technology, 2008, 57, 2042-2054.	6.3	122
104	Statistical Properties of Wideband MIMO Mobile-to-Mobile Channels (Special Paper). , 2008, , .		9
105	Statistical modeling and experimental verification of wideband MIMO mobile-to-mobile channels in highway environments. , 2008, , .		6
106	Maximum Likelihood Method for MIMO Mobile-to-Mobile Channel Parameter Estimation. , 2008, , .		2
107	Performance Analysis of a System using Coordinate Interleaving and Constellation Rotation in Rayleigh Fading Channels. , 2008, , .		13
108	3-D MIMO Mobile-to-Mobile Channel Simulation. , 2007, , .		3

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109	A Three Dimensional Parametric Model for Wideband MIMO Mobile-to-Mobile Channels. , 2007, , .		17
110	A Three-Dimensional MIMO Mobile-to-Mobile Channel Model. , 2007, , .		25
111	3-D Simulation Models for Wideband MIMO Mobile-to-Mobile Channels. , 2007, , .		10
112	Influence of 3-D Spatial Correlation on the Capacity of MIMO Mobile-to-Mobile Channels. IEEE Vehicular Technology Conference, 2007, , .	0.4	6
113	CTH10-1: Optimization of Coding Gain for Full-Response CPM Space-Time Codes. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	1
114	Enhancing the gain of helical antennas by shaping the ground conductor. IEEE Antennas and Wireless Propagation Letters, 2006, 5, 138-140.	4.0	50
115	Optimization of Helical antennas [Antenna Designer's Notebook]. IEEE Antennas and Propagation Magazine, 2006, 48, 107-115.	1.4	56