Theodore S Rappaport

List of Publications by Year
in descending order

146	27,054	94433	133252
papers	citations	37 h-index	59 g-index

146	146	146	11620
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ionizing radiation exposure after allogeneic hematopoietic cell transplantation. Bone Marrow Transplantation, 2022, 57, 827-829.	2.4	2
2	mmWave V2V Localization in MU-MIMO Hybrid Beamforming. IEEE Open Journal of Vehicular Technology, 2022, 3, 210-220.	4.9	4
3	A Real-Time Millimeter Wave V2V Channel Sounder. , 2022, , .		2
4	Directional neighbor discovery in mmWave wireless networks. Digital Communications and Networks, 2021, 7, 1-15.	5.0	11
5	Millimeter Wave and Sub-THz Indoor Radio Propagation Channel Measurements, Models, and Comparisons in an Office Environment. IEEE Communications Letters, 2021, 25, 3151-3155.	4.1	52
6	Terahertz Wireless Communications: Co-Sharing for Terrestrial and Satellite Systems Above 100 GHz. IEEE Communications Letters, 2021, 25, 3156-3160.	4.1	28
7	Position Location for Futuristic Cellular Communications: 5G and Beyond. IEEE Communications Magazine, 2021, 59, 70-75.	6.1	90
8	Performance Impact Analysis of Beam Switching in Millimeter Wave Vehicular Communications. , 2021, , .		2
9	Target Localization using Bistatic and Multistatic Radar with 5G NR Waveform. , 2021, , .		19
10	High Altitude Platform Stations (HAPS): Architecture and System Performance. , 2021, , .		14
11	Propagation Measurements and Path Loss Models for sub-THz in Urban Microcells. , 2021, , .		38
12	Millimeter Wave and Sub-Terahertz Spatial Statistical Channel Model for an Indoor Office Building. IEEE Journal on Selected Areas in Communications, 2021, 39, 1561-1575.	14.0	96
13	Outdoor sub-THz Position Location and Tracking using Field Measurements at 142 GHz. , 2021, , .		9
14	140 GHz Urban Microcell Propagation Measurements for Spatial Consistency Modeling. , 2021, , .		12
15	Spacetime Frequency-Multiplexed Digital-RF Array Receivers With Reduced ADC Count. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 2840-2844.	3.0	1
16	A Wideband Sliding Correlation Channel Sounder in 65 nm CMOS: Evaluation Board Performance. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 3043-3047.	3.0	4
17	Massive-MIMO and Digital mm-Wave Arrays on RF-SoCs using FDM for M-Fold Increase in Antennas per ADC/DAC. , 2021, , .		3
18	Frequency-Multiplexed Array Digitization for MIMO Receivers: 4-Antennas/ADC at 28 GHz on Xilinx ZCU-1285 RF SoC. IEEE Access, 2021, 9, 142743-142753.	4.2	3

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19	Millimeter Wave and Terahertz Urban Microcell Propagation Measurements and Models. IEEE Communications Letters, 2021, 25, 3755-3759.	4.1	36
20	Sub-Terahertz Spatial Statistical MIMO Channel Model for Urban Microcells at 142 GHz. , 2021, , .		15
21	Towards a Low-SWaP 1024-Beam Digital Array: A 32-Beam Subsystem at 5.8 GHz. IEEE Transactions on Antennas and Propagation, 2020, 68, 900-912.	5.1	4
22	Fast Radix-32 Approximate DFTs for 1024-Beam Digital RF Beamforming. IEEE Access, 2020, 8, 96613-96627.	4.2	10
23	Millimeter Wave Position Location using Multipath Differentiation for 3GPP using Field Measurements. , 2020, , .		3
24	Real-time Millimeter Wave Omnidirectional Channel Sounder Using Phased Array Antennas. , 2020, , .		8
25	3-D Statistical Indoor Channel Model for Millimeter-Wave and Sub-Terahertz Bands. , 2020, , .		12
26	Scattering Mechanisms and Modeling for Terahertz Wireless Communications. , 2019, , .		62
27	A Wideband Sliding Correlator-Based Channel Sounder with Synchronization in 65 nm CMOS. , 2019, , .		5
28	Wireless Communications and Applications Above 100 GHz: Opportunities and Challenges for 6G and Beyond. IEEE Access, 2019, 7, 78729-78757.	4.2	1,228
29	Millimeter-Wave Base Station Diversity for 5G Coordinated Multipoint (CoMP) Applications. IEEE Transactions on Wireless Communications, 2019, 18, 3395-3410.	9.2	91
30	Exploiting High Millimeter Wave Bands for Military Communications, Applications, and Design. IEEE Access, 2019, 7, 52350-52359.	4.2	44
31	A Millimeter-Wave Channel Simulator NYUSIM with Spatial Consistency and Human Blockage. , 2019, , .		74
32	Indoor Wireless Channel Properties at Millimeter Wave and Sub-Terahertz Frequencies. , 2019, , .		68
33	A Study of Interference Distributions in Millimeter Wave Cellular Networks. , 2019, , .		5
34	A Direct-Conversion Digital Beamforming Array Receiver with 800 MHz Channel Bandwidth at 28 GHz using Xilinx RF SoC. , 2019, , .		16
35	Map-Assisted Millimeter Wave Localization for Accurate Position Location. , 2019, , .		26
36	Public Safety Communications above 6 GHz: Challenges and Opportunities. IEEE Access, 2018, 6, 316-329.	4.2	40

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37	Analog Approximate-FFT 8/16-Beam Algorithms, Architectures and CMOS Circuits for 5G Beamforming MIMO Transceivers. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2018, 8, 466-479.	3.6	24
38	Simulating Motion - Incorporating Spatial Consistency into NYUSIM Channel Model. , 2018, , .		21
39	Characterizing Ionizing Radiation Exposure after T-Cell Depleted Allogeneic Hematopoietic Cell Transplantation. Biology of Blood and Marrow Transplantation, 2018, 24, S252-S253.	2.0	3
40	Position Locationing for Millimeter Wave Systems. , 2018, , .		61
41	Propagation Measurement System and Approach at 140 GHz-Moving to 6G and Above 100 GHz. , 2018, , .		151
42	Millimeter-Wave Extended NYUSIM Channel Model for Spatial Consistency. , 2018, , .		31
43	Verification and Calibration of Antenna Cross-Polarization Discrimination and Penetration Loss for Millimeter Wave Communications. , 2018, , .		16
44	Microwave vs. Millimeter-Wave Propagation Channels: Key Differences and Impact on 5G Cellular Systems. IEEE Communications Magazine, 2018, 56, 14-20.	6.1	148
45	Analytical Framework of Hybrid Beamforming in Multi-Cell Millimeter-Wave Systems. IEEE Transactions on Wireless Communications, 2018, 17, 7528-7543.	9.2	38
46	Hybrid beamforming for 5G millimeter-wave multi-cell networks. , 2018, , .		40
47	Wideband <inline-formula> <tex-math notation="LaTeX">N</tex-math> </inline-formula>-Beam Arrays Using Low-Complexity Algorithms and Mixed-Signal Integrated Circuits. IEEE Journal on Selected Topics in Signal Processing, 2018, 12, 368-382.	10.8	38
48	Spatial-Wideband Effect in Massive MIMO with Application in mmWave Systems. IEEE Communications Magazine, 2018, 56, 134-141.	6.1	112
49	Propagation Models and Performance Evaluation for 5G Millimeter-Wave Bands. IEEE Transactions on Vehicular Technology, 2018, 67, 8422-8439.	6.3	181
50	Rural Macrocell Path Loss Models for Millimeter Wave Wireless Communications. IEEE Journal on Selected Areas in Communications, 2017, 35, 1663-1677.	14.0	123
51	A Flexible Millimeter-Wave Channel Sounder With Absolute Timing. IEEE Journal on Selected Areas in Communications, 2017, 35, 1402-1418.	14.0	120
52	Low-Rank Spatial Channel Estimation for Millimeter Wave Cellular Systems. IEEE Transactions on Wireless Communications, 2017, 16, 2748-2759.	9.2	40
53	5G Uniform Linear Arrays With Beamforming and Spatial Multiplexing at 28, 37, 64, and 71 GHz for Outdoor Urban Communication: A Two-Level Approach. IEEE Transactions on Vehicular Technology, 2017, 66, 9972-9985.	6.3	50
54	Millimeter wave small-scale spatial statistics in an urban microcell scenario. , 2017, , .		35

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55	On Directional Neighbor Discovery in mmWave Networks. , 2017, , .		21
56	Overview of Millimeter Wave Communications for Fifth-Generation (5G) Wireless Networksâ€"With a Focus on Propagation Models. IEEE Transactions on Antennas and Propagation, 2017, 65, 6213-6230.	5.1	1,025
57	Small-Scale, Local Area, and Transitional Millimeter Wave Propagation for 5G Communications. IEEE Transactions on Antennas and Propagation, 2017, 65, 6474-6490.	5.1	110
58	A novel millimeter-wave channel simulator and applications for 5G wireless communications. , 2017, , .		187
59	Study on 3GPP rural macrocell path loss models for millimeter wave wireless communications. , 2017, , .		33
60	A flexible wideband millimeter-wave channel sounder with local area and NLOS to LOS transition measurements. , 2017, , .		28
61	Indoor office wideband penetration loss measurements at 73 GHz. , 2017, , .		45
62	Millimeter Wave MIMO channel estimation based on adaptive compressed sensing. , 2017, , .		54
63	Investigation and Comparison of 3GPP and NYUSIM Channel Models for 5G Wireless Communications. , 2017, , .		65
64	Rapid Fading Due to Human Blockage in Pedestrian Crowds at 5G Millimeter-Wave Frequencies. , 2017, , .		130
65	Base Station Diversity Propagation Measurements at 73 GHz Millimeter-Wave for 5G Coordinated Multipoint (CoMP) Analysis. , 2017, , .		32
66	Millimeter-Wave Human Blockage at 73 GHz with a Simple Double Knife-Edge Diffraction Model and Extension for Directional Antennas. , 2016, , .		127
67	Indoor and Outdoor 5G Diffraction Measurements and Models at 10, 20, and 26 GHz. , 2016, , .		47
68	Millimeter wave wireless communications. , 2016, , .		178
69	5G 3GPP-Like Channel Models for Outdoor Urban Microcellular and Macrocellular Environments. , 2016, , .		208
70	Directional Radio Propagation Path Loss Models for Millimeter-Wave Wireless Networks in the 28-, 60-, and 73-GHz Bands. IEEE Transactions on Wireless Communications, 2016, 15, 6939-6947.	9.2	135
71	Indoor 5G 3GPP-like channel models for office and shopping mall environments. , 2016, , .		92
72	28 GHz Millimeter-Wave Ultrawideband Small-Scale Fading Models in Wireless Channels. , 2016, , .		159

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73	A Prediction Study of Path Loss Models from 2-73.5 GHz in an Urban-Macro Environment. , 2016, , .		34
74	Propagation Path Loss Models for 5G Urban Micro- and Macro-Cellular Scenarios. , 2016, , .		208
75	Indoor Office Plan Environment and Layout-Based mmWave Path Loss Models for 28 GHz and 73 GHz. , 2016, , .		29
76	Local multipath model parameters for generating 5G millimeter-wave 3GPP-like channel impulse response. , 2016, , .		45
77	MIMO channel modeling and capacity analysis for 5G millimeter-wave wireless systems. , 2016, , .		46
78	Millimeter-wave distance-dependent large-scale propagation measurements and path loss models for outdoor and indoor 5G systems. , 2016, , .		89
79	3-D Millimeter-Wave Statistical Channel Model for 5G Wireless System Design. IEEE Transactions on Microwave Theory and Techniques, 2016, 64, 2207-2225.	4.6	457
80	Investigation of Prediction Accuracy, Sensitivity, and Parameter Stability of Large-Scale Propagation Path Loss Models for 5G Wireless Communications. IEEE Transactions on Vehicular Technology, 2016, 65, 2843-2860.	6.3	376
81	Proposal on Millimeter-Wave Channel Modeling for 5G Cellular System. IEEE Journal on Selected Topics in Signal Processing, 2016, 10, 454-469.	10.8	274
82	Synthesizing Omnidirectional Antenna Patterns, Received Power and Path Loss from Directional Antennas for 5G Millimeter-Wave Communications. , 2015, , .		56
83	A preliminary 3D mm wave indoor office channel model. , 2015, , .		13
84	Probabilistic Omnidirectional Path Loss Models for Millimeter-Wave Outdoor Communications. IEEE Wireless Communications Letters, 2015, 4, 357-360.	5.0	243
85	Statistical Channel Model with Multi-Frequency and Arbitrary Antenna Beamwidth for Millimeter-Wave Outdoor Communications. , 2015, , .		47
86	Exploiting directionality for millimeter-wave wireless system improvement. , 2015, , .		58
87	3-D statistical channel model for millimeter-wave outdoor mobile broadband communications. , 2015, , .		130
88	Path Loss, Shadow Fading, and Line-of-Sight Probability Models for 5G Urban Macro-Cellular Scenarios. , 2015, , .		99
89	Frame-Based Medium Access Control for 5G Wireless Networks. Mobile Networks and Applications, 2015, 20, 763-772.	3.3	21
90	Safe for Generations to Come: Considerations of Safety for Millimeter Waves in Wireless Communications. IEEE Microwave Magazine, 2015, 16, 65-84.	0.8	180

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91	Wideband Millimeter-Wave Propagation Measurements and Channel Models for Future Wireless Communication System Design. IEEE Transactions on Communications, 2015, 63, 3029-3056.	7.8	1,152
92	The human body and millimeter-wave wireless communication systems: Interactions and implications. , 2015, , .		120
93	73 GHz wideband millimeter-wave foliage and ground reflection measurements and models. , 2015, , .		60
94	28 GHz and 73 GHz millimeter-wave indoor propagation measurements and path loss models. , 2015, , .		91
95	Millimeter-Wave Omnidirectional Path Loss Data for Small Cell 5G Channel Modeling. IEEE Access, 2015, 3, 1573-1580.	4.2	215
96	Indoor Office Wideband Millimeter-Wave Propagation Measurements and Channel Models at 28 and 73 GHz for Ultra-Dense 5G Wireless Networks. IEEE Access, 2015, 3, 2388-2424.	4.2	554
97	Directional Cell Discovery in Millimeter Wave Cellular Networks. IEEE Transactions on Wireless Communications, 2015, 14, 6664-6678.	9.2	150
98	Validation of a Geometry-Based Statistical mmWave Channel Model Using Ray-Tracing Simulation. , 2015, , .		17
99	3D mmWave Channel Model Proposal. , 2014, , .		105
100	Ultra-wideband statistical channel model for non line of sight millimeter-wave urban channels. , 2014, , .		101
101	Channel model for millimeter-wave communications based on geometry statistics. , 2014, , .		31
102	Omnidirectional path loss models in New York City at 28 GHz and 73 GHz. , 2014, , .		90
103	Mimo for millimeter-wave wireless communications: beamforming, spatial multiplexing, or both?. , 2014, 52, 110-121.		496
104	28 GHz and 73 GHz signal outage study for millimeter wave cellular and backhaul communications. , 2014, , .		37
105	Millimeter Wave Channel Modeling and Cellular Capacity Evaluation. IEEE Journal on Selected Areas in Communications, 2014, 32, 1164-1179.	14.0	1,814
106	Evaluation of Empirical Ray-Tracing Model for an Urban Outdoor Scenario at 73 GHz E-Band. , 2014, , .		35
107	Consumption Factor and Power-Efficiency Factor: A Theory for Evaluating the Energy Efficiency of Cascaded Communication Systems. IEEE Journal on Selected Areas in Communications, 2014, 32, 221-236.	14.0	33
108	Millimeter wave multi-beam antenna combining for 5G cellular link improvement in New York City. , 2014, , .		57

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109	73 GHz millimeter wave propagation measurements for outdoor urban mobile and backhaul communications in New York City. , 2014, , .		149
110	Radio propagation path loss models for 5G cellular networks in the 28 GHZ and 38 GHZ millimeter-wave bands. , 2014, 52, 78-86.		425
111	Millimeter-Wave Enhanced Local Area Systems: A High-Data-Rate Approach for Future Wireless Networks. IEEE Journal on Selected Areas in Communications, 2014, 32, 1152-1163.	14.0	633
112	Joint Spatial Division and Multiplexing for mm-Wave Channels. IEEE Journal on Selected Areas in Communications, 2014, 32, 1239-1255.	14.0	278
113	Millimeter-Wave Cellular Wireless Networks: Potentials and Challenges. Proceedings of the IEEE, 2014, 102, 366-385.	21.3	1,877
114	Mobile's millimeter-wave makeover. IEEE Spectrum, 2014, 51, 34-58.	0.7	60
115	Wideband mmWave channels: Implications for design and implementation of adaptive beam antennas. , 2014, , .		29
116	Synthesizing Omnidirectional Antenna Patterns, Received Power and Path Loss from Directional Antennas for 5G Millimeter-Wave Communications. , 2014, , .		11
117	Millimeter Wave Mobile Communications for 5G Cellular: It Will Work!. IEEE Access, 2013, 1, 335-349.	4.2	6,075
118	72 GHz millimeter wave indoor measurements for wireless and backhaul communications. , 2013, , .		27
119	Broadband Millimeter-Wave Propagation Measurements and Models Using Adaptive-Beam Antennas for Outdoor Urban Cellular Communications. IEEE Transactions on Antennas and Propagation, 2013, 61, 1850-1859.	5.1	951
120	Path loss models for 5G millimeter wave propagation channels in urban microcells. , 2013, , .		254
121	Multi-beam antenna combining for 28 GHz cellular link improvement in urban environments. , 2013, , .		21
122	28 GHz millimeter wave cellular communication measurements for reflection and penetration loss in and around buildings in New York city. , 2013, , .		314
123	28 GHz propagation measurements for outdoor cellular communications using steerable beam antennas in New York city. , 2013, , .		285
124	28 GHz Angle of Arrival and Angle of Departure Analysis for Outdoor Cellular Communications Using Steerable Beam Antennas in New York City. , 2013, , .		170
125	Analog compressed sensing for RF propagation channel sounding. , 2012, , .		4
126	38 GHz and 60 GHz angle-dependent propagation for cellular & peer-to-peer wireless communications. , 2012, , .		285

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127	A 38 GHz cellular outage study for an urban outdoor campus environment. , 2012, , .		81
128	Cellular broadband millimeter wave propagation and angle of arrival for adaptive beam steering systems (invited paper). , 2012, , .		62
129	Millimeter-Wave 60 GHz Outdoor and Vehicle AOA Propagation Measurements Using a Broadband Channel Sounder. , 2011, , .		151
130	Challenges and approaches to on-chip millimeter wave antenna pattern measurements. , 2011, , .		15
131	Consumption factor: A figure of merit for power consumption and energy efficiency in broadband wireless communications. , 2011, , .		11
132	State of the Art in 60-GHz Integrated Circuits and Systems for Wireless Communications. Proceedings of the IEEE, 2011, 99, 1390-1436.	21.3	708
133	Analysis and Simulation of Interference to Vehicle-Equipped Digital Receivers From Cellular Mobile Terminals Operating in Adjacent Frequencies. IEEE Transactions on Vehicular Technology, 2011, 60, 1664-1676.	6.3	38
134	Analog Equalization for Low Power 60 GHz Receivers in Realistic Multipath Channels. , 2010, , .		13
135	Millimeter-Wave CMOS Antennas and RFIC Parameter Extraction for Vehicular Applications. , 2010, , .		8
136	60 GHz Wireless: Up Close and Personal. IEEE Microwave Magazine, 2010, 11, 44-50.	0.8	181
137	On-Chip Integrated Antenna Structures in CMOS for 60 GHz WPAN Systems. , 2009, , .		9
138	Frequency-Domain Channel Estimation and Equalization for Continuous-Phase Modulations With Superimposed Pilot Sequences. IEEE Transactions on Vehicular Technology, 2009, 58, 4903-4908.	6.3	10
139	On-chip integrated antenna structures in CMOS for 60 GHz WPAN systems. IEEE Journal on Selected Areas in Communications, 2009, 27, 1367-1378.	14.0	196
140	Millimeter-Wave and Terahertz Wireless RFIC and On-Chip Antenna Design: Tools and Layout Techniques. , 2009, , .		6
141	Improved Measurement-Based Frequency Allocation Algorithms for Wireless Networks. , 2007, , .		17
142	Site Specific Knowledge for Improving Frequency Allocations in Wireless LAN and Cellular Networks. Vehicular Technology Conference-Fall (VTC-FALL), Proceedings, IEEE, 2007, , .	0.0	3
143	Novel On-Chip Antenna Structures and Frequency Selective Surface (FSS) Approaches for Millimeter Wave Devices. Vehicular Technology Conference-Fall (VTC-FALL), Proceedings, IEEE, 2007, , .	0.0	13
144	Measured Traffic Statistics and Throughput of IEEE 802.11b Public WLAN Hotspots with Three Different Applications. IEEE Transactions on Wireless Communications, 2006, 5, 3296-3305.	9.2	52

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145	Towards integrated PSEs for wireless communications. Mobile Computing and Communications Review, 2004, 8, 20-34.	1.7	8
146	Antenna effects on indoor obstructed wireless channels and a deterministic image-based wide-band propagation model for in-building personal communication systems. International Journal of Wireless Information Networks, 1994, 1, 61-76.	2.7	16