

Theodore S Rappaport

List of Publications by Citations

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140
papers

18,135
citations

53
h-index

134
g-index

146
ext. papers

23,663
ext. citations

6.3
avg, IF

7.29
L-index

#	Paper	IF	Citations
140	Millimeter Wave Mobile Communications for 5G Cellular: It Will Work!. <i>IEEE Access</i> , 2013 , 1, 335-349	3.5	4239
139	. <i>Proceedings of the IEEE</i> , 2014 , 102, 366-385	14.3	1350
138	. <i>IEEE Journal on Selected Areas in Communications</i> , 2014 , 32, 1164-1179	14.2	1282
137	Wideband Millimeter-Wave Propagation Measurements and Channel Models for Future Wireless Communication System Design. <i>IEEE Transactions on Communications</i> , 2015 , 63, 3029-3056	6.9	821
136	Broadband Millimeter-Wave Propagation Measurements and Models Using Adaptive-Beam Antennas for Outdoor Urban Cellular Communications. <i>IEEE Transactions on Antennas and Propagation</i> , 2013 , 61, 1850-1859	4.9	687
135	Wireless Communications and Applications Above 100 GHz: Opportunities and Challenges for 6G and Beyond. <i>IEEE Access</i> , 2019 , 7, 78729-78757	3.5	580
134	Overview of Millimeter Wave Communications for Fifth-Generation (5G) Wireless Networks With a Focus on Propagation Models. <i>IEEE Transactions on Antennas and Propagation</i> , 2017 , 65, 6213-6230	4.9	562
133	State of the Art in 60-GHz Integrated Circuits and Systems for Wireless Communications. <i>Proceedings of the IEEE</i> , 2011 , 99, 1390-1436	14.3	549
132	. <i>IEEE Journal on Selected Areas in Communications</i> , 2014 , 32, 1152-1163	14.2	492
131	Mimo for millimeter-wave wireless communications: beamforming, spatial multiplexing, or both? 2014 , 52, 110-121		379
130	Indoor Office Wideband Millimeter-Wave Propagation Measurements and Channel Models at 28 and 73 GHz for Ultra-Dense 5G Wireless Networks. <i>IEEE Access</i> , 2015 , 3, 2388-2424	3.5	360
129	3-D Millimeter-Wave Statistical Channel Model for 5G Wireless System Design. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2016 , 64, 2207-2225	4.1	325
128	Radio propagation path loss models for 5G cellular networks in the 28 GHz and 38 GHz millimeter-wave bands 2014 , 52, 78-86		305
127	28 GHz propagation measurements for outdoor cellular communications using steerable beam antennas in New York city 2013 ,		224
126	. <i>IEEE Journal on Selected Areas in Communications</i> , 2014 , 32, 1239-1255	14.2	223
125	. <i>IEEE Transactions on Vehicular Technology</i> , 2016 , 65, 2843-2860	6.8	222
124	38 GHz and 60 GHz angle-dependent propagation for cellular & peer-to-peer wireless communications 2012 ,		221

123	28 GHz millimeter wave cellular communication measurements for reflection and penetration loss in and around buildings in New York city 2013 ,		205
122	. <i>IEEE Journal on Selected Topics in Signal Processing</i> , 2016 , 10, 454-469	7.5	203
121	Path loss models for 5G millimeter wave propagation channels in urban microcells 2013 ,		165
120	Probabilistic Omnidirectional Path Loss Models for Millimeter-Wave Outdoor Communications. <i>IEEE Wireless Communications Letters</i> , 2015 , 4, 357-360	5.9	148
119	60 GHz Wireless: Up Close and Personal. <i>IEEE Microwave Magazine</i> , 2010 , 11, 44-50	1.2	145
118	On-chip integrated antenna structures in CMOS for 60 GHz WPAN systems. <i>IEEE Journal on Selected Areas in Communications</i> , 2009 , 27, 1367-1378	14.2	145
117	28 GHz Angle of Arrival and Angle of Departure Analysis for Outdoor Cellular Communications Using Steerable Beam Antennas in New York City 2013 ,		140
116	Millimeter-Wave Omnidirectional Path Loss Data for Small Cell 5G Channel Modeling. <i>IEEE Access</i> , 2015 , 3, 1573-1580	3.5	131
115	Propagation Path Loss Models for 5G Urban Micro- and Macro-Cellular Scenarios 2016 ,		128
114	Millimeter-Wave 60 GHz Outdoor and Vehicle AOA Propagation Measurements Using a Broadband Channel Sounder 2011 ,		125
113	5G 3GPP-Like Channel Models for Outdoor Urban Microcellular and Macrocellular Environments 2016 ,		123
112	73 GHz millimeter wave propagation measurements for outdoor urban mobile and backhaul communications in New York City 2014 ,		119
111	Safe for Generations to Come. <i>IEEE Microwave Magazine</i> , 2015 , 16, 65-84	1.2	117
110	Directional Cell Discovery in Millimeter Wave Cellular Networks. <i>IEEE Transactions on Wireless Communications</i> , 2015 , 14, 6664-6678	9.6	115
109	Propagation Models and Performance Evaluation for 5G Millimeter-Wave Bands. <i>IEEE Transactions on Vehicular Technology</i> , 2018 , 67, 8422-8439	6.8	115
108	28 GHz Millimeter-Wave Ultrawideband Small-Scale Fading Models in Wireless Channels 2016 ,		109
107	A novel millimeter-wave channel simulator and applications for 5G wireless communications 2017 ,		98
106	3-D statistical channel model for millimeter-wave outdoor mobile broadband communications 2015 ,		96

105	Directional Radio Propagation Path Loss Models for Millimeter-Wave Wireless Networks in the 28-, 60-, and 73-GHz Bands. <i>IEEE Transactions on Wireless Communications</i> , 2016 , 15, 6939-6947	9.6	91
104	Propagation Measurement System and Approach at 140 GHz-Moving to 6G and Above 100 GHz 2018 ,		91
103	3D mmWave Channel Model Proposal 2014 ,		87
102	Ultra-wideband statistical channel model for non line of sight millimeter-wave urban channels 2014 ,		87
101	A Flexible Millimeter-Wave Channel Sounder With Absolute Timing. <i>IEEE Journal on Selected Areas in Communications</i> , 2017 , 35, 1402-1418	14.2	85
100	The human body and millimeter-wave wireless communication systems: Interactions and implications 2015 ,		78
99	28 GHz and 73 GHz millimeter-wave indoor propagation measurements and path loss models 2015 ,		77
98	. <i>IEEE Communications Magazine</i> , 2018 , 56, 14-20	9.1	74
97	Rapid Fading Due to Human Blockage in Pedestrian Crowds at 5G Millimeter-Wave Frequencies 2017 ,		73
96	Small-Scale, Local Area, and Transitional Millimeter Wave Propagation for 5G Communications. <i>IEEE Transactions on Antennas and Propagation</i> , 2017 , 65, 6474-6490	4.9	72
95	. <i>IEEE Journal on Selected Areas in Communications</i> , 2017 , 35, 1663-1677	14.2	71
94	Millimeter-Wave Human Blockage at 73 GHz with a Simple Double Knife-Edge Diffraction Model and Extension for Directional Antennas 2016 ,		71
93	Spatial-Wideband Effect in Massive MIMO with Application in mmWave Systems. <i>IEEE Communications Magazine</i> , 2018 , 56, 134-141	9.1	69
92	Path Loss, Shadow Fading, and Line-of-Sight Probability Models for 5G Urban Macro-Cellular Scenarios 2015 ,		66
91	Omnidirectional path loss models in New York City at 28 GHz and 73 GHz 2014 ,		65
90	A 38 GHz cellular outage study for an urban outdoor campus environment 2012 ,		62
89	Indoor 5G 3GPP-like channel models for office and shopping mall environments 2016 ,		58
88	Millimeter-wave distance-dependent large-scale propagation measurements and path loss models for outdoor and indoor 5G systems 2016 ,		53

87	Cellular broadband millimeter wave propagation and angle of arrival for adaptive beam steering systems (invited paper) 2012,		50
86	Millimeter-Wave Base Station Diversity for 5G Coordinated Multipoint (CoMP) Applications. <i>IEEE Transactions on Wireless Communications</i> , 2019 , 18, 3395-3410	9.6	46
85	73 GHz wideband millimeter-wave foliage and ground reflection measurements and models 2015,		46
84	Millimeter wave multi-beam antenna combining for 5G cellular link improvement in New York City 2014,		45
83	Synthesizing Omnidirectional Antenna Patterns, Received Power and Path Loss from Directional Antennas for 5G Millimeter-Wave Communications 2015,		42
82	Exploiting directionality for millimeter-wave wireless system improvement 2015,		42
81	MobileB millimeter-wave makeover. <i>IEEE Spectrum</i> , 2014 , 51, 34-58	1.7	39
80	Measured Traffic Statistics and Throughput of IEEE 802.11b Public WLAN Hotspots with Three Different Applications. <i>IEEE Transactions on Wireless Communications</i> , 2006 , 5, 3296-3305	9.6	38
79	Indoor and Outdoor 5G Diffraction Measurements and Models at 10, 20, and 26 GHz 2016,		38
78	Millimeter Wave MIMO channel estimation based on adaptive compressed sensing 2017,		37
77	Statistical Channel Model with Multi-Frequency and Arbitrary Antenna Beamwidth for Millimeter-Wave Outdoor Communications 2015,		34
76	Indoor office wideband penetration loss measurements at 73 GHz 2017,		33
75	5G Uniform Linear Arrays With Beamforming and Spatial Multiplexing at 28, 37, 64, and 71 GHz for Outdoor Urban Communication: A Two-Level Approach. <i>IEEE Transactions on Vehicular Technology</i> , 2017 , 66, 9972-9985	6.8	32
74	Millimeter wave wireless communications 2016,		32
73	Position Locationing for Millimeter Wave Systems 2018,		32
72	Public Safety Communications above 6 GHz: Challenges and Opportunities. <i>IEEE Access</i> , 2018 , 6, 316-329,5		31
71	Local multipath model parameters for generating 5G millimeter-wave 3GPP-like channel impulse response 2016,		31
70	Indoor Wireless Channel Properties at Millimeter Wave and Sub-Terahertz Frequencies 2019,		31

69	Position Location for Futuristic Cellular Communications: 5G and Beyond. <i>IEEE Communications Magazine</i> , 2021 , 59, 70-75	9.1	31
68	Low-Rank Spatial Channel Estimation for Millimeter Wave Cellular Systems. <i>IEEE Transactions on Wireless Communications</i> , 2017 , 16, 2748-2759	9.6	30
67	Hybrid beamforming for 5G millimeter-wave multi-cell networks 2018 ,		30
66	Scattering Mechanisms and Modeling for Terahertz Wireless Communications 2019 ,		30
65	28 GHz and 73 GHz signal outage study for millimeter wave cellular and backhaul communications 2014 ,		29
64	Millimeter Wave and Sub-Terahertz Spatial Statistical Channel Model for an Indoor Office Building. <i>IEEE Journal on Selected Areas in Communications</i> , 2021 , 39, 1561-1575	14.2	29
63	Wideband $\Sigma\Delta$ -Beam Arrays Using Low-Complexity Algorithms and Mixed-Signal Integrated Circuits. <i>IEEE Journal on Selected Topics in Signal Processing</i> , 2018 , 12, 368-382	7.5	27
62	Investigation and Comparison of 3GPP and NYUSIM Channel Models for 5G Wireless Communications 2017 ,		27
61	A Millimeter-Wave Channel Simulator NYUSIM with Spatial Consistency and Human Blockage 2019 ,		27
60	Channel model for millimeter-wave communications based on geometry statistics 2014 ,		26
59	Evaluation of Empirical Ray-Tracing Model for an Urban Outdoor Scenario at 73 GHz E-Band 2014 ,		26
58	Millimeter wave small-scale spatial statistics in an urban microcell scenario 2017 ,		24
57	A Prediction Study of Path Loss Models from 2-73.5 GHz in an Urban-Macro Environment 2016 ,		23
56	Consumption Factor and Power-Efficiency Factor: A Theory for Evaluating the Energy Efficiency of Cascaded Communication Systems. <i>IEEE Journal on Selected Areas in Communications</i> , 2014 , 32, 221-236 ^{14.2}	14.2	23
55	A flexible wideband millimeter-wave channel sounder with local area and NLOS to LOS transition measurements 2017 ,		22
54	MIMO channel modeling and capacity analysis for 5G millimeter-wave wireless systems 2016 ,		21
53	Base Station Diversity Propagation Measurements at 73 GHz Millimeter-Wave for 5G Coordinated Multipoint (CoMP) Analysis 2017 ,		21
52	. <i>IEEE Access</i> , 2019 , 7, 52350-52359	3.5	20

51	Analysis and Simulation of Interference to Vehicle-Equipped Digital Receivers From Cellular Mobile Terminals Operating in Adjacent Frequencies. <i>IEEE Transactions on Vehicular Technology</i> , 2011 , 60, 1664-1676	6.8	20
50	Analytical Framework of Hybrid Beamforming in Multi-Cell Millimeter-Wave Systems. <i>IEEE Transactions on Wireless Communications</i> , 2018 , 17, 7528-7543	9.6	20
49	Indoor Office Plan Environment and Layout-Based mmWave Path Loss Models for 28 GHz and 73 GHz 2016 ,		17
48	Millimeter-Wave Extended NYUSIM Channel Model for Spatial Consistency 2018 ,		17
47	Frame-Based Medium Access Control for 5G Wireless Networks. <i>Mobile Networks and Applications</i> , 2015 , 20, 763-772	2.9	16
46	Wideband mmWave channels: Implications for design and implementation of adaptive beam antennas 2014 ,		15
45	Millimeter Wave and Sub-THz Indoor Radio Propagation Channel Measurements, Models, and Comparisons in an Office Environment. <i>IEEE Communications Letters</i> , 2021 , 1-1	3.8	15
44	Simulating Motion - Incorporating Spatial Consistency into NYUSIM Channel Model 2018 ,		15
43	Analog Approximate-FFT 8/16-Beam Algorithms, Architectures and CMOS Circuits for 5G Beamforming MIMO Transceivers. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , 2018 , 8, 466-479	5.2	14
42	On Directional Neighbor Discovery in mmWave Networks 2017 ,		14
41	Study on 3GPP rural macrocell path loss models for millimeter wave wireless communications 2017 ,		14
40	Antenna effects on indoor obstructed wireless channels and a deterministic image-based wide-band propagation model for in-building personal communication systems. <i>International Journal of Wireless Information Networks</i> , 1994 , 1, 61-76	1.9	13
39	Map-Assisted Millimeter Wave Localization for Accurate Position Location 2019 ,		13
38	Multi-beam antenna combining for 28 GHz cellular link improvement in urban environments 2013 ,		12
37	Novel On-Chip Antenna Structures and Frequency Selective Surface (FSS) Approaches for Millimeter Wave Devices. <i>Vehicular Technology Conference-Fall (VTC-FALL), Proceedings, IEEE</i> , 2007 ,		12
36	Validation of a Geometry-Based Statistical mmWave Channel Model Using Ray-Tracing Simulation 2015 ,		11
35	Improved Measurement-Based Frequency Allocation Algorithms for Wireless Networks 2007 ,		11
34	Verification and Calibration of Antenna Cross-Polarization Discrimination and Penetration Loss for Millimeter Wave Communications 2018 ,		11

33	72 GHz millimeter wave indoor measurements for wireless and backhaul communications 2013 ,		10
32	Analog Equalization for Low Power 60 GHz Receivers in Realistic Multipath Channels 2010 ,		10
31	Propagation Measurements and Path Loss Models for sub-THz in Urban Microcells 2021 ,		9
30	A preliminary 3D mm wave indoor office channel model 2015 ,		8
29	Consumption factor: A figure of merit for power consumption and energy efficiency in broadband wireless communications 2011 ,		8
28	Towards integrated PSEs for wireless communications. <i>Mobile Computing and Communications Review</i> , 2004 , 8, 20-34		8
27	Millimeter Wave and Terahertz Urban Microcell Propagation Measurements and Models. <i>IEEE Communications Letters</i> , 2021 , 1-1	3.8	8
26	On-Chip Integrated Antenna Structures in CMOS for 60 GHz WPAN Systems 2009 ,		7
25	Frequency-Domain Channel Estimation and Equalization for Continuous-Phase Modulations With Superimposed Pilot Sequences. <i>IEEE Transactions on Vehicular Technology</i> , 2009 , 58, 4903-4908	6.8	7
24	Target Localization using Bistatic and Multistatic Radar with 5G NR Waveform 2021 ,		7
23	A Direct-Conversion Digital Beamforming Array Receiver with 800 MHz Channel Bandwidth at 28 GHz using Xilinx RF SoC 2019 ,		7
22	Millimeter-Wave CMOS Antennas and RFIC Parameter Extraction for Vehicular Applications 2010 ,		6
21	Challenges and approaches to on-chip millimeter wave antenna pattern measurements 2011 ,		5
20	Fast Radix-32 Approximate DFTs for 1024-Beam Digital RF Beamforming. <i>IEEE Access</i> , 2020 , 8, 96613-96627		4
19	A Wideband Sliding Correlator-Based Channel Sounder with Synchronization in 65 nm CMOS 2019 ,		4
18	Analog compressed sensing for RF propagation channel sounding 2012 ,		4
17	Millimeter-Wave and Terahertz Wireless RFIC and On-Chip Antenna Design: Tools and Layout Techniques 2009 ,		4
16	3-D Statistical Indoor Channel Model for Millimeter-Wave and Sub-Terahertz Bands 2020 ,		4

15	Terahertz Wireless Communications: Co-Sharing for Terrestrial and Satellite Systems Above 100 GHz. <i>IEEE Communications Letters</i> , 2021 , 1-1	3.8	4
14	Site Specific Knowledge for Improving Frequency Allocations in Wireless LAN and Cellular Networks. <i>Vehicular Technology Conference-Fall (VTC-FALL), Proceedings, IEEE</i> , 2007 ,		3
13	Towards a Low-SWaP 1024-Beam Digital Array: A 32-Beam Subsystem at 5.8 GHz. <i>IEEE Transactions on Antennas and Propagation</i> , 2020 , 68, 900-912	4.9	3
12	Directional neighbor discovery in mmWave wireless networks. <i>Digital Communications and Networks</i> , 2021 , 7, 1-15	5.9	3
11	High Altitude Platform Stations (HAPS): Architecture and System Performance 2021 ,		2
10	Outdoor sub-THz Position Location and Tracking using Field Measurements at 142 GHz 2021 ,		2
9	2021 ,		2
8	Characterizing Ionizing Radiation Exposure after T-Cell Depleted Allogeneic Hematopoietic Cell Transplantation. <i>Biology of Blood and Marrow Transplantation</i> , 2018 , 24, S252-S253	4.7	2
7	A Wideband Sliding Correlation Channel Sounder in 65 nm CMOS: Evaluation Board Performance. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2021 , 68, 3043-3047	3.5	2
6	Performance Impact Analysis of Beam Switching in Millimeter Wave Vehicular Communications 2021 ,		1
5	2019 ,		1
4	MmWave V2V Localization in MU-MIMO Hybrid Beamforming. <i>IEEE Open Journal of Vehicular Technology</i> , 2022 , 1-1	5.3	1
3	Ionizing radiation exposure after allogeneic hematopoietic cell transplantation.. <i>Bone Marrow Transplantation</i> , 2022 ,	4.4	0
2	. <i>IEEE Access</i> , 2021 , 9, 142743-142753	3.5	
1	Spacetime Frequency-Multiplexed Digital-RF Array Receivers With Reduced ADC Count. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2021 , 68, 2840-2844	3.5	