

# Ying-Chang Liang

## List of Publications by Year in descending order

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584  
papers

34,031  
citations

5876

81  
h-index

5364

164  
g-index

591  
all docs

591  
docs citations

591  
times ranked

12691  
citing authors

#	ARTICLE	IF	CITATIONS
1	Sensing-Throughput Tradeoff for Cognitive Radio Networks. IEEE Transactions on Wireless Communications, 2008, 7, 1326-1337.	6.1	2,495
2	Federated Learning in Mobile Edge Networks: A Comprehensive Survey. IEEE Communications Surveys and Tutorials, 2020, 22, 2031-2063.	24.8	1,098
3	Applications of Deep Reinforcement Learning in Communications and Networking: A Survey. IEEE Communications Surveys and Tutorials, 2019, 21, 3133-3174.	24.8	1,071
4	Eigenvalue-based spectrum sensing algorithms for cognitive radio. IEEE Transactions on Communications, 2009, 57, 1784-1793.	4.9	958
5	Cognitive radio networking and communications: an overview. IEEE Transactions on Vehicular Technology, 2011, 60, 3386-3407.	3.9	877
6	Towards 6G wireless communication networks: vision, enabling technologies, and new paradigm shifts. Science China Information Sciences, 2021, 64, 1.	2.7	858
7	Exploiting Multi-Antennas for Opportunistic Spectrum Sharing in Cognitive Radio Networks. IEEE Journal on Selected Topics in Signal Processing, 2008, 2, 88-102.	7.3	695
8	Optimal beamforming for two-way multi-antenna relay channel with analogue network coding. IEEE Journal on Selected Areas in Communications, 2009, 27, 699-712.	9.7	559
9	Optimal power allocation for fading channels in cognitive radio networks: Ergodic capacity and outage capacity. IEEE Transactions on Wireless Communications, 2009, 8, 940-950.	6.1	541
10	A Review on Spectrum Sensing for Cognitive Radio: Challenges and Solutions. Eurasip Journal on Advances in Signal Processing, 2010, 2010, .	1.0	518
11	Toward Smart Wireless Communications via Intelligent Reflecting Surfaces: A Contemporary Survey. IEEE Communications Surveys and Tutorials, 2020, 22, 2283-2314.	24.8	516
12	Weighted Sum-Rate Maximization for Reconfigurable Intelligent Surface Aided Wireless Networks. IEEE Transactions on Wireless Communications, 2020, 19, 3064-3076.	6.1	498
13	Spectrum-Sensing Algorithms for Cognitive Radio Based on Statistical Covariances. IEEE Transactions on Vehicular Technology, 2009, 58, 1804-1815.	3.9	490
14	Optimization of Cooperative Sensing in Cognitive Radio Networks: A Sensing-Throughput Tradeoff View. IEEE Transactions on Vehicular Technology, 2009, 58, 5294-5299.	3.9	405
15	Vision, Requirements, and Technology Trend of 6G: How to Tackle the Challenges of System Coverage, Capacity, User Data-Rate and Movement Speed. IEEE Wireless Communications, 2020, 27, 218-228.	6.6	388
16	Reconfigurable Intelligent Surface Assisted UAV Communication: Joint Trajectory Design and Passive Beamforming. IEEE Wireless Communications Letters, 2020, 9, 716-720.	3.2	378
17	Optimization for Cooperative Sensing in Cognitive Radio Networks. , 2007, , .		376
18	Joint Beamforming and Power Allocation for Multiple Access Channels in Cognitive Radio Networks. IEEE Journal on Selected Areas in Communications, 2008, 26, 38-51.	9.7	352

#	ARTICLE	IF	CITATIONS
19	Multi-antenna based spectrum sensing for cognitive radios: A GLRT approach. IEEE Transactions on Communications, 2010, 58, 84-88.	4.9	342
20	Intelligent Reflecting Surface: A Programmable Wireless Environment for Physical Layer Security. IEEE Access, 2019, 7, 82599-82612.	2.6	321
21	Spectrum Survey in Singapore: Occupancy Measurements and Analyses. , 2008, , .		311
22	Dynamic Resource Allocation in Cognitive Radio Networks. IEEE Signal Processing Magazine, 2010, 27, 102-114.	4.6	281
23	Cooperative Ambient Backscatter Communications for Green Internet-of-Things. IEEE Internet of Things Journal, 2018, 5, 1116-1130.	5.5	278
24	Deep Reinforcement Learning for User Association and Resource Allocation in Heterogeneous Cellular Networks. IEEE Transactions on Wireless Communications, 2019, 18, 5141-5152.	6.1	277
25	Sensing-Based Spectrum Sharing in Cognitive Radio Networks. IEEE Transactions on Vehicular Technology, 2009, 58, 4649-4654.	3.9	273
26	Optimal channel estimation and training design for two-way relay networks. IEEE Transactions on Communications, 2009, 57, 3024-3033.	4.9	266
27	A Survey of Advanced Techniques for Spectrum Sharing in 5G Networks. IEEE Wireless Communications, 2017, 24, 44-51.	6.6	244
28	Energy-Efficient Design of Sequential Channel Sensing in Cognitive Radio Networks: Optimal Sensing Strategy, Power Allocation, and Sensing Order. IEEE Journal on Selected Areas in Communications, 2011, 29, 1648-1659.	9.7	241
29	Modulation in the Air: Backscatter Communication Over Ambient OFDM Carrier. IEEE Transactions on Communications, 2018, 66, 1219-1233.	4.9	237
30	Performance Analysis and Optimization in Downlink NOMA Systems With Cooperative Full-Duplex Relaying. IEEE Journal on Selected Areas in Communications, 2017, 35, 2398-2412.	9.7	231
31	Maximum-Minimum Eigenvalue Detection for Cognitive Radio. , 2007, , .		230
32	Resource Allocation for Device-to-Device Communications Overlaying Two-Way Cellular Networks. IEEE Transactions on Wireless Communications, 2013, 12, 3611-3621.	6.1	221
33	Maximum Eigenvalue Detection: Theory and Application. , 2008, , .		214
34	Resource Allocation for Delay Differentiated Traffic in Multiuser OFDM Systems. IEEE Transactions on Wireless Communications, 2008, 7, 2190-2201.	6.1	212
35	Covariance Based Signal Detections for Cognitive Radio. , 2007, , .		204
36	Active Reconfigurable Intelligent Surface-Aided Wireless Communications. IEEE Transactions on Wireless Communications, 2021, 20, 4962-4975.	6.1	202

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37	On Ergodic Sum Capacity of Fading Cognitive Multiple-Access and Broadcast Channels. IEEE Transactions on Information Theory, 2009, 55, 5161-5178.	1.5	197
38	Optimal Power Allocation Strategies for Fading Cognitive Radio Channels with Primary User Outage Constraint. IEEE Journal on Selected Areas in Communications, 2011, 29, 374-383.	9.7	194
39	6G Visions: Mobile ultra-broadband, super internet-of-things, and artificial intelligence. China Communications, 2019, 16, 1-14.	2.0	191
40	Robust cognitive beamforming with partial channel state information. IEEE Transactions on Wireless Communications, 2009, 8, 4143-4153.	6.1	181
41	Secure communication over MISO cognitive radio channels. IEEE Transactions on Wireless Communications, 2010, 9, 1494-1502.	6.1	179
42	Blindly Combined Energy Detection for Spectrum Sensing in Cognitive Radio. IEEE Signal Processing Letters, 2008, 15, 649-652.	2.1	174
43	State of the Art, Taxonomy, and Open Issues on Cognitive Radio Networks with NOMA. IEEE Wireless Communications, 2018, 25, 100-108.	6.6	166
44	Power Control and Channel Allocation in Cognitive Radio Networks with Primary Users' Cooperation. IEEE Transactions on Mobile Computing, 2010, 9, 348-360.	3.9	162
45	How Much Time is Needed for Qideband Spectrum Sensing?. IEEE Transactions on Wireless Communications, 2009, 8, 5466-5471.	6.1	160
46	Joint Beamforming and Power Control for Multiantenna Relay Broadcast Channel With QoS Constraints. IEEE Transactions on Signal Processing, 2009, 57, 726-737.	3.2	156
47	Channel Estimation for OFDM Modulated Two-Way Relay Networks. IEEE Transactions on Signal Processing, 2009, 57, 4443-4455.	3.2	155
48	Deep CM-CNN for Spectrum Sensing in Cognitive Radio. IEEE Journal on Selected Areas in Communications, 2019, 37, 2306-2321.	9.7	153
49	Optimal power allocation for OFDM-based cognitive radio with new primary transmission protection criteria. IEEE Transactions on Wireless Communications, 2010, 9, 2066-2075.	6.1	152
50	Symbiotic Radio: A New Communication Paradigm for Passive Internet of Things. IEEE Internet of Things Journal, 2020, 7, 1350-1363.	5.5	152
51	Backscatter-NOMA: A Symbiotic System of Cellular and Internet-of-Things Networks. IEEE Access, 2019, 7, 20000-20013.	2.6	151
52	Intelligent Reflecting Surface-Assisted Cognitive Radio System. IEEE Transactions on Communications, 2021, 69, 675-687.	4.9	146
53	Joint power control and beamforming for cognitive radio networks. IEEE Transactions on Wireless Communications, 2008, 7, 2415-2419.	6.1	145
54	Securing physical-layer communications for cognitive radio networks. , 2015, 53, 48-54.		142

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55	Spectrum Sharing for Internet of Things: A Survey. <i>IEEE Wireless Communications</i> , 2019, 26, 132-139.	6.6	142
56	Sensing-Throughput Tradeoff in Cognitive Radio Networks: How Frequently Should Spectrum Sensing be Carried Out?. , 2007, , .		141
57	Secrecy Outage and Diversity Analysis of Cognitive Radio Systems. <i>IEEE Journal on Selected Areas in Communications</i> , 2014, 32, 2222-2236.	9.7	141
58	Symbiotic Radio: Cognitive Backscattering Communications for Future Wireless Networks. <i>IEEE Transactions on Cognitive Communications and Networking</i> , 2020, 6, 1242-1255.	4.9	136
59	Downlink channel covariance matrix (DCCM) estimation and its applications in wireless DS-CDMA systems. <i>IEEE Journal on Selected Areas in Communications</i> , 2001, 19, 222-232.	9.7	135
60	Intelligent Resource Scheduling for 5G Radio Access Network Slicing. <i>IEEE Transactions on Vehicular Technology</i> , 2019, 68, 7691-7703.	3.9	132
61	End-to-End Throughput Maximization for Underlay Multi-Hop Cognitive Radio Networks With RF Energy Harvesting. <i>IEEE Transactions on Wireless Communications</i> , 2017, 16, 3561-3572.	6.1	131
62	Weighted Sum-Rate Maximization for Intelligent Reflecting Surface Enhanced Wireless Networks. , 2019, , .		126
63	Robust Downlink Beamforming in Multiuser MISO Cognitive Radio Networks With Imperfect Channel-State Information. <i>IEEE Transactions on Vehicular Technology</i> , 2010, 59, 2852-2860.	3.9	125
64	Incentive Design for Efficient Federated Learning in Mobile Networks: A Contract Theory Approach. , 2019, , .		122
65	Optimal Resource Allocation for Two-Way Relay-Assisted OFDMA. <i>IEEE Transactions on Vehicular Technology</i> , 2009, 58, 3311-3321.	3.9	121
66	Opportunistic spectrum access for energy-constrained cognitive radios. <i>IEEE Transactions on Wireless Communications</i> , 2009, 8, 1206-1211.	6.1	120
67	GLRT-Based Spectrum Sensing for Cognitive Radio. , 2008, , .		119
68	An Energy-Ratio-Based Approach for Detecting Pilot Spoofing Attack in Multiple-Antenna Systems. <i>IEEE Transactions on Information Forensics and Security</i> , 2015, 10, 932-940.	4.5	119
69	Cognitive beamforming made practical: Effective interference channel and learning-throughput tradeoff. <i>IEEE Transactions on Communications</i> , 2010, 58, 706-718.	4.9	118
70	Secure Communication in Multiantenna Cognitive Radio Networks With Imperfect Channel State Information. <i>IEEE Transactions on Signal Processing</i> , 2011, 59, 1683-1693.	3.2	117
71	Channel Estimation for TDD/FDD Massive MIMO Systems With Channel Covariance Computing. <i>IEEE Transactions on Wireless Communications</i> , 2018, 17, 4206-4218.	6.1	116
72	Two-Way Relaying over OFDM: Optimized Tone Permutation and Power Allocation. , 2008, , .		114

#	ARTICLE	IF	CITATIONS
73	On Gaussian MIMO BC-MAC Duality With Multiple Transmit Covariance Constraints. IEEE Transactions on Information Theory, 2012, 58, 2064-2078.	1.5	112
74	A Survey on Blockchain: A Game Theoretical Perspective. IEEE Access, 2019, 7, 47615-47643.	2.6	112
75	Robust Power Control and Beamforming in Cognitive Radio Networks: A Survey. IEEE Communications Surveys and Tutorials, 2015, 17, 1834-1857.	24.8	111
76	Intelligent Reflecting Surface Assisted Non-Orthogonal Multiple Access. , 2020, , .		109
77	Constellation Learning-Based Signal Detection for Ambient Backscatter Communication Systems. IEEE Journal on Selected Areas in Communications, 2019, 37, 452-463.	9.7	107
78	Resource Allocation for Wireless-Powered IoT Networks With Short Packet Communication. IEEE Transactions on Wireless Communications, 2019, 18, 1447-1461.	6.1	105
79	Riding on the Primary: A New Spectrum Sharing Paradigm for Wireless-Powered IoT Devices. IEEE Transactions on Wireless Communications, 2018, 17, 6335-6347.	6.1	104
80	Reliable and Efficient Sub-Nyquist Wideband Spectrum Sensing in Cooperative Cognitive Radio Networks. IEEE Journal on Selected Areas in Communications, 2016, 34, 2750-2762.	9.7	103
81	Sensing-Throughput Tradeoff for Cognitive Radio Networks. , 2007, , .		102
82	Downlink Channel Assignment and Power Control for Cognitive Radio Networks. IEEE Transactions on Wireless Communications, 2008, 7, 3106-3117.	6.1	100
83	Reconfigurable Intelligent Surface-Assisted Non-Orthogonal Multiple Access. IEEE Transactions on Wireless Communications, 2021, 20, 3137-3151.	6.1	99
84	Weighted sum rate optimization for cognitive radio MIMO broadcast channels. IEEE Transactions on Wireless Communications, 2009, 8, 2950-2959.	6.1	98
85	Energy-Efficient UAV Backscatter Communication With Joint Trajectory Design and Resource Optimization. IEEE Transactions on Wireless Communications, 2021, 20, 926-941.	6.1	97
86	Deep Reinforcement Learning-Based Modulation and Coding Scheme Selection in Cognitive Heterogeneous Networks. IEEE Transactions on Wireless Communications, 2019, 18, 3281-3294.	6.1	93
87	Cognitive radio resource management for future cellular networks. IEEE Wireless Communications, 2014, 21, 70-79.	6.6	91
88	Design of Learning-Based MIMO Cognitive Radio Systems. IEEE Transactions on Vehicular Technology, 2010, 59, 1707-1720.	3.9	90
89	On the relationship between the multi-antenna secrecy communications and cognitive radio communications. IEEE Transactions on Communications, 2010, 58, 1877-1886.	4.9	89
90	Cooperative Spectrum Sensing in Cognitive Radio Networks with Weighted Decision Fusion Schemes. IEEE Transactions on Wireless Communications, 2010, 9, 3838-3847.	6.1	88

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91	Exploiting Multiple Antennas for Cognitive Ambient Backscatter Communication. IEEE Internet of Things Journal, 2019, 6, 765-775.	5.5	88
92	Applications of Economic and Pricing Models for Resource Management in 5G Wireless Networks: A Survey. IEEE Communications Surveys and Tutorials, 2019, 21, 3298-3339.	24.8	87
93	Fast and Robust Spectrum Sensing via Kolmogorov-Smirnov Test. IEEE Transactions on Communications, 2010, 58, 3410-3416.	4.9	85
94	Outage Performance of Underlay Multihop Cognitive Relay Networks With Energy Harvesting. IEEE Communications Letters, 2016, 20, 1148-1151.	2.5	84
95	Optimal Resource Allocation in Full-Duplex Ambient Backscatter Communication Networks for Wireless-Powered IoT. IEEE Internet of Things Journal, 2019, 6, 2612-2625.	5.5	82
96	Investigation on multiuser diversity in spectrum sharing based cognitive radio networks. IEEE Communications Letters, 2010, 14, 133-135.	2.5	80
97	Sensing-Based Spectrum Sharing in Cognitive Radio Networks. , 2008, , .		79
98	Optimal Resource Allocation for Multiuser MIMO-OFDM Systems With User Rate Constraints. IEEE Transactions on Vehicular Technology, 2009, 58, 1190-1203.	3.9	79
99	Adaptive joint scheduling of spectrum sensing and data transmission in cognitive radio networks. IEEE Transactions on Communications, 2010, 58, 235-246.	4.9	78
100	The SMART Handoff Policy for Millimeter Wave Heterogeneous Cellular Networks. IEEE Transactions on Mobile Computing, 2018, 17, 1456-1468.	3.9	78
101	Joint Optimization of Handover Control and Power Allocation Based on Multi-Agent Deep Reinforcement Learning. IEEE Transactions on Vehicular Technology, 2020, 69, 13124-13138.	3.9	78
102	Maximizing Spectrum Utilization of Cognitive Radio Networks Using Channel Allocation and Power Control. , 2006, , .		77
103	Deep Neural Network for Robust Modulation Classification Under Uncertain Noise Conditions. IEEE Transactions on Vehicular Technology, 2020, 69, 564-577.	3.9	76
104	Deep Transfer Learning for Signal Detection in Ambient Backscatter Communications. IEEE Transactions on Wireless Communications, 2021, 20, 1624-1638.	6.1	76
105	Cognitive multiple access channels: optimal power allocation for weighted sum rate maximization. IEEE Transactions on Communications, 2009, 57, 2754-2762.	4.9	75
106	Beamforming and Power Control for Multi-Antenna Cognitive Two-Way Relaying. , 2009, , .		75
107	Cooperative Ambient Backscatter System: A Symbiotic Radio Paradigm for Passive IoT. IEEE Wireless Communications Letters, 2019, 8, 1191-1194.	3.2	75
108	Optimal Analogue Relaying with Multi-Antennas for Physical Layer Network coding. , 2008, , .		74

#	ARTICLE	IF	CITATIONS
109	Distributed Power Control for Spectrum-Sharing Femtocell Networks Using Stackelberg Game. , 2011, , .		74
110	Energy-Efficient Cooperative Spectrum Sensing in Cognitive Radio Networks. , 2011, , .		74
111	20 Years of Evolution From Cognitive to Intelligent Communications. IEEE Transactions on Cognitive Communications and Networking, 2020, 6, 6-20.	4.9	73
112	DOA and Polarization Estimation for Non-Circular Signals in 3-D Millimeter Wave Polarized Massive MIMO Systems. IEEE Transactions on Wireless Communications, 2021, 20, 3152-3167.	6.1	73
113	Full-Duplex Backscatter Communications in Symbiotic Radio Systems. IEEE Access, 2019, 7, 21597-21608.	2.6	72
114	On the Spectrum- and Energy-Efficiency Tradeoff in Cognitive Radio Networks. IEEE Transactions on Communications, 2016, 64, 490-501.	4.9	71
115	Dynamic Contract Incentive Mechanism for Cooperative Wireless Networks. IEEE Transactions on Vehicular Technology, 2018, 67, 10970-10982.	3.9	71
116	Block-iterative generalized decision feedback equalizers for large MIMO systems: algorithm design and asymptotic performance analysis. IEEE Transactions on Signal Processing, 2006, 54, 2035-2048.	3.2	70
117	Licensed-Assisted Access for LTE in Unlicensed Spectrum: A MAC Protocol Design. IEEE Journal on Selected Areas in Communications, 2016, 34, 2550-2561.	9.7	70
118	Average Throughput Analysis and Optimization in Cooperative IoT Networks With Short Packet Communication. IEEE Transactions on Vehicular Technology, 2018, 67, 11549-11562.	3.9	69
119	Asymptotic Performance of MMSE Receivers for Large Systems Using Random Matrix Theory. IEEE Transactions on Information Theory, 2007, 53, 4173-4190.	1.5	68
120	Secure Transmission Against Pilot Spoofing Attack: A Two-Way Training-Based Scheme. IEEE Transactions on Information Forensics and Security, 2016, 11, 1017-1026.	4.5	68
121	Reconfiguration in Network Slicing“Optimizing the Profit and Performance. IEEE Transactions on Network and Service Management, 2019, 16, 591-605.	3.2	67
122	Resource Allocation in NOMA-Enhanced Backscatter Communication Networks for Wireless Powered IoT. IEEE Wireless Communications Letters, 2020, 9, 117-120.	3.2	67
123	Joint channel and frequency offset estimation in distributed MIMO flat-fading channels. IEEE Transactions on Wireless Communications, 2008, 7, 648-656.	6.1	66
124	Distributed Multi-Relay Selection in Accumulate-Then-Forward Energy Harvesting Relay Networks. IEEE Transactions on Green Communications and Networking, 2018, 2, 74-86.	3.5	66
125	Backscatter Multiplicative Multiple-Access Systems: Fundamental Limits and Practical Design. IEEE Transactions on Wireless Communications, 2018, 17, 5713-5728.	6.1	66
126	Activity Pattern Aware Spectrum Sensing: A CNN-Based Deep Learning Approach. IEEE Communications Letters, 2019, 23, 1025-1028.	2.5	66



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127	Joint Service Pricing and Cooperative Relay Communication for Federated Learning. , 2019, , .		65
128	QoS-Aware User Association and Resource Allocation in LAA-LTE/WiFi Coexistence Systems. IEEE Transactions on Wireless Communications, 2019, 18, 2415-2430.	6.1	65
129	Deep Reinforcement Learning for Joint Channel Selection and Power Control in D2D Networks. IEEE Transactions on Wireless Communications, 2021, 20, 1363-1378.	6.1	64
130	Optimal Power Allocation for Fading Channels in Cognitive Radio Networks under Transmit and Interference Power Constraints. , 2008, , .		63
131	Reconfigurable Intelligent Surface Assisted MIMO Symbiotic Radio Networks. IEEE Transactions on Communications, 2021, 69, 4832-4846.	4.9	63
132	A Two-Phase Channel and Power Allocation Scheme for Cognitive Radio Networks. , 2006, , .		62
133	Cognitive radio on TV bands: a new approach to provide wireless connectivity for rural areas. IEEE Wireless Communications, 2008, 15, 16-22.	6.6	60
134	Adaptive Ambient Backscatter Communication Systems With MRC. IEEE Transactions on Vehicular Technology, 2018, 67, 12352-12357.	3.9	60
135	On Robustness of Network Slicing for Next-Generation Mobile Networks. IEEE Transactions on Communications, 2019, 67, 430-444.	4.9	60
136	Intelligent User Association for Symbiotic Radio Networks Using Deep Reinforcement Learning. IEEE Transactions on Wireless Communications, 2020, 19, 4535-4548.	6.1	60
137	Optimal Relay Selection in IEEE 802.16j Multihop Relay Vehicular Networks. IEEE Transactions on Vehicular Technology, 2010, 59, 2198-2206.	3.9	58
138	A Two-Level MAC Protocol Strategy for Opportunistic Spectrum Access in Cognitive Radio Networks. IEEE Transactions on Vehicular Technology, 2011, 60, 2164-2180.	3.9	58
139	Network Slice Reconfiguration by Exploiting Deep Reinforcement Learning With Large Action Space. IEEE Transactions on Network and Service Management, 2020, 17, 2197-2211.	3.2	58
140	Device Association for RAN Slicing Based on Hybrid Federated Deep Reinforcement Learning. IEEE Transactions on Vehicular Technology, 2020, 69, 15731-15745.	3.9	58
141	Optimization for Full-Duplex Rotary-Wing UAV-Enabled Wireless-Powered IoT Networks. IEEE Transactions on Wireless Communications, 2020, 19, 5057-5072.	6.1	57
142	Blind Spectrum Sensing Algorithms for Cognitive Radio Networks. IEEE Transactions on Vehicular Technology, 2008, 57, 2834-2842.	3.9	56
143	Adaptive Scheduling of Spectrum Sensing Periods in Cognitive Radio Networks. , 2007, , .		55
144	Resource Allocation for Full-Duplex-Enabled Cognitive Backscatter Networks. IEEE Transactions on Wireless Communications, 2019, 18, 3222-3235.	6.1	55

#	ARTICLE	IF	CITATIONS
145	Reconfigurable intelligent surfaces for smart wireless environments: channel estimation, system design and applications in 6G networks. Science China Information Sciences, 2021, 64, 1.	2.7	52
146	Socially Aware Caching Strategy in Device-to-Device Communication Networks. IEEE Transactions on Vehicular Technology, 2018, 67, 4615-4629.	3.9	51
147	MAC Protocol Design and Performance Analysis for Random Access Cognitive Radio Networks. IEEE Journal on Selected Areas in Communications, 2013, 31, 2289-2300.	9.7	50
148	Energy-Efficient Cognitive Transmission With Imperfect Spectrum Sensing. IEEE Journal on Selected Areas in Communications, 2016, 34, 1320-1335.	9.7	50
149	Random Access or Scheduling: Optimum LTE Licensed-Assisted Access to Unlicensed Spectrum. IEEE Communications Letters, 2016, 20, 590-593.	2.5	50
150	Dynamic Spectrum Management. Signals and Communication Technology, 2020, , .	0.4	50
151	Hybrid Ambient Backscatter Communication Systems With Harvest-Then-Transmit Protocols. IEEE Access, 2018, 6, 45288-45298.	2.6	49
152	Prefiltering-based ESPRIT for estimating sinusoidal parameters in non-Gaussian ARMA noise. IEEE Transactions on Signal Processing, 1995, 43, 349-353.	3.2	48
153	Learning-Based Spectrum Sharing and Spatial Reuse in mm-Wave Ultradense Networks. IEEE Transactions on Vehicular Technology, 2018, 67, 4954-4968.	3.9	47
154	Deep Reinforcement Learning for User Association and Resource Allocation in Heterogeneous Networks. , 2018, , .		47
155	Resource Allocation for Symbiotic Radio System With Fading Channels. IEEE Access, 2019, 7, 34333-34347.	2.6	47
156	Reconfigurable Intelligent Surfaces for Energy Efficiency in D2D Communication Network. IEEE Wireless Communications Letters, 2021, 10, 683-687.	3.2	47
157	Optimal training sequences for channel estimation in bi-directional relay networks with multiple antennas. IEEE Transactions on Communications, 2010, 58, 474-479.	4.9	46
158	Reconfigurable Intelligent Surface Enhanced Multi-User MISO Symbiotic Radio System. IEEE Transactions on Communications, 2021, 69, 2359-2371.	4.9	46
159	Blockchain and Artificial Intelligence for Dynamic Resource Sharing in 6G and Beyond. IEEE Wireless Communications, 2021, 28, 145-151.	6.6	46
160	Backscatter Communications over Ambient OFDM Signals: Transceiver Design and Performance Analysis. , 2016, , .		44
161	Efficient Handover Mechanism for Radio Access Network Slicing by Exploiting Distributed Learning. IEEE Transactions on Network and Service Management, 2020, 17, 2620-2633.	3.2	44
162	Wireless big data: transforming heterogeneous networks to smart networks. Journal of Communications and Information Networks, 2017, 2, 19-32.	3.5	43

#	ARTICLE	IF	CITATIONS
163	Joint Beamforming and Power Control in the Downlink of Cognitive Radio Networks. , 2007, , .		42
164	Robustness of the cyclostationary detection to cyclic frequency mismatch. , 2010, , .		42
165	Channel Estimation for Ambient Backscatter Communication Systems With Massive-Antenna Reader. IEEE Transactions on Vehicular Technology, 2019, 68, 8254-8258.	3.9	42
166	Reconfigurable Intelligent Surface Aided Constant-Envelope Wireless Power Transfer. IEEE Transactions on Signal Processing, 2021, 69, 1347-1361.	3.2	42
167	Joint Admission Control and Power Allocation for Cognitive Radio Networks. , 2007, , .		41
168	Ultra-low-latency ubiquitous connections in heterogeneous cloud radio access networks. IEEE Wireless Communications, 2015, 22, 22-31.	6.6	41
169	Exploiting Hidden Power-Feedback Loops for Cognitive Radio. , 2008, , .		40
170	Modulation-Constrained Clustering Approach to Blind Modulation Classification for MIMO Systems. IEEE Transactions on Cognitive Communications and Networking, 2018, 4, 894-907.	4.9	40
171	Spatial-Temporal Attention-Convolution Network for Citywide Cellular Traffic Prediction. IEEE Communications Letters, 2020, 24, 2532-2536.	2.5	40
172	Service Provisioning Framework for RAN Slicing: User Admissibility, Slice Association and Bandwidth Allocation. IEEE Transactions on Mobile Computing, 2021, 20, 3409-3422.	3.9	40
173	Deep Reinforcement Learning for Distributed Dynamic MISO Downlink-Beamforming Coordination. IEEE Transactions on Communications, 2020, 68, 6070-6085.	4.9	40
174	On the Eigenvalue-Based Spectrum Sensing and Secondary User Throughput. IEEE Transactions on Vehicular Technology, 2014, 63, 1480-1486.	3.9	39
175	Resource Allocation in NOMA-Enhanced Full-Duplex Symbiotic Radio Networks. IEEE Access, 2020, 8, 22709-22720.	2.6	39
176	Power and modulo loss tradeoff with expanded soft demapper for LDPC coded GMD-THP MIMO systems. IEEE Transactions on Wireless Communications, 2009, 8, 714-724.	6.1	38
177	Design and Analysis for an 802.11-Based Cognitive Radio Network. , 2009, , .		38
178	Cooperative Soft Fusion for HMM-Based Spectrum Occupancy Prediction. IEEE Communications Letters, 2018, 22, 2144-2147.	2.5	38
179	Intelligent Sharing for LTE and WiFi Systems in Unlicensed Bands: A Deep Reinforcement Learning Approach. IEEE Transactions on Communications, 2020, 68, 2793-2808.	4.9	38
180	Deep Reinforcement Learning For Multi-User Access Control in Non-Terrestrial Networks. IEEE Transactions on Communications, 2021, 69, 1605-1619.	4.9	38

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181	Spectrum Sensing for OFDM Signals Using Pilot Induced Auto-Correlations. IEEE Journal on Selected Areas in Communications, 2013, 31, 353-363.	9.7	37
182	Maximum Eigenvalue-Based Goodness-of-Fit Detection for Spectrum Sensing in Cognitive Radio. IEEE Transactions on Vehicular Technology, 2019, 68, 7747-7760.	3.9	37
183	Blockchain for Dynamic Spectrum Management. Signals and Communication Technology, 2020, , 121-146.	0.4	37
184	Sensing-throughput tradeoff for cognitive radio networks: A multiple-channel scenario. , 2009, , .		36
185	Robust Modulation Classification under Uncertain Noise Condition Using Recurrent Neural Network. , 2018, , .		36
186	Deep Reinforcement Learning for Multi-Agent Power Control in Heterogeneous Networks. IEEE Transactions on Wireless Communications, 2021, 20, 2551-2564.	6.1	36
187	Spatial-Temporal Aggregation Graph Convolution Network for Efficient Mobile Cellular Traffic Prediction. IEEE Communications Letters, 2022, 26, 587-591.	2.5	36
188	Fully Distributed Channel-Hopping Algorithms for Rendezvous Setup in Cognitive Multiradio Networks. IEEE Transactions on Vehicular Technology, 2016, 65, 8629-8643.	3.9	35
189	Statistical spectrum occupancy prediction for dynamic spectrum access: a classification. Eurasip Journal on Wireless Communications and Networking, 2018, 2018, .	1.5	35
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