Shinya Sugiura

List of Publications by Year
in descending order

135 papers	4,884 citations	109321 35 h-index	95266 68 g-index
148 all docs	148 docs citations	148 times ranked	2148 citing authors

#	Article	IF	Citations
1	Spatial Modulation for Generalized MIMO: Challenges, Opportunities, and Implementation. Proceedings of the IEEE, 2014, 102, 56-103.	21.3	1,206
2	Coherent and Differential Space-Time Shift Keying: A Dispersion Matrix Approach. IEEE Transactions on Communications, 2010, 58, 3219-3230.	7.8	233
3	Single-Carrier SM-MIMO: A Promising Design for Broadband Large-Scale Antenna Systems. IEEE Communications Surveys and Tutorials, 2016, 18, 1687-1716.	39.4	200
4	Subcarrier-Index Modulation Aided OFDM - Will It Work?. IEEE Access, 2016, 4, 2580-2593.	4.2	167
5	Generalized Space-Time Shift Keying Designed for Flexible Diversity-, Multiplexing- and Complexity-Tradeoffs. IEEE Transactions on Wireless Communications, 2011, 10, 1144-1153.	9.2	139
6	50 Years of Permutation, Spatial and Index Modulation: From Classic RF to Visible Light Communications and Data Storage. IEEE Communications Surveys and Tutorials, 2018, 20, 1905-1938.	39.4	132
7	Frequency-Domain Equalization of Faster-than-Nyquist Signaling. IEEE Wireless Communications Letters, 2013, 2, 555-558.	5.0	117
8	Maximizing Constrained Capacity of Power-Imbalanced Optical Wireless MIMO Communications Using Spatial Modulation. Journal of Lightwave Technology, 2015, 33, 519-527.	4.6	116
9	A Universal Space-Time Architecture for Multiple-Antenna Aided Systems. IEEE Communications Surveys and Tutorials, 2012, 14, 401-420.	39.4	104
10	Reduced-Complexity Coherent Versus Non-Coherent QAM-Aided Space-Time Shift Keying. IEEE Transactions on Communications, 2011, 59, 3090-3101.	7.8	97
11	Frequency-Domain-Equalization-Aided Iterative Detection of Faster-than-Nyquist Signaling. IEEE Transactions on Vehicular Technology, 2015, 64, 2122-2128.	6.3	82
12	State-of-the-Art Design of Index Modulation in the Space, Time, and Frequency Domains: Benefits and Fundamental Limitations. IEEE Access, 2017, 5, 21774-21790.	4.2	79
13	Effects of Channel Estimation on Spatial Modulation. IEEE Signal Processing Letters, 2012, 19, 805-808.	3.6	77
14	Coherent Versus Non-Coherent Decode-and-Forward Relaying Aided Cooperative Space-Time Shift Keying. IEEE Transactions on Communications, 2011, 59, 1707-1719.	7.8	75
15	Extremely small wavevector regime in a one-dimensional photonic crystal heterostructure for angular transmission filtering. Optics Letters, 2016, 41, 3829.	3.3	69
16	Generalized Spatial Modulation Based Reduced-RF-Chain Millimeter-Wave Communications. IEEE Transactions on Vehicular Technology, 2016, , 1-1.	6.3	64
17	Spatial Modulation and Space-Time Shift Keying: Optimal Performance at a Reduced Detection Complexity. IEEE Transactions on Communications, 2013, 61, 206-216.	7.8	62
18	Two Decades of MIMO Design Tradeoffs and Reduced-Complexity MIMO Detection in Near-Capacity Systems. IEEE Access, 2017, 5, 18564-18632.	4.2	60

#	Article	IF	Citations
19	Unified Differential Spatial Modulation. IEEE Wireless Communications Letters, 2014, 3, 337-340.	5.0	59
20	Characterization of Inductively-Coupled RF Plasma Sources with Multiple Low-Inductance Antenna Units. Japanese Journal of Applied Physics, 2006, 45, 8046-8049.	1.5	58
21	MIMO-Aided Near-Capacity Turbo Transceivers: Taxonomy and Performance versus Complexity. IEEE Communications Surveys and Tutorials, 2012, 14, 421-442.	39.4	58
22	Effects of Antenna Switching on Band-Limited Spatial Modulation. IEEE Wireless Communications Letters, 2014, 3, 345-348.	5.0	55
23	Single-Carrier Frequency-Domain Equalization With Index Modulation. IEEE Communications Letters, 2017, 21, 298-301.	4.1	52
24	Single-RF Spatial Modulation Requires Single-Carrier Transmission: Frequency-Domain Turbo Equalization for Dispersive Channels. IEEE Transactions on Vehicular Technology, 2015, 64, 4870-4875.	6.3	51
25	Iterative Frequency-Domain Joint Channel Estimation and Data Detection of Faster-Than-Nyquist Signaling. IEEE Transactions on Wireless Communications, 2017, 16, 6221-6231.	9.2	50
26	Sixty Years of Coherent Versus Non-Coherent Tradeoffs and the Road From 5G to Wireless Futures. IEEE Access, 2019, 7, 178246-178299.	4.2	49
27	Theoretical Analysis of Hybrid Buffer-Aided Cooperative Protocol Based on Maxâ€“Max and Maxâ€“Link Relay Selections. IEEE Transactions on Vehicular Technology, 2016, 65, 9236-9246.	6.3	48
28	Rectangular Differential Spatial Modulation for Open-Loop Noncoherent Massive-MIMO Downlink. IEEE Transactions on Wireless Communications, 2017, 16, 1908-1920.	9.2	43
29	Physical Layer Security in Buffer-State-Based Max-Ratio Relay Selection Exploiting Broadcasting With Cooperative Beamforming and Jamming. IEEE Transactions on Information Forensics and Security, 2019, 14, 431-444.	6.9	43
30	OFDMA/SC-FDMA Aided Spaceâ€“Time Shift Keying for Dispersive Multiuser Scenarios. IEEE Transactions on Vehicular Technology, 2013, 62, 408-414.	6.3	42
31	Full-Diversity Dispersion Matrices From Algebraic Field Extensions for Differential Spatial Modulation. IEEE Transactions on Vehicular Technology, 2017, 66, 385-394.	6.3	41
32	Space-Time-Frequency Shift Keying for Dispersive Channels. IEEE Signal Processing Letters, 2011, 18, 177-180.	3.6	40
33	Semi-Blind Joint Channel Estimation and Data Detection for Space-Time Shift Keying Systems. IEEE Signal Processing Letters, 2010, 17, 993-996.	3.6	36
34	Reduced-Complexity Noncoherently Detected Differential Space-Time Shift Keying. IEEE Signal Processing Letters, 2011, 18, 153-156.	3.6	35
35	On the Joint Optimization of Dispersion Matrices and Constellations for Near-Capacity Irregular Precoded Space-Time Shift Keying. IEEE Transactions on Wireless Communications, 2013, 12, 380-387.	9.2	35
36	Faster-Than-Nyquist Signaling With Index Modulation. IEEE Wireless Communications Letters, 2017, 6, 630-633.	5.0	35

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37	Unified MIMO-Multicarrier Designs: A Spaceâ€“Time Shift Keying Approach. IEEE Communications Surveys and Tutorials, 2015, 17, 550-579.	39.4	34
38	Reduced-Complexity Iterative-Detection-Aided Generalized Space-Time Shift Keying. IEEE Transactions on Vehicular Technology, 2012, 61, 3656-3664.	6.3	31
39	Reactively Steered Ring Antenna Array for Automotive Application. IEEE Transactions on Antennas and Propagation, 2007, 55, 1902-1908.	5.1	30
40	Reduced-Packet-Delay Generalized Buffer-Aided Relaying Protocol: Simultaneous Activation of Multiple Source-to-Relay Links. IEEE Access, 2016, 4, 3632-3646.	4.2	29
41	The Evolution of Faster-Than-Nyquist Signaling. IEEE Access, 2021, 9, 86535-86564.	4.2	29
42	Buffer-State-and-Thresholding-Based Amplify-and-Forward Cooperative Networks. IEEE Wireless Communications Letters, 2017, 6, 674-677.	5.0	27
43	Differential-Detection Aided Large-Scale Generalized Spatial Modulation is Capable of Operating in High-Mobility Millimeter-Wave Channels. IEEE Journal on Selected Topics in Signal Processing, 2019, 13, 1360-1374.	10.8	26
44	SVD-Precoded Faster-Than-Nyquist Signaling With Optimal and Truncated Power Allocation. IEEE Transactions on Wireless Communications, 2019, 18, 5909-5923.	9.2	25
45	Spectrally Efficient Frequency Division Multiplexing With Index-Modulated Non-Orthogonal Subcarriers. IEEE Wireless Communications Letters, 2019, 8, 233-236.	5.0	25
46	Algebraic Differential Spatial Modulation is Capable of Approaching the Performance of its Coherent Counterpart. IEEE Transactions on Communications, 2017, , 1-1.	7.8	23
47	Joint Beam and Polarization Forming of Intelligent Reflecting Surfaces for Wireless Communications. IEEE Transactions on Vehicular Technology, 2021, 70, 1648-1657.	6.3	22
48	Dual-Mode Time-Domain Index Modulation for Nyquist-Criterion and Faster-Than-Nyquist Single-Carrier Transmissions. IEEE Access, 2017, 5, 27659-27667.	4.2	21
49	Generalized Buffer-State-Based Relay Selection With Collaborative Beamforming. IEEE Transactions on Vehicular Technology, 2018, 67, 1245-1257.	6.3	21
50	Single-RF Index Shift Keying Aided Differential Spaceâ€“Time Block Coding. IEEE Transactions on Signal Processing, 2018, 66, 773-788.	5.3	21
51	Reconfigurable Intelligent Surface Assisted Multi-Carrier Wireless Systems for Doubly Selective High-Mobility Ricean Channels. IEEE Transactions on Vehicular Technology, 2022, 71, 4023-4041.	6.3	21
52	Dispersion Matrix Optimization for Space-Time Shift Keying. IEEE Communications Letters, 2011, 15, 1152-1155.	4.1	20
53	Reduced-complexity noncoherently detected Differential Space-Time Shift Keying. , 2011, , .		20
54	Coherent Versus Non-Coherent Reconfigurable Antenna Aided Virtual MIMO Systems. IEEE Signal Processing Letters, 2014, 21, 390-394.	3.6	20

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55	Differential Space-Time Coding Dispensing With Channel Estimation Approaches the Performance of Its Coherent Counterpart in the Open-Loop Massive MIMO-OFDM Downlink. IEEE Transactions on Communications, 2018, 66, 6190-6204.	7.8	20
56	Finite-Cardinality Single-RF Differential Space-Time Modulation for Improving the Diversity-Throughput Tradeoff. IEEE Transactions on Communications, 2019, 67, 318-335.	7.8	20
57	Reduced-Complexity Soft-Decision Aided Space-Time Shift Keying. IEEE Signal Processing Letters, 2011, 18, 547-550.	3.6	18
58	Reduced-Complexity Approx-Log-MAP and Max-Log-MAP Soft PSK/QAM Detection Algorithms. IEEE Transactions on Communications, 2013, 61, 1415-1425.	7.8	17
59	Secrecy Performance of Eigendecomposition-Based FTN Signaling and NOFDM in Quasi-Static Fading Channels. IEEE Transactions on Wireless Communications, 2021, 20, 5872-5882.	9.2	17
60	A Unified MIMO Architecture Subsuming Space Shift Keying, OSTBC, BLAST and LDC. , 2010, , .		16
61	Frequency-domain equalization aided iterative detection of faster-than-Nyquist signaling with noise whitening. , 2016, , .		16
62	Differential Faster-Than-Nyquist Signaling. IEEE Access, 2018, 6, 4199-4206.	4.2	16
63	Stochastic-Resonance Based Iterative Detection for Serially-Concatenated Turbo Codes. IEEE Signal Processing Letters, 2012, 19, 655-658.	3.6	14
64	â€œNear-Perfectâ€•Finite-Cardinality Generalized Space-Time Shift Keying. IEEE Journal on Selected Areas in Communications, 2019, 37, 2146-2164.	14.0	14
65	Cooperative Differential Spaceâ€“Time Spreading for the Asynchronous Relay Aided CDMA Uplink Using Interference Rejection Spreading Code. IEEE Signal Processing Letters, 2010, 17, 117-120.	3.6	13
66	Distance Adaptation Method for Magnetic Resonance Coupling Between Variable Capacitor-Loaded Parallel-Wire Coils. IEEE Transactions on Microwave Theory and Techniques, 2014, 62, 892-900.	4.6	13
67	Energy-Versus-Bandwidth-Efficiency Tradeoff in Spatially Modulated Massive MIMO Downlink. IEEE Wireless Communications Letters, 2019, 8, 197-200.	5.0	13
68	Generalized Buffer-State-Based Relay Selection in Cooperative Cognitive Radio Networks. IEEE Access, 2020, 8, 11644-11657.	4.2	13
69	Quasi-Synchronous Cooperative Networks: A Practical Cooperative Transmission Protocol. IEEE Vehicular Technology Magazine, 2012, 7, 66-76.	3.4	12
70	Decentralized-Precoding Aided Rateless Codes for Wireless Sensor Networks. IEEE Communications Letters, 2012, 16, 506-509.	4.1	11
71	Constant-Envelope Space-Time Shift Keying. IEEE Journal on Selected Topics in Signal Processing, 2019, 13, 1387-1402.	10.8	11
72	Performance Evaluation of Generalized Buffer-State-Based Relay Selection in NOMA-Aided Downlink. IEEE Access, 2019, 7, 173320-173328.	4.2	11

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73	Differentially-Encoded Rectangular Spatial Modulation Approaches the Performance of Its Coherent Counterpart. IEEE Transactions on Communications, 2020, 68, 7593-7607.	7.8	11
74	Effect of Number of Elements of a Reactively Loaded Ring Antenna Array on the Performance of Beamwidth Variation. IEEE Antennas and Wireless Propagation Letters, 2008, 7, 669-672.	4.0	9
75	Element-by-Element Full-Rank Optical Wireless MIMO Systems Using Narrow-Window Angular Filter Designed Based on One-Dimensional Photonic Crystal. Journal of Lightwave Technology, 2016, 34, 5601-5609.	4.6	9
76	Generalized Virtual Full-Duplex Relaying Protocol Based on Buffer-Aided Half-Duplex Relay Nodes. , 2017, , .		9
77	Hybrid NOMA/OMA Broadcasting-and-Buffer-State-Based Relay Selection. IEEE Transactions on Vehicular Technology, 2021, 70, 1618-1631.	6.3	9
78	Improved Markov Chain MBER Detection for Steered Linear Dispersion Coded MIMO Systems. , 2009, , .		8
79	Dual-Mode Time-Domain Single-Carrier Index Modulation with Frequency-Domain Equalization. , 2017, , .		8
80	Multicarrier Division Duplex Aided Millimeter Wave Communications. IEEE Access, 2019, 7, 100719-100732.	4.2	8
81	Differentially Modulated Spectrally Efficient Frequency-Division Multiplexing. IEEE Signal Processing Letters, 2019, 26, 1046-1050.	3.6	8
82	Eigenvalue-Decomposition-Precoded Ultra-Dense Non-Orthogonal Frequency-Division Multiplexing. IEEE Transactions on Wireless Communications, 2020, , 1-1.	9.2	8
83	Tradeoff Between Calculation Precision and Information Rate in Eigendecomposition-Based Faster-Than-Nyquist Signaling. IEEE Access, 2020, 8, 223461-223471.	4.2	8
84	Ordering- and Partitioning-Aided Sphere Decoding for Generalized Spatial Modulation. IEEE Transactions on Vehicular Technology, 2018, 67, 10087-10091.	6.3	7
85	IMToolkit: An Open-Source Index Modulation Toolkit for Reproducible Research Based on Massively Parallel Algorithms. IEEE Access, 2019, 7, 93830-93846.	4.2	7
86	Buffer-Aided Virtual Full-Duplex Cooperative Networks Exploiting Source-to-Relay Broadcast Channels. , 2019, , .		7
87	QoS-Constrained Optimization of Intelligent Reflecting Surface Aided Secure Energy-Efficient Transmission. IEEE Transactions on Vehicular Technology, 2021, 70, 5137-5142.	6.3	7
88	Space-, Time- and Frequency-Domain Index Modulation for Next-Generation Wireless: A Unified Single-/Multi-Carrier and Single-/Multi-RF MIMO Framework. IEEE Transactions on Wireless Communications, 2021, 20, 3847-3864.	9.2	7
89	Turbo Detection Aided Autoencoder for Multicarrier Wireless Systems: Integrating Deep Learning Into Channel Coded Systems. IEEE Transactions on Cognitive Communications and Networking, 2022, 8, 600-614.	7.9	7
90	Reduced-Complexity Iterative Markov Chain MBER Detection for MIMO Systems. IEEE Signal Processing Letters, 2009, 16, 160-163.	3.6	6

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91	Reduced-Complexity QAM-Aided Space-Time Shift Keying. , 2011, , .		6
92	Bloom-Filter Aided Two-Layered Structured Overlay for Highly-Dynamic Wireless Distributed Storage. IEEE Communications Letters, 2013, 17, 629-632.	4.1	6
93	Low-Complexity Sphere Search-Based Adaptive Spatial Modulation. IEEE Transactions on Vehicular Technology, 2018, 67, 7836-7840.	6.3	6
94	Artificially Time-Varying Differential MIMO for Achieving Practical Physical Layer Security. IEEE Open Journal of the Communications Society, 2021, 2, 2180-2194.	6.9	6
95	Varactor-Loaded H-Shaped Antenna With Radiation Pattern Control. IEEE Transactions on Antennas and Propagation, 2008, 56, 2833-2840.	5.1	5
96	Coherent Versus Noncoherent. IEEE Vehicular Technology Magazine, 2011, 6, 38-48.	3.4	5
97	Single- and Multiple-RF Aided Non-Coherent Generalized Spatial Modulation. , 2014, , .		5
98	Generalized Buffer-State-Based Relay Selection for Fixed-Rate Buffer-Aided Cooperative Systems. , 2017, , .		5
99	Performance Analysis and Constellation Optimization of Star-QAM-Aided Differential Faster-Than-Nyquist Signaling. IEEE Signal Processing Letters, 2019, 26, 144-148.	3.6	5
100	Eigenvalue Decomposition Precoded Faster-Than-Nyquist Transmission of Index Modulated Symbols. , 2021, , .		5
101	Performance Analysis of Hybrid Buffer-Aided Cooperative Protocol Based on Half-Duplex and Virtual Full-Duplex Relay Selections. IEEE Open Journal of the Communications Society, 2021, 2, 1862-1873.	6.9	5
102	Eigendecomposition-Precoded Faster-Than-Nyquist Signaling With Optimal Power Allocation in Frequency-Selective Fading Channels. IEEE Transactions on Wireless Communications, 2022, 21, 1681-1693.	9.2	5
103	Reduced-Complexity FFT-Spread Multicarrier Faster-Than-Nyquist Signaling in Frequency-Selective Fading Channel. IEEE Open Journal of the Communications Society, 2022, 3, 530-542.	6.9	5
104	Impact of Inter-Frame Interference on Eigendecomposition-Precoded Non-Orthogonal Frequency-Division Multiplexing. IEEE Wireless Communications Letters, 2021, 10, 1567-1571.	5.0	4
105	A Review of Recent Patents on Reactance-Loaded Reconfigurable Antennas. Recent Patents on Electrical Engineering, 2009, 2, 200-206.	0.4	4
106	Eigendecomposition-Precoded Faster-Than-Nyquist Signaling With Index Modulation. IEEE Transactions on Communications, 2022, 70, 4822-4836.	7.8	4
107	Iterative soft-detection of Space-Time-Frequency Shift Keying. , 2012, , .		3
108	MC-CDMA aided multi-user space-time shift keying in wideband channels. , 2013, , .		3

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109	Deep-Subwavelength MIMO Using Graphene-Based Nanoscale Communication Channel. IEEE Access, 2014, 2, 1240-1247.	4.2	3
110	Exit-Chart-Based Design of Irregular Precoded Power-Imbalanced Optical Spatial Modulation. , 2015, , .		3
111	On the Simultaneous Exploitation of Multiple Source-to-Relay Channels in Buffer-Aided Two-Hop Cooperative Networks. , 2016, , .		3
112	Subcarrier Subset Selection-Aided Transmit Precoding Achieves Full-Diversity in Index Modulation. IEEE Transactions on Vehicular Technology, 2019, 68, 11031-11041.	6.3	3
113	Variable-Block-Length Joint Channel Estimation and Data Detection for Spatial Modulation Over Time-Varying Channels. IEEE Transactions on Vehicular Technology, 2020, 69, 13964-13969.	6.3	3
114	Quantum Speedup for Index Modulation. IEEE Access, 2021, 9, 111114-111124.	4.2	3
115	Semi-Blind Adaptive Space-Time Shift Keying Systems Based on Iterative Channel Estimation and Data Detection. , 2011, , .		2
116	Faster-Than-Nyquist Signaling with Differential Encoding and Non Coherent Detection. , 2018, , .		2
117	Precoded Faster-than-Nyquist Signaling with Optimal Power Allocation in Frequency-Selective Channel. , 2021, , .		2
118	QoS-Constrained Energy-Efficient Beamforming and Jamming With Intelligent Reflecting Surface for Secure Multi-User Downlink. IEEE Transactions on Green Communications and Networking, 2022, 6, 187-197.	5.5	2
119	Eigenspace-based blind pattern optimisations of steerable antenna array for interference cancellation. IET Microwaves, Antennas and Propagation, 2008, 2, 358-366.	1.4	1
120	Varactor-loaded compact folded dipole antenna for digital terrestrial radio reception. Microwave and Optical Technology Letters, 2010, 52, 1463-1466.	1.4	1
121	Multiple-Symbol Differential Sphere Decoding Aided Cooperative Differential Space-Time Spreading for the Asynchronous CDMA Uplink. , 2011, , .		1
122	Speed-dependent autonomous beamwidth variation for VANET safety applications. , 2015, , .		1
123	Optimal and Suboptimal Power Allocation for SVD-Precoded Faster-than-Nyquist Signaling. , 2019, , .		1
124	Effects of Eigenvalue Distribution on Precoded Faster-than-Nyquist Signaling with Power Allocation. , 2020, , .		1
125	Optimal but Low-Complexity Optimization Method for Nonsquare Differential Massive MIMO. , 2021, , .		1
126	Secrecy Performance of Buffer-Aided Hybrid Virtual Full-Duplex and Half-Duplex Relay Activation. IEEE Open Journal of Vehicular Technology, 2022, 3, 344-355.	4.9	1

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127	Numerical study of steerable automotive antennas using artificial magnetic conductors. , 2007, , .		0
128	Reduced-Complexity Soft-Decision Aided PSK Detection. , 2012, , .		0
129	Reduced-complexity Soft STBC detection. , 2012, , .		0
130	Cylindrical high impedance surface aided horizontally polarised omnidirectional antenna. Electronics Letters, 2013, 49, 242-243.	1.0	0
131	Antireflection Strategy for Near-Zero Refractive Index Photonic Crystals Applicable to an Element-by-Element Full-Rank Optical Wireless MIMO System. , 2019, , .		0
132	Spatial Modulation. , 2018, , 1-6.		0
133	Spatial Modulation. , 2020, , 1348-1353.		0
134	Non-Orthogonal Frequency-Division Multiplexing Based on Eigenvalue Decomposition. , 2020, , .		0
135	Error Probability Analysis for Time-Varying Chaos Unitary Matrix-Based Differential MIMO System. IEEE Wireless Communications Letters, 2022, 11, 1399-1403.	5.0	0