Arnold Lee Swindlehurst

List of Publications by Year
in descending order

335 papers	21,210 citations	31976 53 h-index	12946 131 g-index
337 all docs	337 docs citations	337 times ranked	9403 citing authors

#	Article	IF	Citations
1	Zero-Forcing Methods for Downlink Spatial Multiplexing in Multiuser MIMO Channels. IEEE Transactions on Signal Processing, 2004, 52, 461-471.	5.3	2,566
2	An Overview of Massive MIMO: Benefits and Challenges. IEEE Journal on Selected Topics in Signal Processing, 2014, 8, 742-758.	10.8	2,080
3	A Vector-Perturbation Technique for Near-Capacity Multiantenna Multiuser Communication—Part I: Channel Inversion and Regularization. IEEE Transactions on Communications, 2005, 53, 195-202.	7.8	1,318
4	Principles of Physical Layer Security in Multiuser Wireless Networks: A Survey. IEEE Communications Surveys and Tutorials, 2014, 16, 1550-1573.	39.4	1,060
5	An introduction to the multi-user MIMO downlink. , 2004, 42, 60-67.		691
6	Millimeter-wave massive MIMO: the next wireless revolution?. , 2014, 52, 56-62.		657
7	A Vector-Perturbation Technique for Near-Capacity Multiantenna Multiuser Communication— Part II: Perturbation. IEEE Transactions on Communications, 2005, 53, 537-544.	7.8	636
8	Modeling the statistical time and angle of arrival characteristics of an indoor multipath channel. IEEE Journal on Selected Areas in Communications, 2000, 18, 347-360.	14.0	554
9	Robust Beamforming for Security in MIMO Wiretap Channels With Imperfect CSI. IEEE Transactions on Signal Processing, 2011, 59, 351-361.	5.3	376
10	A performance analysis of subspace-based methods in the presence of model errors. I. The MUSIC algorithm. IEEE Transactions on Signal Processing, 1992, 40, 1758-1774.	5.3	373
11	Cooperative Jamming for Secure Communications in MIMO Relay Networks. IEEE Transactions on Signal Processing, 2011, 59, 4871-4884.	5.3	373
12	Channel Estimation and Performance Analysis of One-Bit Massive MIMO Systems. IEEE Transactions on Signal Processing, 2017, 65, 4075-4089.	5.3	367
13	Reconfigurable Intelligent Surfaces for 6G Systems: Principles, Applications, and Research Directions. IEEE Communications Magazine, 2021, 59, 14-20.	6.1	354
14	Wireless Relay Communications with Unmanned Aerial Vehicles: Performance and Optimization. IEEE Transactions on Aerospace and Electronic Systems, 2011, 47, 2068-2085.	4.7	297
15	Subspace-based signal analysis using singular value decomposition. Proceedings of the IEEE, 1993, 81, 1277-1308.	21.3	269
16	Experimental characterization of the MIMO wireless channel: data acquisition and analysis. IEEE Transactions on Wireless Communications, 2003, 2, 335-343.	9.2	243
17	Optimization of MANET connectivity via smart deployment/movement of unmanned air vehicles. IEEE Transactions on Vehicular Technology, 2009, 58, 3533-3546.	6.3	240
18	Secure Communication Via an Untrusted Non-Regenerative Relay in Fading Channels. IEEE Transactions on Signal Processing, 2013, 61, 2536-2550.	5.3	230

#	Article	IF	Citations
19	Optimization of UAV Heading for the Ground-to-Air Uplink. IEEE Journal on Selected Areas in Communications, 2012, 30, 993-1005.	14.0	215
20	Channel Acquisition for Massive MIMO-OFDM With Adjustable Phase Shift Pilots. IEEE Transactions on Signal Processing, 2016, 64, 1461-1476.	5.3	214
21	A Comprehensive Overview on 5G-and-Beyond Networks With UAVs: From Communications to Sensing and Intelligence. IEEE Journal on Selected Areas in Communications, 2021, 39, 2912-2945.	14.0	202
22	Robust Secure Transmission in MISO Channels Based on Worst-Case Optimization. IEEE Transactions on Signal Processing, 2012, 60, 1696-1707.	5.3	200
23	Maximum likelihood methods in radar array signal processing. Proceedings of the IEEE, 1998, 86, 421-441.	21.3	195
24	Multiple invariance ESPRIT. IEEE Transactions on Signal Processing, 1992, 40, 867-881.	5.3	191
25	Performance Analysis of Multi-Antenna Hybrid Satellite-Terrestrial Relay Networks in the Presence of Interference. IEEE Transactions on Communications, 2015, 63, 4390-4404.	7.8	163
26	Azimuth/elevation direction finding using regular array geometries. IEEE Transactions on Aerospace and Electronic Systems, 1993, 29, 145-156.	4.7	153
27	Delay-Intolerant Covert Communications With Either Fixed or Random Transmit Power. IEEE Transactions on Information Forensics and Security, 2019, 14, 129-140.	6.9	151
28	Fixed SINR solutions for the MIMO wiretap channel. , 2009, , .		148
29	A Bayesian approach to auto-calibration for parametric array signal processing. IEEE Transactions on Signal Processing, 1994, 42, 3495-3507.	5.3	142
30	Jamming Games in the MIMO Wiretap Channel With an Active Eavesdropper. IEEE Transactions on Signal Processing, 2013, 61, 82-91.	5.3	135
31	Hybrid Precoder and Combiner Design With Low-Resolution Phase Shifters in mmWave MIMO Systems. IEEE Journal on Selected Topics in Signal Processing, 2018, 12, 256-269.	10.8	135
32	Detecting passive eavesdroppers in the MIMO wiretap channel. , 2012, , .		123
33	Blind and semi-blind equalization for generalized space-time block codes. IEEE Transactions on Signal Processing, 2002, 50, 2489-2498.	5.3	119
34	Downlink Resource Reuse for Device-to-Device Communications Underlaying Cellular Networks. IEEE Signal Processing Letters, 2014, 21, 531-534.	3.6	119
35	Analysis of One-Bit Quantized Precoding for the Multiuser Massive MIMO Downlink. IEEE Transactions on Signal Processing, 2017, 65, 4624-4634.	5.3	119
36	Time delay and spatial signature estimation using known asynchronous signals. IEEE Transactions on Signal Processing, 1998, 46, 449-462.	5.3	116

#	Article	IF	Citations
37	UAV-Assisted Intelligent Reflecting Surface Symbiotic Radio System. IEEE Transactions on Wireless Communications, 2021, 20, 5769-5785.	9.2	111
38	Solutions for the MIMO Gaussian Wiretap Channel With a Cooperative Jammer. IEEE Transactions on Signal Processing, 2011, 59, 5013-5022.	5.3	110
39	Passive direction-of-arrival and range estimation for near-field sources. , 0, , .		109
40	Secure Relay and Jammer Selection for Physical Layer Security. IEEE Signal Processing Letters, 2015, 22, 1147-1151.	3.6	100
41	A performance analysis of subspace-based methods in the presence of model error. II. Multidimensional algorithms. IEEE Transactions on Signal Processing, 1993, 41, 2882-2890.	5.3	96
42	Subspace-based estimation of time delays and Doppler shifts. IEEE Transactions on Signal Processing, 1998, 46, 2472-2483.	5.3	92
43	Massive MIMO for Wireless Sensing With a Coherent Multiple Access Channel. IEEE Transactions on Signal Processing, 2015, 63, 3005-3017.	5.3	89
44	Massive MIMO 1-Bit DAC Transmission: A Low-Complexity Symbol Scaling Approach. IEEE Transactions on Wireless Communications, 2018, 17, 7559-7575.	9.2	83
45	Downlink Achievable Rate Analysis in Massive MIMO Systems With One-Bit DACs. IEEE Communications Letters, 2017, 21, 1669-1672.	4.1	82
46	Multiuser Full-Duplex Two-Way Communications via Intelligent Reflecting Surface. IEEE Transactions on Signal Processing, 2021, 69, 837-851.	5.3	82
47	A Comparison of Hybrid Beamforming and Digital Beamforming With Low-Resolution ADCs for Multiple Users and Imperfect CSI. IEEE Journal on Selected Topics in Signal Processing, 2018, 12, 484-498.	10.8	81
48	1-Bit Massive MIMO Transmission: Embracing Interference with Symbol-Level Precoding. IEEE Communications Magazine, 2021, 59, 121-127.	6.1	79
49	Optimal power allocation for GSVD-based beamforming in the MIMO Gaussian wiretap channel. , 2012, , .		72
50	Channel Estimation for RIS-Aided Multiuser Millimeter-Wave Systems. IEEE Transactions on Signal Processing, 2022, 70, 1478-1492.	5.3	72
51	Quantized Constant Envelope Precoding With PSK and QAM Signaling. IEEE Transactions on Wireless Communications, 2018, 17, 8022-8034.	9.2	69
52	3D UAV Trajectory and Communication Design for Simultaneous Uplink and Downlink Transmission. IEEE Transactions on Communications, 2020, 68, 5908-5923.	7.8	66
53	Analysis of the combined effects of finite samples and model errors on array processing performance. IEEE Transactions on Signal Processing, 1994, 42, 3073-3083.	5.3	65
54	Channel Estimation With Reconfigurable Intelligent Surfaces—A General Framework. Proceedings of the IEEE, 2022, 110, 1312-1338.	21.3	65

#	Article	IF	Citations
55	A full-duplex active eavesdropper in mimo wiretap channels: Construction and countermeasures. , 2011, , .		64
56	Weighted subspace fitting for general array error models. IEEE Transactions on Signal Processing, 1998, 46, 2484-2498.	5.3	63
57	Spatial signature estimation for uniform linear arrays with unknown receiver gains and phases. IEEE Transactions on Signal Processing, 1999, 47, 2128-2138.	5.3	62
58	Cross-layer issues in MAC protocol design for MIMO ad hoc networks. IEEE Wireless Communications, 2006, 13, 62-76.	9.0	61
59	Subspace fitting with diversely polarized antenna arrays. IEEE Transactions on Antennas and Propagation, 1993, 41, 1687-1694.	5.1	60
60	Interference Exploitation Precoding for Multi-Level Modulations: Closed-Form Solutions. IEEE Transactions on Communications, 2021, 69, 291-308.	7.8	60
61	Performance Bounds for MIMO-OFDM Channel Estimation. IEEE Transactions on Signal Processing, 2009, 57, 1901-1916.	5.3	59
62	Generalised array manifold model for wireless communication channels with local scattering. IET Radar, Sonar & Navigation, 1998, 145, 51.	2.1	56
63	Exploiting arrays with multiple invariances using MUSIC and MODE. IEEE Transactions on Signal Processing, 2001, 49, 2511-2521.	5.3	56
64	MIMO Interference Channel With Confidential Messages: Achievable Secrecy Rates and Precoder Design. IEEE Transactions on Information Forensics and Security, 2011, 6, 640-649.	6.9	56
65	Blind Estimation of Sparse Broadband Massive MIMO Channels With Ideal and One-bit ADCs. IEEE Transactions on Signal Processing, 2018, 66, 2972-2983.	5.3	56
66	Dynamic UAV relay positioning for the ground-to-air uplink. , 2010, , .		55
67	Applying Bargaining Solutions to Resource Allocation in Multiuser MIMO-OFDMA Broadcast Systems. IEEE Journal on Selected Topics in Signal Processing, 2012, 6, 127-139.	10.8	55
68	Full Rank Solutions for the MIMO Gaussian Wiretap Channel With an Average Power Constraint. IEEE Transactions on Signal Processing, 2013, 61, 2620-2631.	5.3	54
69	On Secrecy Metrics for Physical Layer Security Over Quasi-Static Fading Channels. IEEE Transactions on Wireless Communications, 2016, 15, 6913-6924.	9.2	53
70	Highlights of statistical signal and array processing. IEEE Signal Processing Magazine, 1998, 15, 21-64.	5.6	52
71	Wireless indoor channel modeling: statistical agreement of ray tracing simulations and channel sounding measurements. , 0, , .		52
72	Device-to-device communications: The physical layer security advantage. , 2014, , .		52

#	Article	IF	Citations
73	Dynamic Hybrid Beamforming With Low-Resolution PSs for Wideband mmWave MIMO-OFDM Systems. IEEE Journal on Selected Areas in Communications, 2020, 38, 2168-2181.	14.0	50
74	Buffer-Aided Relaying for Two-Hop Secure Communication. IEEE Transactions on Wireless Communications, 2015, 14, 152-164.	9.2	49
75	Joint Symbol-Level Precoding and Reflecting Designs for IRS-Enhanced MU-MISO Systems. IEEE Transactions on Wireless Communications, 2021, 20, 798-811.	9.2	49
76	Minimum probability-of-error perturbation precoding for the one-bit massive MIMO downlink. , 2017, , .		48
77	Multipair Massive MIMO Relaying Systems With One-Bit ADC<roman>s</roman> and DAC<roman>s</roman>. IEEE Transactions on Signal Processing, 2018, 66, 2984-2997.	5.3	46
78	Spectral Efficiency of Mixed-ADC Massive MIMO. IEEE Transactions on Signal Processing, 2018, 66, 3599-3613.	5.3	46
79	On the Optimality of Linear Precoding for Secrecy in the MIMO Broadcast Channel. IEEE Journal on Selected Areas in Communications, 2013, 31, 1701-1713.	14.0	45
80	Secret Channel Training to Enhance Physical Layer Security With a Full-Duplex Receiver. IEEE Transactions on Information Forensics and Security, 2018, 13, 2788-2800.	6.9	45
81	Cancelable Biometric Recognition With ECGs: Subspace-Based Approaches. IEEE Transactions on Information Forensics and Security, 2019, 14, 1323-1336.	6.9	45
82	Dual-Functional Radar-Communication Waveform Design: A Symbol-Level Precoding Approach. IEEE Journal on Selected Topics in Signal Processing, 2021, 15, 1316-1331.	10.8	45
83	16 Subspace methods for directions-of-arrival estimation. Handbook of Statistics, 1993, 10, 693-739.	0.6	43
84	Analysis of a decision directed beamformer. IEEE Transactions on Signal Processing, 1995, 43, 2920-2927.	5.3	43
85	Utility of beamforming strategies for secrecy in multiuser MIMO wiretap channels. , 2009, , .		43
86	Adaptive Limited Feedback for MISO Wiretap Channels With Cooperative Jamming. IEEE Transactions on Signal Processing, 2014, 62, 993-1004.	5.3	42
87	A Generalizable Model-and-Data Driven Approach for Open-Set RFF Authentication. IEEE Transactions on Information Forensics and Security, 2021, 16, 4435-4450.	6.9	42
88	Space-time autoregressive filtering for matched subspace STAP. IEEE Transactions on Aerospace and Electronic Systems, 2003, 39, 510-520.	4.7	40
89	Fixed-rate power allocation strategies for enhanced secrecy in MIMO wiretap channels. , 2009, , .		40
90	Throughput Maximization for UAV-Aided Backscatter Communication Networks. IEEE Transactions on Communications, 2020, 68, 1254-1270.	7.8	40

#	Article	IF	Citations
91	A performance bound for prediction of MIMO channels. IEEE Transactions on Signal Processing, 2006, 54, 520-529.	5.3	38
92	Wireless Relay Communications using ann Unmanned Aerial Vehicle. , 2006, , .		38
93	Smart deployment/movement of unmanned air vehicle to improve connectivity in MANET. , 2006, , .		38
94	Massive MIMO downlink 1-bit precoding with linear programming for PSK signaling. , 2017, , .		38
95	Cooperative Jamming in MIMO ad-hoc networks. , 2009, , .		36
96	Securing multi-antenna two-way relay channels with analog network coding against eavesdroppers. , 2010, , .		34
97	Channel allocation in multi-user MIMO wireless communications systems. , 2004, , .		33
98	SVM-Based Channel Estimation and Data Detection for One-Bit Massive MIMO Systems. IEEE Transactions on Signal Processing, 2021, 69, 2086-2099.	5.3	33
99	A statistical subspace method for blind channel identification in OFDM communications. , 0, , .		32
100	Secure Communications via Cooperative Jamming in Two-Hop Relay Systems. , 2010, , .		32
101	A Hybrid Approach to Spatial Multiplexing in Multiuser MIMO Downlinks. Eurasip Journal on Wireless Communications and Networking, 2004, 2004, 1.	2.4	31
102	Discrete double integrator consensus. , 2008, , .		31
103	Positioning and navigation with applications to communications [from the Guest Editors. IEEE Signal Processing Magazine, 2005, 22, 10-11.	5.6	30
104	Optimal strategies for countering dual-threat jamming/eavesdropping-capable adversaries in MIMO channels. , 2010, , .		29
105	The Extended Invariance Principle for Signal Parameter Estimation in an Unknown Spatial Field. IEEE Transactions on Signal Processing, 2011, 59, 3213-3225.	5.3	29
106	Secure Massive MIMO Communication With Low-Resolution DACs. IEEE Transactions on Communications, 2019, 67, 3265-3278.	7.8	29
107	Secure Communication for Spatially Sparse Millimeter-Wave Massive MIMO Channels via Hybrid Precoding. IEEE Transactions on Communications, 2020, 68, 887-901.	7.8	29
108	Channel estimation and uplink achievable rates in one-bit massive MIMO systems. , 2016, , .		28

#	Article	IF	Citations
109	Joint Waveform and Filter Designs for STAP-SLP-Based MIMO-DFRC Systems. IEEE Journal on Selected Areas in Communications, 2022, 40, 1918-1931.	14.0	28
110	Optimal Power Allocation for Parameter Tracking in a Distributed Amplify-and-Forward Sensor Network. IEEE Transactions on Signal Processing, 2014, 62, 2200-2211.	5.3	27
111	Channel Estimation in One-Bit Massive MIMO Systems: Angular Versus Unstructured Models. IEEE Journal on Selected Topics in Signal Processing, 2019, 13, 1017-1031.	10.8	27
112	One-Bit Sigma-Delta MIMO Precoding. IEEE Journal on Selected Topics in Signal Processing, 2019, 13, 1046-1061.	10.8	27
113	The effects of array calibration errors on DF-based signal copy performance. IEEE Transactions on Signal Processing, 1995, 43, 2724-2732.	5.3	26
114	Throughput-Optimal Training for a Time-Varying Multi-Antenna Channel. IEEE Transactions on Wireless Communications, 2007, 6, 3364-3373.	9.2	26
115	MIMO environmental capacity sensitivity. , 0, , .		25
116	Pilot optimization for time-delay and channel estimation in OFDM systems. , 2011, , .		23
117	Matching Pursuit and Source Deflation for Sparse EEG/MEG Dipole Moment Estimation. IEEE Transactions on Biomedical Engineering, 2013, 60, 2280-2288.	4.2	23
118	Supervised and Semi-Supervised Learning for MIMO Blind Detection With Low-Resolution ADCs. IEEE Transactions on Wireless Communications, 2020, 19, 2427-2442.	9.2	23
119	Projection Versus Prewhitening for EEG Interference Suppression. IEEE Transactions on Biomedical Engineering, 2012, 59, 1329-1338.	4.2	22
120	Spectral Efficiency under Energy Constraint for Mixed-ADC MRC Massive MIMO. IEEE Signal Processing Letters, 2017, 24, 1847-1851.	3.6	22
121	Massive Mimo Channel Estimation with 1-Bit Spatial Sigma-delta ADCS. , 2019, , .		22
122	On Ergodic Secrecy Rate for MISO Wiretap Broadcast Channels with Opportunistic Scheduling. IEEE Communications Letters, 2014, 18, 50-53.	4.1	21
123	Effective SNR for Space–Time Modulation Over a Time-Varying Rician Channel. IEEE Transactions on Communications, 2004, 52, 17-23.	7.8	20
124	Performance of Space-Time Modulation for a Generalized Time-Varying Rician Channel Model. IEEE Transactions on Wireless Communications, 2004, 3, 1003-1012.	9.2	20
125	Unified Framework for the Synchronization of Flexible Multicarrier Communication Signals. IEEE Transactions on Signal Processing, 2013, 61, 828-842.	5.3	20
126	Transmitter Optimization for Per-Antenna Power Constrained Multi-Antenna Downlinks:_newline An SLNR Maximization Methodology. IEEE Transactions on Signal Processing, 2016, 64, 2712-2725.	5.3	20

#	Article	IF	Citations
127	Relaxed Biquadratic Optimization for Joint Filter-Signal Design in Signal-Dependent STAP. IEEE Transactions on Signal Processing, 2018, 66, 1300-1315.	5.3	20
128	Methods for blind equalization and resolution of overlapping echoes of unknown shape. IEEE Transactions on Signal Processing, 1999, 47, 1245-1254.	5.3	19
129	Cooperative Power Scheduling for Wireless MIMO Networks. , 2007, , .		19
130	Adaptive Mobile Sensor Positioning for Multi-Static Target Tracking. IEEE Transactions on Aerospace and Electronic Systems, 2010, 46, 120-132.	4.7	19
131	Nonlinear Precoding for Multipair Relay Networks With One-Bit ADCs and DACs. IEEE Signal Processing Letters, 2018, 25, 303-307.	3.6	19
132	Generative-Adversarial-Network Enabled Signal Detection for Communication Systems With Unknown Channel Models. IEEE Journal on Selected Areas in Communications, 2021, 39, 47-60.	14.0	19
133	Linear and Deep Neural Network-Based Receivers for Massive MIMO Systems With One-Bit ADCs. IEEE Transactions on Wireless Communications, 2021, 20, 7333-7345.	9.2	19
134	Exploiting Randomized Continuous Wave in Secure Backscatter Communications. IEEE Internet of Things Journal, 2020, 7, 3389-3403.	8.7	18
135	ECG Biometric Recognition: Unlinkability, Irreversibility, and Security. IEEE Internet of Things Journal, 2021, 8, 487-500.	8.7	18
136	A subspace fitting method for identification of linear state-space models. IEEE Transactions on Automatic Control, 1995, 40, 311-316.	5.7	17
137	Algorithms for blind equalization with multiple antennas based on frequency domain subspaces. , 0, , .		17
138	Space–Time Power Schedule for Distributed MIMO Links Without Instantaneous Channel State Information at the Transmitting Nodes. IEEE Transactions on Signal Processing, 2008, 56, 686-701.	5.3	17
139	Competing for Secrecy in the MISO Interference Channel. IEEE Transactions on Signal Processing, 2013, 61, 170-181.	5.3	17
140	Estimation in Phase-Shift and Forward Wireless Sensor Networks. IEEE Transactions on Signal Processing, 2013, 61, 3840-3851.	5.3	17
141	Discrete Phase Shift Design for Practical Large Intelligent Surface Communication. , 2019, , .		17
142	An analysis of subspace fitting algorithms in the presence of sensor errors. , 0, , .		16
143	Dirty Paper Coding versus Linear GSVD-Based Precoding in MIMO Broadcast Channel with Confidential Messages. , 2011, , .		16
144	Secure space-time block coding via artificial noise alignment. , 2011, , .		16

#	Article	IF	Citations
145	Robust algorithms for direction-finding in the presence of model errors. , 1990, , .		15
146	Some experiments with array data collected in actual urban and suburban environments. , 0, , .		15
147	Simultaneous channel estimation and decoding for diagonal space-time codes. , 0, , .		15
148	Efficient Dipole Parameter Estimation in EEG Systems With Near-ML Performance. IEEE Transactions on Biomedical Engineering, 2012, 59, 1339-1348.	4.2	15
149	Joint transmit design and node selection for one-way and two-way untrusted relay channels. , 2013, , .		15
150	Spectral Efficiency of One-Bit Sigma-Delta Massive MIMO. IEEE Journal on Selected Areas in Communications, 2020, 38, 2215-2226.	14.0	15
151	Intelligent Reflecting Surface Based Passive Information Transmission: A Symbol-Level Precoding Approach. IEEE Transactions on Vehicular Technology, 2021, 70, 6735-6749.	6.3	15
152	Alternate-Jamming-Aided Wireless Physical-Layer Surveillance: Protocol Design and Performance Analysis. IEEE Transactions on Information Forensics and Security, 2021, 16, 1989-2003.	6.9	15
153	An analysis of MUSIC and root-MUSIC in the presence of sensor perturbations. , 1989, , .		14
154	Detection and estimation using the third moment matrix. , 0, , .		14
155	Using least squares to improve blind signal copy performance. IEEE Signal Processing Letters, 1994, 1, 80-82.	3.6	14
156	A maximum a posteriori approach to beamforming in the presence of calibration errors. , 0, , .		14
157	Equilibrium Outcomes of Dynamic Games in MIMO Channels with Active Eavesdroppers. , 2010, , .		14
158	On one-bit quantized ZF precoding for the multiuser massive MIMO downlink. , 2016, , .		14
159	Rethinking Secure Precoding via Interference Exploitation: A Smart Eavesdropper Perspective. IEEE Transactions on Information Forensics and Security, 2021, 16, 585-600.	6.9	14
160	2-D parameter estimation using arrays with multidimensional invariance structure. , 1989, , .		13
161	Alternative algorithm for maximum likelihood DOA estimation and detection. IET Radar, Sonar & Navigation, 1994, 141, 293.	2.1	13
162	Bargaining and the MISO Interference Channel. Eurasip Journal on Advances in Signal Processing, 2009, 2009, .	1.7	13

#	Article	IF	Citations
163	Applications of Array Signal Processing. Academic Press Library in Signal Processing, 2014, 3, 859-953.	0.8	13
164	A new approach for symbol frame synchronization and carrier frequency estimation in OFDM communications. , 1999, , .		12
165	Improving the topological resilience of mobile ad hoc networks. , 2009, , .		12
166	User selection in multiuser MIMO systems with secrecy considerations. , 2009, , .		12
167	Cooperation strategies for secrecy in MIMO relay networks with unknown eavesdropper CSI. , 2011, , .		12
168	How Much Training Is Needed in One-Bit Massive MIMO Systems at Low SNR?. , 2016, , .		12
169	Analysis of one-bit quantized ZF precoding for the multiuser massive MIMO downlink. , 2016, , .		12
170	Quadratic Semidefinite Programming for Waveform-Constrained Joint Filter-Signal Design in STAP. IEEE Transactions on Signal Processing, 2020, 68, 1744-1759.	5.3	12
171	Secrecy capacity of MISO Gaussian wiretap channel with a cooperative jammer. , 2011, , .		11
172	Power allocation method based on the channel statistics for combined positioning and communications OFDM systems. , 2013, , .		11
173	Reconsidering Linear Transmit Signal Processing in 1-Bit Quantized Multi-User MISO Systems. IEEE Transactions on Wireless Communications, 2019, 18, 254-267.	9.2	11
174	Optimized Transmission for Parameter Estimation in Wireless Sensor Networks. IEEE Transactions on Signal and Information Processing Over Networks, 2020, 6, 35-47.	2.8	11
175	Secure Symbol-Level Precoding in MU-MISO Wiretap Systems. IEEE Transactions on Information Forensics and Security, 2020, 15, 3359-3373.	6.9	11
176	Massive MIMO Channel Estimation With Low-Resolution Spatial Sigma-Delta ADCs. IEEE Access, 2021, 9, 109320-109334.	4.2	11
177	Fountain-Coding Aided Secure Transmission With Delay and Content Awareness. IEEE Transactions on Vehicular Technology, 2020, 69, 7992-7997.	6.3	11
178	Channel training design in full-duplex wiretap channels to enhance physical layer security. , 2017, , .		10
179	Massive MIMO downlink 1-bit precoding for frequency selective channels. , 2017, , .		10
180	Safeguarding 5G-and-Beyond Networks with Physical Layer Security. IEEE Wireless Communications, 2019, 26, 4-5.	9.0	10

#	ARTICLE	IF	CITATIONS
181	Near-Field Source Parameter Estimation Using A Spatial Wigner Distribution Approach. Proceedings of SPIE, 1988, 0975, 86.	0.8	9
182	Maximum SINR beamforming for correlated sources. , 0, , .		9
183	MIMO interference channel with confidential messages: Game theoretic beamforming designs. , 2010, , .		9
184	QoS-constrained robust beamforming in MISO wiretap channels with a helper. , 2011, , .		9
185	Secrecy analysis of unauthenticated amplify-and-forward relaying with antenna selection. , 2012, , .		9
186	Reduced Dimension Minimum BER PSK Precoding for Constrained Transmit Signals in Massive MIMO. , 2018, , .		9
187	A burst-form CSI estimation approach for FDD massive MIMO systems. Signal Processing, 2019, 162, 106-114.	3.7	9
188	Recursive blind symbol estimation of convolutionally coded cochannel signals. IEEE Transactions on Signal Processing, 2000, 48, 956-965.	5.3	8
189	Application of MUSIC to arrays with multiple invariances. , 0, , .		8
190	Experimental measurements of capacity for MIMO indoor wireless channels. , 0, , .		8
191	Rank minimization designs for underlay MIMO cognitive radio networks with completely unknown primary CSI. , 2012, , .		8
192	Energy efficient beamforming for secure communication in cognitive radio networks. , 2016, , .		8
193	DNN-based Detectors for Massive MIMO Systems with Low-Resolution ADCs. , 2021, , .		8
194	Analysis of the combined effects of finite samples and model errors on array processing performance. , 1993, , .		7
195	Fixed window constant modulus algorithms. , 1999, , .		7
196	Performance of MIMO spatial multiplexing algorithms using indoor channel measurements and models. Wireless Communications and Mobile Computing, 2004, 4, 739-754.	1.2	7
197	Downlink resource allocation for multi-user MIMO-OFDMA systems: The Kalai-Smorodinsky bargaining approach. , 2009, , .		7
198	Ensuring Secrecy in MIMO Wiretap Channels with Imperfect CSIT: A Beamforming Approach. , 2010, , .		7

#	Article	IF	Citations
199	Interference-Aware Scheduling for Connectivity in MIMO Ad Hoc Multicast Networks. IEEE Transactions on Vehicular Technology, 2012, 61, 1762-1778.	6.3	7
200	Modified Waterfilling Algorithms for MIMO Spatial Multiplexing with Asymmetric CSI. IEEE Wireless Communications Letters, 2012, 1, 89-92.	5.0	7
201	Robust beamforming via FIR filtering for GNSS multipath mitigation. , 2013, , .		7
202	Limited Rate Feedback in a MIMO Wiretap Channel With a Cooperative Jammer. IEEE Transactions on Signal Processing, 2016, 64, 4695-4706.	5.3	7
203	mmWave massive MIMO with simple RF and appropriate DSP. , 2017, , .		7
204	Low SNR Asymptotic Rates of Vector Channels With One-Bit Outputs. IEEE Transactions on Information Theory, 2020, 66, 7615-7634.	2.4	7
205	Power-based Capon beamforming: Avoiding the cancellation effects of GNSS multipath. Signal Processing, 2021, 180, 107891.	3.7	7
206	On the sensitivity of the ESPRIT algorithm to non-identical subarrays. Sadhana - Academy Proceedings in Engineering Sciences, 1990, 15, 197-212.	1.3	6
207	Signal copy with array calibration errors. , 0, , .		6
208	Blind sequential symbol estimation of co-channel finite alphabet signals. , 0, , .		6
209	Performance of unitary space-time modulation in a continuously changing channel. , 0, , .		6
210	The extended invariance principle applied to joint time-delay, frequency, and DOA estimation. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	6
211	MIMO SVD-based multiplexing with imperfect channel knowledge. , 2010, , .		6
212	Suboptimal method for pilot and data power allocation in combined positioning and communications OFDM systems. , 2012, , .		6
213	Outage performance for amplify-and-forward channels with an unauthenticated relay. , 2012, , .		6
214	Power allocation approaches for combined positioning and communications OFDM systems. , 2013, , .		6
215	Guest Editorial: Signal Processing for Wireless Physical Layer Security}. IEEE Journal on Selected Areas in Communications, 2013, 31, 1657-1659.	14.0	6
216	Non-line-of-sight mobile station positioning algorithm using TOA, AOA, and Doppler-shift. , 2014, , .		6

#	ARTICLE	IF	CITATIONS
217	1-Bit Massive MIMO Downlink Based on Constructive Interference. , 2018, , .		6
218	Decision-Directed Multivariate Empirical Bayes Classification with Nonstationary Priors. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1987, PAMI-9, 644-660.	13.9	5
219	Suboptimal Subspace-Fitting Methods For Multidimensional Signal Parameter Estimation. Proceedings of SPIE, 1989, 1152, 197.	0.8	5
220	Effects of nonzero bandwidth on direction of arrival estimators in array signal processing. IET Radar, Sonar & Navigation, 1998, 145, 317.	2.1	5
221	STAP detection using space-time autoregressive filtering. , 0, , .		5
222	Connectivity in a UAV Multi-static Radar Network. , 2006, , .		5
223	A performance bound for MIMO-OFDM channel estimation and prediction. , 2008, , .		5
224	Phase-only analog encoding for a multi-antenna fusion center. , 2012, , .		5
225	Wireless physical layer security enhancement with buffer-aided relaying. , 2013, , .		5
226	Precoding under instantaneous per-antenna peak power constraint. , 2017, , .		5
227	Analysis of MRC for Mixed-ADC massive MIMO. , 2017, , .		5
228	Direct feature extraction from multi-electrode recordings for spike sorting. , 2018, 75, 222-231.		5
229	Joint Transmit and Receive Filter Optimization for Sub-Nyquist Delay-Doppler Estimation. IEEE Transactions on Signal Processing, 2018, 66, 2542-2556.	5.3	5
230	Energy efficient downlink massive MIMO: Is 1-bit quantization a solution ?. , 2019, , .		5
231	ZF-Based Beamforming for Wireless Powered Cognitive Satellite-Terrestrial Networks. , 2019, , .		5
232	UAV-Aided Backscatter Networks: Joint UAV Trajectory and Protocol Design. , 2019, , .		5
233	Bayes-Optimal MMSE Detector for Massive MIMO Relaying With Low-Precision ADCs/DACs. IEEE Transactions on Signal Processing, 2020, 68, 3341-3357.	5.3	5
234	ESPRIT And Uniform Linear Arrays. Proceedings of SPIE, 1989, , .	0.8	4

#	Article	IF	Citations
235	DF directed multipath equalization. , 0, , .		4
236	A Bayesian approach to direction finding with parametric array uncertainty. , 0, , .		4
237	On the use of kernel structure for blind equalization. IEEE Transactions on Signal Processing, 2000, 48, 799-809.	5.3	4
238	Blind separation of space-time block coded signals via the analytic constant modulus algorithm. , 0, , .		4
239	Linear and Dirty-Paper Techniques for the Multiuser MIMO Downlink. , 2005, , 209-243.		4
240	A Performance Bound for Interpolation of MIMO-OFDM Channels. , 2006, , .		4
241	Poisoned feedback: The impact of malicious users in closed-loop multiuser mimo systems. , 2010, , .		4
242	Closed-loop tracking using multimodal RF/EO sensors. , 2010, , .		4
243	Direct interference suppression in EEG/MEG dipole source localization. , 2010, , .		4
244	On the achievable sum rate of multiterminal source coding for a correlated Gaussian vector source. , 2012, , .		4
245	Linearly reconfigurable Kalman filtering for a vector process. , 2013, , .		4
246	An optimal resource reuse strategy for QoS-aware device-to-device communications. , 2014, , .		4
247	Adjustable phase shift pilots for sparse massive MIMO-OFDM channels. , 2015, , .		4
248	A novel framework for feature extraction in multi-sensor action potential sorting. Journal of Neuroscience Methods, 2015, 253, 262-271.	2.5	4
249	Limited Rate Feedback for Two-User MISO Gaussian Interference Channel With and Without Secrecy. IEEE Transactions on Signal Processing, 2018, 66, 4884-4897.	5.3	4
250	Joint Channel Estimation and Localization for Cooperative Millimeter Wave Systems. , 2020, , .		4
251	Reduced Complexity Precoding for One-Bit Signaling. IEEE Transactions on Vehicular Technology, 2021, 70, 1967-1971.	6.3	4
252	A Scalable Open-Set ECG Identification System Based on Compressed CNNs. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 4966-4980.	11.3	4

#	Article	IF	Citations
253	Maximum likelihood DOA estimation and detection without eigendecomposition. , 1992, , .		3
254	DOA identifiability for rotationally invariant arrays. IEEE Transactions on Signal Processing, 1992, 40, 1825-1828.	5.3	3
255	Optimal direction finding with partially calibrated arrays. , 0, , .		3
256	Synchronization and spatial signature estimation for multiple known co-channel signals. , 0, , .		3
257	A space-time semi-blind equalizer based on constant modulus and decision-direction. , 0, , .		3
258	Blind and semi-blind equalization for generalized space-time precoding. , 2002, , .		3
259	A MIMO channel perturbation analysis for robust bit loading. , 2009, , .		3
260	Prescient beamforming in multi-user interweave cognitive radio networks. , 2011, , .		3
261	Signal source localization with tetrodes: Experimental verification. , 2011, 2011, 67-70.		3
262	Parameter tracking via optimal distributed beamforming in an analog sensor network. , 2012, , .		3
263	Prescient Precoding in Heterogeneous DSA Networks with Both Underlay and Interweave MIMO Cognitive Radios. IEEE Transactions on Wireless Communications, 2013, 12, 2252-2260.	9.2	3
264	On the optimality of polar codes for the deterministic wiretap channel. , 2013, , .		3
265	Filter design for a compressive sensing delay and Doppler estimation framework. , 2014, , .		3
266	Detection in analog sensor networks with a large scale antenna fusion center. , 2014, , .		3
267	Secure Communication for Spatially Correlated Massive MIMO with Low-Resolution DACs. IEEE Wireless Communications Letters, 2021, , 1-1.	5.0	3
268	System Identification via Weighted Subspace Fitting. , 1992, , .		3
269	Blind and semi-blind equalization for generalized space-time precoding. , 2002, , .		3
270	On the Copy of Communications Signals using Antenna Arrays. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1994, 27, 119-124.	0.4	2

#	Article	IF	Citations
271	Experiments in modeling the space-time indoor wireless communication channel. , 0, , .		2
272	Normalized adaptive decision directed equalization. IEEE Signal Processing Letters, 1998, 5, 18-20.	3.6	2
273	Measurement and modeling of temporal and spatial indoor multipath characteristics. , 0, , .		2
274	On the identifiability of multipath parameters. Signal Processing, 1999, 74, 327-330.	3.7	2
275	Medium Access Control for Multi-Antenna Networks using Multi-User Coding. , 2006, , .		2
276	IEEE Journal of Selected Topics in Signal Processing Inaugural Issue: {editor-in-chief's message}. IEEE Journal on Selected Topics in Signal Processing, 2007, 1, 1-1.	10.8	2
277	Bargaining and Multi-User Detection in MIMO Interference Networks. , 2008, , .		2
278	Scheduling for MIMO Networks with Rate-Constrained Connectivity Requirements. , 2010, , .		2
279	Interference self-mitigating beamforming for the K-user MIMO IC. , 2011, , .		2
280	Limited field-of-view multimodal sensor adaptation for data association. , 2012, , .		2
281	Analog transmit signal optimization for undersampled delay-Doppler estimation. , 2017, , .		2
282	Channel Estimation and Rate Analysis for Multipair Massive MIMO Relaying with One-Bit Quantization. , 2017, , .		2
283	Sample Entropy of High Frequency Oscillations for Epileptogenic Zone Localization. , 2018, 2018, 1-4.		2
284	Space-Constrained Mixed-ADC Massive MIMO. , 2019, , .		2
285	Mitigation of Jamming Attack in Massive MIMO With One-Bit FBB Sigma-Delta ADCs. , 2019, , .		2
286	Guest Editorial Special Issue on UAV Communications in 5G and Beyond Networks—Part I. IEEE Journal on Selected Areas in Communications, 2021, 39, 2907-2911.	14.0	2
287	Closed-form blind and semi-blind estimation of linear receivers for space-time coding. , 0, , .		1
288	Efficient subspace fitting algorithms for diversely polarized arrays. , 1993, , .		1

#	Article	IF	Citations
289	Improved signal copy with partially known or unknown array response. , 0, , .		1
290	A time domain method for joint estimation of time delays, Doppler shifts and spatial signatures. , 0, , .		1
291	Resolution of overlapping Doppler shifted echoes. , 0, , .		1
292	Fixed-window constant modulus algorithms: adaptive implementations. , 0, , .		1
293	A reduced-complexity and asymptotically efficient time-delay estimator. , 0, , .		1
294	Code-timing synchronization in DS-CDMA systems using space–time diversity. Signal Processing, 2001, 81, 1581-1602.	3.7	1
295	On the performance of multicarrier CDMA using multiple transmitters. , 0, , .		1
296	Time delay estimation in a spatially structured model using decoupled estimators for temporal and spatial parameters. , 2008, , .		1
297	Robust Secure Transmission in MISO Channels with Imperfect ECSI. , 2011, , .		1
298	On the use of artificial interference for secrecy with imperfect CSI. , 2011, , .		1
299	EEG/MEG source localization using source deflated matching pursuit. , 2011, 2011, 6572-5.		1
300	The Gaussian CEO problem for a scalar source with memory: A necessary condition. , 2012, , .		1
301	Rank property of the MIMO Gaussian wiretap channel with an average power constraint. , 2012, , .		1
302	Algorithms and Bounds for Dynamic Causal Modeling of Brain Connectivity. IEEE Transactions on Signal Processing, 2013, 61, 2990-3001.	5.3	1
303	Localization of mobile equipment in radio environments with no line-of-sight path. , 2013, , .		1
304	Analysis of a separable STAP algorithm for very large arrays. , 2014, , .		1
305	Introduction to the Issue on Signal Processing for Large-Scale MIMO. IEEE Journal on Selected Topics in Signal Processing, 2014, 8, 739-741.	10.8	1
306	Approaching $B \log ~(1+{\mathrm{ SNR}})$ With Direct Detection and Low-Order Asymmetric Bandpass Filtering. IEEE Communications Letters, 2017, 21, 2372-2375.	4.1	1

#	ARTICLE	IF	CITATIONS
307	Are Traditional Signal Processing Techniques Rate Maximizing in Quantized SU-MISO Systems?. , 2017, , .		1
308	On the Effect of Mutual Coupling in One-Bit Spatial Sigma-Delta Massive MIMO Systems. , 2020, , .		1
309	Secure Symbol-Level Miso Precoding. , 2020, , .		1
310	Wireless Physical-Layer Surveillance via Proactive Eavesdropping and Alternate Jamming. , 2021, , .		1
311	Simultaneous blind equalization and decoding of multiple coded co-channel signals. , 0, , .		1
312	Detection and estimation in the presence of signals with uncalibrated spatial signature. Signal Processing, 1996, 50, 29-37.	3.7	0
313	Robust weighted subspace fitting in the presence of array model errors. , 0, , .		0
314	A polynomial rooting approach for synchronization in multipath channels using antenna arrays. , 0, , .		0
315	Optimal subspace techniques for DOA estimation. , 2001, , 261-278.		0
316	MIMO technology for point-to-point and multi-user wireless communication. , 0, , .		0
317	Satisficing Learning Dynamics in the Stag Hunt. , 2006, , .		0
318	Space-Time Power Schedule for Distributed MIMO Links Without Channel State Information at Transmitting Nodes. , 2007, , .		0
319	Impact of User Mobility and Asymmetry on Multiuser Scheduler Performance. Conference Record of the Asilomar Conference on Signals, Systems and Computers, 2007, , .	0.0	0
320	A realistic performance analysis for practical channel-aware scheduling. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	0
321	Farewell Messageâ€"Lee Swindlehurst. IEEE Journal on Selected Topics in Signal Processing, 2009, 3, 905-905.	10.8	0
322	Matched subspace detector based feature extraction for sorting of multi-sensor action potentials. , 2011, 2011, 3704-7.		0
323	Tracking single dynamic MEG dipole sources using the projected extended Kalman filter. , 2011, 2011, 4365-8.		0
324	Performance bounds for dynamic causal modeling of brain connectivity. , 2012, 2012, 1036-9.		0

#	Article	IF	Citations
325	The Gaussian CEO Problem for Scalar Sources With Arbitrary Memory. IEEE Transactions on Information Theory, 2017, 63, 4286-4297.	2.4	0
326	Predistortion techniques for vector perturbation precoding of one-bit massive-MIMO. , 2017, , .		0
327	On the delay-Doppler tracking error for sub-nyquist satellite-based synchronization. , 2017, , .		0
328	GlobalSIP 2018 Welcome. , 2018, , .		0
329	Are the Data Rates Predicted by the Analytic Analysis of Receivers with Low Resolution ADCs Achievable?. , 2018, , .		0
330	Spatial Sigma-Delta Modulation for the Massive MIMO Downlink. , 2019, , .		0
331	Estimation of Sparse Directional Connectivity With Expectation Maximization. IEEE Transactions on Signal Processing, 2019, 67, 854-869.	5.3	0
332	Drosophila Brain Functional Data Analysis: A Unified Framework. , 2020, 2020, 1088-1091.		0
333	Guest Editorial Special Issue on UAV Communications in 5G and Beyond Networksâ€"Part II. IEEE Journal on Selected Areas in Communications, 2021, 39, 3247-3251.	14.0	0
334	Direction Finding with 2D Arrays Using Spatial Sigma-Delta ADCs. , 2021, , .		0
335	Spatial Sigma-Delta Massive MIMO: Improved Channel Estimation and Achievable Rates. , 2020, , .		0