Byonghyo Shim

List of Publications by Year
in descending order

149 papers	4,593 citations	147801 31 h-index	114465 63 g-index
149 all docs	149 docs citations	149 times ranked	3467 citing authors

#	Article	IF	Citations
1	Generalized Orthogonal Matching Pursuit. IEEE Transactions on Signal Processing, 2012, 60, 6202-6216.	5.3	494
2	Ultra-Reliable and Low-Latency Communications in 5G Downlink: Physical Layer Aspects. IEEE Wireless Communications, 2018, 25, 124-130.	9.0	378
3	Compressed Sensing for Wireless Communications: Useful Tips and Tricks. IEEE Communications Surveys and Tutorials, 2017, 19, 1527-1550.	39.4	246
4	Structured Compressive Sensing-Based Spatio-Temporal Joint Channel Estimation for FDD Massive MIMO. IEEE Transactions on Communications, 2016, 64, 601-617.	7.8	173
5	Overview of Full-Dimension MIMO in LTE-Advanced Pro. , 2017, 55, 176-184.		164
6	Reliable low-power digital signal processing via reduced precision redundancy. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2004, 12, 497-510.	3.1	162
7	On the Recovery Limit of Sparse Signals Using Orthogonal Matching Pursuit. IEEE Transactions on Signal Processing, 2012, 60, 4973-4976.	5.3	143
8	Multipath Matching Pursuit. IEEE Transactions on Information Theory, 2014, 60, 2986-3001.	2.4	141
9	Service Multiplexing and Revenue Maximization in Sliced C-RAN Incorporated With URLLC and Multicast eMBB. IEEE Journal on Selected Areas in Communications, 2019, 37, 881-895.	14.0	132
10	Antenna Grouping Based Feedback Compression for FDD-Based Massive MIMO Systems. IEEE Transactions on Communications, 2015, 63, 3261-3274.	7.8	114
11	Performance Analysis of FD-NOMA-Based Decentralized V2X Systems. IEEE Transactions on Communications, 2019, 67, 5024-5036.	7.8	109
12	Multiuser Detection via Compressive Sensing. IEEE Communications Letters, 2012, 16, 972-974.	4.1	105
13	Low-Rank Matrix Completion: A Contemporary Survey. IEEE Access, 2019, 7, 94215-94237.	4.2	102
14	Energy-efficient soft error-tolerant digital signal processing. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2006, 14, 336-348.	3.1	98
15	Sphere Decoding With a Probabilistic Tree Pruning. IEEE Transactions on Signal Processing, 2008, 56, 4867-4878.	5.3	88
16	Joint CSIT Acquisition Based on Low-Rank Matrix Completion for FDD Massive MIMO Systems. IEEE Communications Letters, 2015, 19, 2178-2181.	4.1	78
17	Channel Feedback Based on AoD-Adaptive Subspace Codebook in FDD Massive MIMO Systems. IEEE Transactions on Communications, 2018, 66, 5235-5248.	7.8	77
18	EP-Based Joint Active User Detection and Channel Estimation for Massive Machine-Type Communications. IEEE Transactions on Communications, 2019, 67, 5178-5189.	7.8	73

#	Article	IF	Citations
19	Iterative Channel Estimation Using Virtual Pilot Signals for MIMO-OFDM Systems. IEEE Transactions on Signal Processing, 2015, 63, 3032-3045.	5.3	60
20	Joint Channel Training and Feedback for FDD Massive MIMO Systems. IEEE Transactions on Vehicular Technology, 2016, 65, 8762-8767.	6.3	59
21	Packet Structure and Receiver Design for Low Latency Wireless Communications With Ultra-Short Packets. IEEE Transactions on Communications, 2018, 66, 796-807.	7.8	58
22	Deep Neural Network-Based Active User Detection for Grant-Free NOMA Systems. IEEE Transactions on Communications, 2020, 68, 2143-2155.	7.8	58
23	MAP-Based Active User and Data Detection for Massive Machine-Type Communications. IEEE Transactions on Vehicular Technology, 2018, 67, 8481-8494.	6.3	52
24	DEARER: A Distance-and-Energy-Aware Routing With Energy Reservation for Energy Harvesting Wireless Sensor Networks. IEEE Journal on Selected Areas in Communications, 2016, 34, 3798-3813.	14.0	46
25	Compressive Sensing Based Channel Estimation for Millimeter-Wave Full-Dimensional MIMO With Lens-Array. IEEE Transactions on Vehicular Technology, 2020, 69, 2337-2342.	6.3	42
26	Sparse Vector Coding for Ultra Reliable and Low Latency Communications. IEEE Transactions on Wireless Communications, 2018, 17, 6693-6706.	9.2	41
27	Exact Recovery of Sparse Signals Using Orthogonal Matching Pursuit: How Many Iterations Do We Need?. IEEE Transactions on Signal Processing, 2016, 64, 4194-4202.	5.3	40
28	A MMSE Vector Precoding with Block Diagonalization for Multiuser MIMO Downlink. IEEE Transactions on Communications, 2012, 60, 569-577.	7.8	39
29	Iterative group detection and decoding for large MIMO systems. Journal of Communications and Networks, 2015, 17, 609-621.	2.6	37
30	Principal Component Analysis-Based Broadband Hybrid Precoding for Millimeter-Wave Massive MIMO Systems. IEEE Transactions on Wireless Communications, 2020, 19, 6331-6346.	9.2	37
31	6G R&D vision: Requirements and candidate technologies. Journal of Communications and Networks, 2022, 24, 232-245.	2.6	34
32	Downlink Pilot Precoding and Compressed Channel Feedback for FDD-Based Cell-Free Systems. IEEE Transactions on Wireless Communications, 2020, 19, 3658-3672.	9.2	33
33	On further reduction of complexity in tree pruning based sphere search. IEEE Transactions on Communications, 2010, 58, 417-422.	7.8	31
34	Expectation-Maximization-Based Channel Estimation for Multiuser MIMO Systems. IEEE Transactions on Communications, 2017, 65, 2397-2410.	7.8	31
35	Downlink Pilot Reduction for Massive MIMO Systems via Compressed Sensing. IEEE Communications Letters, 2015, 19, 1889-1892.	4.1	28
36	Statistical Recovery of Simultaneously Sparse Time-Varying Signals From Multiple Measurement Vectors. IEEE Transactions on Signal Processing, 2015, 63, 6136-6148.	5.3	28

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37	Low-Power Filtering Via Minimum Power Soft Error Cancellation. IEEE Transactions on Signal Processing, 2007, 55, 5084-5096.	5.3	27
38	Localization of IoT Networks via Low-Rank Matrix Completion. IEEE Transactions on Communications, 2019, 67, 5833-5847.	7.8	27
39	Efficient Beam Training and Sparse Channel Estimation for Millimeter Wave Communications Under Mobility. IEEE Transactions on Communications, 2020, 68, 6583-6596.	7.8	27
40	Energy-Efficient Ultra-Dense Network Using LSTM-based Deep Neural Networks. IEEE Transactions on Wireless Communications, 2021, 20, 4702-4715.	9.2	26
41	Joint active user detection and channel estimation for massive machine-type communications. , 2017, , .		25
42	Systematic Resource Allocation in Cloud RAN With Caching as a Service Under Two Timescales. IEEE Transactions on Communications, 2019, 67, 7755-7770.	7.8	24
43	Deep Learning-Based Beam Tracking for Millimeter-Wave Communications Under Mobility. IEEE Transactions on Communications, 2021, 69, 7458-7469.	7.8	23
44	Direction-of-Arrival Estimation for Large Antenna Arrays With Hybrid Analog and Digital Architectures. IEEE Transactions on Signal Processing, 2022, 70, 72-88.	5.3	23
45	Sparse Detection With Integer Constraint Using Multipath Matching Pursuit. IEEE Communications Letters, 2014, 18, 1851-1854.	4.1	22
46	Enhanced Sparse Vector Coding for Ultra-Reliable and Low Latency Communications. IEEE Transactions on Vehicular Technology, 2020, 69, 5698-5702.	6.3	22
47	Integrated Sensing and Communication Waveform Design With Sparse Vector Coding: Low Sidelobes and Ultra Reliability. IEEE Transactions on Vehicular Technology, 2022, 71, 4489-4494.	6.3	22
48	Moving Target Classification in Automotive Radar Systems Using Convolutional Recurrent Neural Networks. , 2018, , .		21
49	Joint Sparse Recovery Using Signal Space Matching Pursuit. IEEE Transactions on Information Theory, 2020, 66, 5072-5096.	2.4	21
50	On the Beamforming Design for MIMO Multipair Two-Way Relay Channels. IEEE Transactions on Vehicular Technology, 2012, 61, 3301-3306.	6.3	20
51	New approach for massive MIMO detection using sparse error recovery. , 2014, , .		20
52	Sparsity-Aware Ordered Successive Interference Cancellation for Massive Machine-Type Communications. IEEE Wireless Communications Letters, 2018, 7, 134-137.	5.0	20
53	Pilot-Less Sparse Vector Coding for Short Packet Transmission. IEEE Wireless Communications Letters, 2019, 8, 1036-1039.	5.0	20
54	Efficient Soft-Input Soft-Output Tree Detection via an Improved Path Metric. IEEE Transactions on Information Theory, 2012, 58, 1518-1533.	2.4	19

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55	FDD-Based Cell-Free Massive MIMO Systems. , 2018, , .		19
56	Energy-Efficient Millimeter-Wave Cell-Free Systems Under Limited Feedback. IEEE Transactions on Communications, 2021, 69, 4067-4082.	7.8	19
57	Optimal Restricted Isometry Condition of Normalized Sampling Matrices for Exact Sparse Recovery With Orthogonal Least Squares. IEEE Transactions on Signal Processing, 2021, 69, 1521-1536.	5.3	18
58	Deep Reinforcement Learning-Based Network Slicing for Beyond 5G. IEEE Access, 2022, 10, 7384-7395.	4.2	18
59	Active User Detection and Channel Estimation for Massive Machine-Type Communication: Deep Learning Approach. IEEE Internet of Things Journal, 2022, 9, 11904-11917.	8.7	16
60	Fast High-Quality Volume Ray Casting with Virtual Samplings. IEEE Transactions on Visualization and Computer Graphics, 2010, 16, 1525-1532.	4.4	15
61	Weak Signal Frequency Detection Using Chaos Theory: A Comprehensive Analysis. IEEE Transactions on Vehicular Technology, 2021, 70, 8950-8963.	6.3	13
62	A Vector Perturbation with User Selection for Multiuser MIMO Downlink. IEEE Transactions on Communications, 2012, 60, 3322-3331.	7.8	12
63	Antenna group selection based user scheduling for massive MIMO systems. , 2014, , .		12
64	Localization in Internet of Things network: Matrix completion approach. , 2016, , .		12
65	Sparse signal recovery via tree search matching pursuit. Journal of Communications and Networks, 2016, 18, 699-712.	2.6	12
66	Nearly Optimal Restricted Isometry Condition for Rank Aware Order Recursive Matching Pursuit. IEEE Transactions on Signal Processing, 2019, 67, 4449-4463.	5.3	12
67	Detection of Large-Scale Wireless Systems via Sparse Error Recovery. IEEE Transactions on Signal Processing, 2017, 65, 6038-6052.	5.3	11
68	Sparse Vector Coding for 5G Ultra-Reliable and Low Latency Communications. , 2018, , .		11
69	Channel Aware Sparse Transmission for Ultra Low-Latency Communications in TDD Systems. IEEE Transactions on Communications, 2020, 68, 1175-1186.	7.8	11
70	Downlink Compressive Channel Estimation With Phase Noise in Massive MIMO Systems. IEEE Transactions on Communications, 2020, 68, 5534-5548.	7.8	11
71	Energy-Efficient Ultra-Dense Network using Deep Reinforcement Learning. , 2020, , .		10
72	Pilot-Less One-Shot Sparse Coding for Short Packet-Based Machine-Type Communications. IEEE Transactions on Vehicular Technology, 2020, 69, 9117-9120.	6.3	10

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73	Deep Learning Based Low-Rank Matrix Completion for IoT Network Localization. IEEE Wireless Communications Letters, 2021, 10, 2115-2119.	5.0	10
74	Sparse Superimposed Coding for Short-Packet URLLC. IEEE Internet of Things Journal, 2022, 9, 5275-5289.	8.7	10
75	Power Minimization of Intelligent Reflecting Surface-Aided Uplink IoT Networks. , 2021, , .		10
76	Robust DoA Estimation Using Denoising Autoencoder and Deep Neural Networks. IEEE Access, 2022, 10, 52551-52564.	4.2	10
77	Deep Learning-Based Spreading Sequence Design and Active User Detection for Massive Machine-Type Communications. IEEE Wireless Communications Letters, 2021, 10, 1618-1622.	5.0	9
78	Joint Modulation Classification and Detection Using Sphere Decoding. IEEE Signal Processing Letters, 2009, 16, 778-781.	3.6	8
79	Packet Structure and Receiver Design for Low-Latency Communications with Ultra-Small Packets. , 2016, , .		8
80	Exploiting dominant eigendirections for feedback compression for FDD-based massive MIMO systems. , 2016, , .		8
81	A Near-Optimal Restricted Isometry Condition of Multiple Orthogonal Least Squares. IEEE Access, 2019, 7, 46822-46830.	4.2	8
82	Low Latency Random Access for Small Cell Toward Future Cellular Networks. IEEE Access, 2019, 7, 178563-178576.	4.2	8
83	Sparse Vector Transmission: An Idea Whose Time Has Come. IEEE Vehicular Technology Magazine, 2020, 15, 32-39.	3.4	8
84	Sparse Vector Coding Aided Ultra-Reliable and Low-Latency Communications in Multi-User Massive MIMO Systems. IEEE Transactions on Vehicular Technology, 2021, 70, 1019-1024.	6.3	8
85	Energy-Efficient Power Control and Beamforming for Reconfigurable Intelligent Surface-Aided Uplink IoT Networks. IEEE Transactions on Wireless Communications, 2022, 21, 10162-10176.	9.2	8
86	Complexity analysis of multicarrier and single-carrier systems for very high-speed digital subscriber line. IEEE Transactions on Signal Processing, 2003, 51, 282-292.	5.3	7
87	Exploring the interactions of communication, computing and caching in cloud RAN under two timescale. , 2017, , .		7
88	Sparse Vector Coding for Short Packet Transmission in Massive Machine Type Communications. , 2018, , .		7
89	Towards Faster-Than-Nyquist Transmission for Beyond 5G Wireless Communications. , 2019, , .		7
90	Detection of weak multi-target with adjacent frequency based on chaotic system. International Journal of Distributed Sensor Networks, 2019, 15, 155014771989024.	2.2	7

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91	Pseudo-Label-Free Weakly Supervised Semantic Segmentation Using Image Masking. IEEE Access, 2022, 10, 19401-19411.	4.2	7
92	A MIMO Relay With Delayed Feedback Can Improve DoF in K- User MISO Interference Channel With No CSIT. IEEE Transactions on Vehicular Technology, 2016, 65, 10188-10192.	6.3	6
93	New Radio Technologies for Ultra Reliable and Low Latency Communications. , 2018, , .		6
94	Deep Neural Network-based Joint Active User Detection and Channel Estimation for mMTC. , 2020, , .		6
95	Tonal signal detection in passive sonar systems using atomic norm minimization. Eurasip Journal on Advances in Signal Processing, 2019, 2019, .	1.7	6
96	Gradual Federated Learning With Simulated Annealing. IEEE Transactions on Signal Processing, 2021, 69, 6299-6313.	5.3	6
97	Optimal Power Control for Transmitting Correlated Sources With Energy Harvesting Constraints. IEEE Transactions on Wireless Communications, 2018, 17, 461-476.	9.2	5
98	Sparse Vector Coding for Ultra Short Packet Transmission. , 2018, , .		5
99	Multiple Orthogonal Least Squares for Joint Sparse Recovery. , 2018, , .		5
100	Deep Neural Network Based Matrix Completion for Internet of Things Network Localization. , 2020, , .		5
101	Sparse Vector Coding-based Superimposed Transmission for Short Packet URLLC. , 2021, , .		5
102	Stochasticity and Skip Connection Improve Knowledge Transfer. , 2021, , .		5
103	Towards the Performance of ML and the Complexity of MMSE: A Hybrid Approach for Multiuser Detection. IEEE Transactions on Wireless Communications, 2012, 11, 2508-2519.	9.2	4
104	Oblique Projection Matching Pursuit. Mobile Networks and Applications, 2017, 22, 377-382.	3.3	4
105	AoD-Based Statistical Beamforming for Cell-Free Massive MIMO Systems. , 2018, , .		4
106	Moving Target Classification In Automotive Radar Systems Using Transposed Convolutional Networks. , 2018, , .		4
107	Pilot Assignment and Channel Estimation via Deep Neural Network. , 2018, , .		4
108	Greedy Sparse Channel Estimation for Millimeter Wave Communications. , 2018, , .		4

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109	Hybrid Active User Detection for Massive Machine-type Communications in IoT. , 2018, , .		4
110	Automotive Radar Signal Classification Using Bypass Recurrent Convolutional Networks. , 2019, , .		4
111	Estimation of Dynamically Varying Support of Sparse Signals via Sequential Monte-Carlo Method. IEEE Transactions on Signal Processing, 2020, 68, 4135-4147.	5.3	4
112	Energy-Efficient mmWave UDN Using Distributed Multi-Agent Deep Reinforcement Learning. , 2021, , .		4
113	Ultra-Mini Slot Transmission for 5G+ and 6G URLLC Network. , 2020, , .		4
114	Guest Editorial Location-Awareness for Radios and Networks, Part I. IEEE Journal on Selected Areas in Communications, 2015, 33, 1285-1287.	14.0	3
115	Path Selection Based Feedback Reduction for FDD Massive MIMO Systems. , 2019, , .		3
116	Feedback Reduction for Beyond 5G Cellular Systems. , 2019, , .		3
117	Active User Detection of Machine-Type Communications via Dimension Spreading Neural Network. , 2019, , .		3
118	Energy Efficient Ultra-Dense Network Using Long Short-Term Memory. , 2020, , .		3
119	Localization of Internet of Things Network via Deep Neural Network Based Matrix Completion. , 2020, , .		3
120	Deep Learning-Based Beamforming for Intelligent Reflecting Surface-Assisted mmWave Systems. , 2021, , .		3
121	Fast Terahertz Beam Training Via Frequency-dependent Precoding. , 2022, , .		3
122	Iterative interstream interference cancellation for MIMO HSPA+ system. Journal of Communications and Networks, 2012, 14, 273-279.	2.6	2
123	Compressive sensing based pilot reduction technique for massive MIMO systems. , 2015, , .		2
124	Localization of Internet of Things network via Euclidean distance matrix completion. , 2016, , .		2
125	Dedicated Beam-based Channel Training Technique for Millimeter Wave Communications with high Mobility. , 2018, , .		2
126	Channel Aware Sparse Signaling for Ultra Low-Latency Communication in TDD Systems. , 2018, , .		2

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127	A Compressive Sensing-Based Active User and Symbol Detection Technique for Massive Machine-Type Communications. , 2018, , .		2
128	Expectation Propagation-Based Active User Detection and Channel Estimation for Massive Machine-Type Communications. , 2018, , .		2
129	Optimal Restricted Isometry Condition for Exact Sparse Recovery with Orthogonal Least Squares. , 2020, , .		2
130	Partial Sample Transmission and Deep Neural Decoding for URLLC-based V2X Systems. , 2021, , .		2
131	Gradual Federated Learning Using Simulated Annealing. , 2021, , .		2
132	Deep Learning-Based Intelligent Reflecting Surface Phase Shift Control. , 2021, , .		2
133	Guest Editorial Location-Awareness for Radios and Networks, Part II. IEEE Journal on Selected Areas in Communications, 2015, 33, 2269-2271.	14.0	1
134	Soft decision-directed channel estimation for multiuser MIMO systems. , 2015, , .		1
135	Transmitting correlated sources using energy harvesting transmitters. , 2016, , .		1
136	Channel Aware Sparse Signaling for Ultra-Low Latency TDD Access. , 2019, , .		1
137	Multiple Candidate Matching Pursuit. Journal of Broadcast Engineering, 2012, 17, 954-963.	0.1	1
138	Energy-Efficient Cell-Free Systems Using Finite Rate Feedback. , 2020, , .		1
139	Decision-Feedback Closest Lattice Point Search for UMTS HSPA System. IEEE Signal Processing Letters, 2009, 16, 1035-1038.	3.6	0
140	Kalman-based time-varying sparse channel estimation. , 2016, , .		0
141	Multiple subspace matching pursuit for spectrum sensing. , 2017, , .		0
142	Orthogonal least squares algorithm for the multiple-measurement vectors problem. , 2017, , .		0
143	Pilot beamforming for massive machine type communication systems. , 2017, , .		0
144	Fast Uplink Access in TDD Systems for Ultra Reliable and Low Latency Communications. , 2018, , .		0

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145	A Near-Optimal Condition for Exact Sparse Recovery with Orthogonal Least Squares. , 2019, , .		0
146	Nearly Sharp Restricted Isometry Condition of Rank Aware Order Recursive Matching Pursuit. , 2019, , .		0
147	Energy-Efficient FDD-based Massive MIMO Systems Using Finite Rate Feedback. , 2020, , .		0
148	Low-Rank Matrix Completion Using Graph Neural Network. , 2020, , .		0
149	User Association with Multi-Agent Reinforcement Learning for Energy-Efficient UDN. , 2021, , .		0