Sergey Yourievich Zemlyanukhin

List of Publications by Year
in descending order

127 papers	9,153 citations	331538 21 h-index	254106 43 g-index
127 all docs	127 docs citations	127 times ranked	5185 citing authors

#	Article	IF	Citations
1	Massive MIMO with Per-Antenna Digital Predistortion Size Optimization: Does it Help?. , 2021, , .		1
2	Simulation of Multiple-Antenna Terminal Performance in Massive MIMO Systems Based on Indoor Measurements. IEEE Transactions on Vehicular Technology, 2020, 69, 418-427.	3.9	2
3	Processing Distribution and Architecture Tradeoff for Large Intelligent Surface Implementation. , 2020, , .		7
4	Trade-Offs in Quasi-Decentralized Massive MIMO. , 2020, , .		4
5	Decentralized Massive MIMO Processing Exploring Daisy-Chain Architecture and Recursive Algorithms. IEEE Transactions on Signal Processing, 2020, 68, 687-700.	3.2	39
6	A Case Study on the Influence of Multiple Users on the Effective Channel in a Massive MIMO System. IEEE Wireless Communications Letters, 2020, 9, 389-393.	3.2	1
7	Spherical Large Intelligent Surfaces. , 2020, , .		13
8	Fully Decentralized Approximate Zero-Forcing Precoding for Massive MIMO Systems. IEEE Wireless Communications Letters, 2019, 8, 773-776.	3.2	20
9	Achievable Rate with Correlated Hardware Impairments in Large Intelligent Surfaces. , 2019, , .		7
10	CramÃ©r-Rao Lower Bounds for Positioning with Large Intelligent Surfaces using Quantized Amplitude and Phase. , 2019, , .		5
11	Decentralized Massive MIMO Systems: Is There Anything to be Discussed?. , 2019, , .		11
12	On Time-of-Arrival Estimation in NB-IoT Systems. , 2019, , .		8
13	Decentralized Equalizer Construction for Large Intelligent Surfaces. , 2019, , .		10
14	Beyond Massive MIMO: The Potential of Positioning With Large Intelligent Surfaces. IEEE Transactions on Signal Processing, 2018, 66, 1761-1774.	3.2	213
15	Massive MIMO Performanceâ€"TDD Versus FDD: What Do Measurements Say?. IEEE Transactions on Wireless Communications, 2018, 17, 2247-2261.	6.1	61
16	Beyond Massive MIMO: The Potential of Data Transmission With Large Intelligent Surfaces. IEEE Transactions on Signal Processing, 2018, 66, 2746-2758.	3.2	534
17	Capacity Degradation with Modeling Hardware Impairment in Large Intelligent Surface. , 2018, , .		40
18	Unmanned Aerial Vehicle Assisted Cellular Communication. , 2018, , .		6

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19	Fully Decentralized Massive MIMO Detection Based on Recursive Methods. , 2018, , .		19
20	Impact of Relay Cooperation on the Performance of Large-Scale Multipair Two-Way Relay Networks. , 2018, , .		2
21	On the Design of Channel Shortening Demodulators for Iterative Receivers in Linear Vector Channels. IEEE Access, 2018, 6, 48339-48359.	2.6	3
22	User Assignment with Distributed Large Intelligent Surface (LIS) Systems. , 2018, , .		42
23	Analysis of Transmission Schemes for Dual-Antenna Terminals in Massive MIMO Systems. , 2018, , .		2
24	Modulus Zero-Forcing Detection for MIMO Channels. , 2018, , .		3
25	Precoder Design for Cooperative Multi-User Downlink MISO Channels with Finite Side-Link Capacity. , 2018, , .		1
26	Spatial Separation of Closely-Located Users in Measured Massive MIMO Channels. IEEE Access, 2018, 6, 40253-40266.	2.6	22
27	A Soft-Output MIMO Detector With Achievable Information Rate based Partial Marginalization. IEEE Transactions on Signal Processing, 2017, 65, 1622-1637.	3.2	11
28	Optimal Channel Shortener Design for Reduced- State Soft-Output Viterbi Equalizer in Single-Carrier Systems. IEEE Transactions on Communications, 2017, 65, 2568-2582.	4.9	8
29	A Generalized Zero-Forcing Precoder With Successive Dirty-Paper Coding in MISO Broadcast Channels. IEEE Transactions on Wireless Communications, 2017, 16, 3632-3645.	6.1	12
30	Reciprocity Calibration for Massive MIMO: Proposal, Modeling, and Validation. IEEE Transactions on Wireless Communications, 2017, 16, 3042-3056.	6.1	124
31	A generalized zero-forcing precoder for multiple antenna Gaussian broadcast channels. , 2017, , .		1
32	A Simulation Framework for Multiple-Antenna Terminals in 5G Massive MIMO Systems. IEEE Access, 2017, 5, 26819-26831.	2.6	35
33	Sequential channel estimation in the presence of random phase noise in NB-IoT systems. , 2017, , .		10
34	Improving the Performance of OTDOA Based Positioning in NB-IoT Systems. , 2017, , .		35
35	Bandwidth Minimization under Probabilistic Constraints and Statistical CSI for NOMA. , 2017, , .		2
36	The Potential of Using Large Antenna Arrays on Intelligent Surfaces. , 2017, , .		57

#	Article	IF	Citations
37	On cooperation in DVB-S2X receivers through a capacity constrained link. , 2017, , .		0
38	CramÃ©r-Rao Lower Bounds for Positioning with Large Intelligent Surfaces. , 2017, , .		7
39	Multiuser Bandwidth Minimization with Individual Rate Requirements for Non-Orthogonal Multiple Access. , 2017, , .		4
40	A Generalized Method of Moments Detector for Block Fading SIMO Channels. IEEE Communications Letters, 2016, , 1-1.	2.5	0
41	Massive MIMO via cooperative users. , 2016, , .		0
42	Transmission Schemes for Multiple Antenna Terminals in Real Massive MIMO Systems. , 2016, , .		11
43	Channel shortening algorithms for multiple intersymbol interference channels. , 2016, , .		0
44	Linear Precoder Design for MIMO-ISI Broadcasting Channels Under Channel Shortening Detection. IEEE Signal Processing Letters, 2016, 23, 1207-1211.	2.1	3
45	Exploiting antenna correlation in measured massive MIMO channels. , 2016, , .		4
46	A receive/transmit calibration technique based on mutual coupling for massive MIMO base stations. , 2016, , .		3
47	A low-complexity channel shortening receiver with diversity support for evolved 2G devices. , 2016, , .		9
48	Comparison of two channel shortening approaches for MIMO-ISI channels. , 2016, , .		1
49	An Information Theoretic Characterization of Channel Shortening Receivers. IEEE Transactions on Communications, 2016, 64, 1490-1502.	4.9	1
50	Physical layer security for massive MIMO: An overview on passive eavesdropping and active attacks. , 2015, 53, 21-27.		325
51	On the design of reduced state demodulators with interference cancellation for iterative receivers. , 2015, , .		4
52	Adaptive Rate-Maximizing Channel-Shortening for ISI Channels. IEEE Communications Letters, 2015, 19, 2090-2093.	2.5	6
53	Spatial separation of closely-spaced users in measured massive multi-user MIMO channels. , 2015, , .		34
54	Lattice Structures of Precoders Maximizing the Minimum Distance in Linear Channels. IEEE Transactions on Information Theory, 2015, 61, 908-916.	1.5	6

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55	40 Years with the Ungerboeck Model: A Look at its Potentialities [Lecture Notes]. IEEE Signal Processing Magazine, 2015, 32, 156-161.	4.6	19
56	On the Probability of Non-Shared Multipath Clusters in Cellular Networks. IEEE Wireless Communications Letters, 2015, 4, 161-164.	3.2	0
57	Massive MIMO Performance Evaluation Based on Measured Propagation Data. IEEE Transactions on Wireless Communications, 2015, 14, 3899-3911.	6.1	444
58	High throughput constant envelope pre-coder for massive MIMO systems. , 2015, , .		4
59	Reciprocity calibration methods for massive MIMO based on antenna coupling. , 2014, , .		54
60	On the directional reciprocity of uplink and downlink channels in Frequency Division Duplex systems. , 2014, , .		30
61	A robust low-complexity MIMO detector for rank 4 LTE/LTE-A systems. , 2014, , .		0
62	Detection of active eavesdroppers in massive MIMO. , 2014, , .		39
63	Hardware efficient approximative matrix inversion for linear pre-coding in massive MIMO. , 2014, , .		54
64	High Order Modulation in Faster-Than-Nyquist Signaling Communication Systems. , 2014, , .		15
65	Modulation Formats and Waveforms for 5G Networks: Who Will Be the Heir of OFDM?: An overview of alternative modulation schemes for improved spectral efficiency. IEEE Signal Processing Magazine, 2014, 31, 80-93.	4.6	383
66	A low-complex peak-to-average power reduction scheme for OFDM based massive MIMO systems. , 2014, , .		30
67	Large antenna array and propagation environment interaction. , 2014, , .		11
68	Faster-Than-Nyquist Signaling. Proceedings of the IEEE, 2013, 101, 1817-1830.	16.4	332
69	An 0.8-mm^2 9.6-mW Iterative Decoder for Faster-Than-Nyquist and Orthogonal Signaling Multicarrier Systems in 65-nm CMOS. IEEE Journal of Solid-State Circuits, 2013, 48, 1680-1688.	3.5	5
70	Approximative matrix inverse computations for very-large MIMO and applications to linear pre-coding systems. , 2013, , .		134
71	Scaling Up MIMO: Opportunities and Challenges with Very Large Arrays. IEEE Signal Processing Magazine, 2013, 30, 40-60.	4.6	4,222
72	Optimal Two-Dimensional Lattices for Precoding of Linear Channels. IEEE Transactions on Wireless Communications, 2013, 12, 2104-2113.	6.1	13

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73	An information theoretic charachterization of channel shortening receivers. , 2013, , .		0
74	Optimal transmit filters for constrained complexity channel shortening detectors. , 2013, , .		3
75	Robust UE Receiver with Interference Cancellation in LTE Advanced Heterogeneous Network. , 2013, , .		13
76	Optimal Transmit Filters for ISI Channels under Channel Shortening Detection. IEEE Transactions on Communications, 2013, 61, 4997-5005.	4.9	29
77	Construction of Minimum Euclidean Distance MIMO Precoders and Their Lattice Classifications. IEEE Transactions on Signal Processing, 2012, 60, 4470-4474.	3.2	6
78	Indoor multi-user MIMO: Measured user orthogonality and its impact on the choice of coding. , 2012, , .		2
79	Channel Shortening for Nonlinear Satellite Channels. IEEE Communications Letters, 2012, 16, 1929-1932.	2.5	15
80	Achievable Rates of IID Gaussian Symbols on the Non-Coherent Block-Fading Channel Without Channel Distribution Knowledge at the Receiver. IEEE Transactions on Wireless Communications, 2012, 11, 1277-1282.	6.1	5
81	Optimal Channel Shortening for MIMO and ISI Channels. IEEE Transactions on Wireless Communications, 2012, 11, 810-818.	6.1	86
82	Measured propagation characteristics for very-large MIMO at 2.6 GHz. , 2012, , .		135
83	A 0.8 mm^2 9.6 mW implementation of a multicarrier Faster-than-Nyquist signaling iterative decoder in 65nm CMOS. , 2012, , .		1
84	A rate-maximizing channel-shortening detector with soft feedback side information. , 2012, , .		3
85	Channel Estimation Algorithms for OFDM-IDMA: Complexity and Performance. IEEE Transactions on Wireless Communications, 2012, 11, 1722-1732.	6.1	29
86	The Effect of Signaling Rate on Information Rate for Single Carrier Linear Transmission Systems. IEEE Transactions on Communications, 2012, 60, 421-428.	4.9	7
87	Minimum Distance Analysis of a Certain Class of 2-D ISI Channels. IEEE Transactions on Information Theory, 2012, 58, 878-887.	1.5	1
88	Mutual Information of IID Complex Gaussian Signals on Block Rayleigh-Faded Channels. IEEE Transactions on Information Theory, 2012, 58, 331-340.	1.5	47
89	Bounds on the Information Rate of Intersymbol Interference Channels Based on Mismatched Receivers. IEEE Transactions on Information Theory, 2012, 58, 1470-1482.	1.5	20
90	Iterative receivers with channel estimation for multi-user MIMO-OFDM: complexity and performance. Eurasip Journal on Wireless Communications and Networking, 2012, 2012, .	1.5	29

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91	Improved Memory Architecture for Multicarrier Faster-than-Nyquist Iterative Decoder. , 2011, , .		6
92	Multicarrier Faster-Than-Nyquist Transceivers: Hardware Architecture and Performance Analysis. IEEE Transactions on Circuits and Systems I: Regular Papers, 2011, 58, 827-838.	3.5	77
93	Design and Implementation of Iterative Decoder for Faster-than-Nyquist Signaling Multicarrier Systems. , 2011, , .		2
94	Linear Precoders for Parallel Gaussian Channels with Low Decoding Complexity. , 2011, , .		1
95	On coefficient memory co-optimization for channel estimation in a multi-standard environment (LTE) Tj ETQq1 1 0.784314 rgBT /Overlo		0
96	Linear Pre-Coding Performance in Measured Very-Large MIMO Channels. , 2011, , .		211
97	Optimal lattices for MIMO precoding. , 2011, , .		4
98	A Comparison between Unitary and Non-Unitary Precoder Design for MIMO Channels with MMSE Detection and Limited Feedback. , 2010, , .		3
99	Mutual information of IID complex Gaussian signals on block Rayleigh-faded channels. , 2010, , .		11
100	The BEAST for Maximum-Likelihood Detection in Non-Coherent MIMO Wireless Systems. , 2010, , .		0
101	On Precoder Design under Maximum-Likelihood Detection for Quasi-Stationary MIMO Channels. , 2010, , .		1
102	An Iterative Decoder for Multicarrier Faster-Than-Nyquist Signaling Systems. , 2010, , .		24
103	A Novel Soft-Input Soft-Output Reduced Complexity MIMO Trellis Detector. , 2010, , .		1
104	EXIT Chart Evaluation of a Receiver Structure for Multi-User Multi-Antenna OFDM Systems. , 2009, , .		2
105	Design of close to optimal Euclidean distance MIMO-precoders. , 2009, , .		7
106	Lower bounds on the information rate of intersymbol interference channels based on the Ungerboeck observation model. , 2009, , .		7
107	Constrained Capacities for Faster-Than-Nyquist Signaling. IEEE Transactions on Information Theory, 2009, 55, 764-775.	1.5	181
108	Multistream Faster than Nyquist Signaling. IEEE Transactions on Communications, 2009, 57, 1329-1340.	4.9	170

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109	Hardware implementation of mapper for faster-than-Nyquist signaling transmitter. , 2009, , .		8
110	On the existence of the Mazo-limit on MIMO channels. IEEE Transactions on Wireless Communications, 2009, 8, 1118-1121.	6.1	23
111	New reduced state space BCJR algorithms for the ISI channel. , 2009, , .		35
112	Transmitter architecture for faster-than-Nyquist signaling systems. , 2009, , .		22
113	Non Binary and Precoded Faster Than Nyquist Signaling. IEEE Transactions on Communications, 2008, 56, 808-817.	4.9	65
114	Receivers for Faster-than-Nyquist signaling with and without turbo equalization. , 2008, , .		65
115	The effect of symbol rate on constrained capacity for linear modulation. , 2008, , .		4
116	On Reduced-Complexity Equalization Based on Ungerboeck and Forney Observation Models. IEEE Transactions on Signal Processing, 2008, 56, 3784-3789.	3.2	13
117	A Comparison of Ungerboeck and Forney Models for Reduced-Complexity ISI Equalization. , 2007, , .		12
118	Optimal Time-Frequency Occupancy of Finite Packet OFDM. , 2007, , .		0
119	Optimal Side Lobes under Linear and Faster-than-Nyquist Modulation. , 2007, , .		9
120	A First Encounter with Faster-than-Nyquist Signaling on the MIMO Channel. , 2007, , .		12
121	Maximal Capacity Partial Response Signaling. , 2007, , .		7
122	CTH04-1: On Information Rates for Faster than Nyquist Signaling. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	27
123	Successive interference cancellation in multistream faster-than-Nyquist Signaling. , 2006, , .		4
124	Serial and Parallel Concatenations Based on Faster Than Nyquist Signaling. , 2006, , .		17
125	Near BER optimal partial response codes. , 2005, , .		1
126	The two dimensional Mazo limit. , 2005, , .		106

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127	M-ary coded modulation by Butterworth filtering. , 2003, , .		6