Balaji Sundar Rajan

List of Publications by Year
in descending order

131 papers	1,690 citations	430843 18 h-index	330122 37 g-index
131 all docs	131 docs citations	131 times ranked	852 citing authors

#	Article	IF	Citations
1	Multi-Antenna Coded Caching From a Placement Delivery Array for Shared Caches. IEEE Transactions on Communications, 2022, 70, 3627-3640.	7.8	6
2	Improved Lower Bounds for Multi-Access Coded Caching. IEEE Transactions on Communications, 2022, 70, 4454-4468.	7.8	6
3	Index Coded - NOMA in Vehicular Ad Hoc Networks. IEEE Transactions on Vehicular Technology, 2022, 71, 10073-10087.	6.3	3
4	Multi-Access Coded Caching Scheme With Linear Sub-Packetization Using PDAs. IEEE Transactions on Communications, 2021, 69, 7974-7985.	7.8	6
5	An Embedded Index Code Construction Using Sub-packetization. , 2021, , .		0
6	Index Coded PSK Modulation in Vehicle to Vehicle Communication. , 2021, , .		0
7	Index Coded PSK Modulation in Vehicle to Vehicle Communication. IEEE Transactions on Vehicular Technology, 2021, 70, 4753-4766.	6.3	3
8	Multi-Access Coded Caching Schemes From Cross Resolvable Designs. IEEE Transactions on Communications, 2021, 69, 2997-3010.	7.8	22
9	Secretive Coded Caching With Shared Caches. IEEE Communications Letters, 2021, 25, 2849-2853.	4.1	4
10	An Optimal Error Correction Scheme for the Shuffle Phase of A MapReduce Distributed Computing System. IEEE Communications Letters, 2021, , 1-1.	4.1	0
11	Maddah-Ali-Niesen Scheme for Multi-access Coded Caching. , 2021, , .		20
12	Decentralized Multi-access Coded Caching with Uncoded Prefetching. , 2021, , .		2
13	Improved Multi-access Coded Caching Schemes From Cross Resolvable Designs. , 2021, , .		10
14	Two Private Secure Distributed Coded Computation Schemes Using Extension Fields. , 2020, , .		0
15	Min-rank of Embedded Index Coding Problems. , 2020, , .		3
16	A Throughput Efficient Multi-Stage Technique for Binary Multiway Relaying. IEEE Communications Letters, 2020, 24, 2969-2973.	4.1	1
17	Index Coding in Vehicle to Vehicle Communication. IEEE Transactions on Vehicular Technology, 2020, 69, 11926-11936.	6.3	12
18	Optimal Linear Error Correcting Delivery Schemes for Two Optimal Coded Caching Schemes. Entropy, 2020, 22, 766.	2.2	0

#	Article	IF	Citations
19	On the Optimality of Two Decentralized Coded Caching Schemes With and Without Error Correction. , 2020, , .		3
20	Straggler Mitigation With Tiered Gradient Codes. IEEE Transactions on Communications, 2020, 68, 4632-4647.	7.8	10
21	Generalized Index Coding Problem and Discrete Polymatroids. Entropy, 2020, 22, 646.	2.2	0
22	A Discrete Polymatroidal Framework for Differential Error-Correcting Index Codes. IEEE Transactions on Communications, 2019, 67, 4593-4604.	7.8	1
23	An Optimal Linear Error Correcting Delivery Scheme for Coded Caching with Shared Caches. , 2019, , .		16
24	A Computation vs Communication Tradeoff in Distributed Matrix Multiplication Over Finite Fields. , 2019, , .		2
25	On the Optimal Broadcast Rate of the Two-Sender Unicast Index Coding Problem With Fully-Participated Interactions. IEEE Transactions on Communications, 2019, 67, 8612-8623.	7.8	1
26	Optimal Error Correcting Index Codes for Some Generalized Index Coding Problems. IEEE Transactions on Communications, 2019, 67, 929-942.	7.8	10
27	Error Correction in Coded Caching With Symmetric Batch Prefetching. IEEE Transactions on Communications, 2019, 67, 5264-5274.	7.8	12
28	Optimal Linear Broadcast Rates of Some Two-Sender Unicast Index Coding Problems. IEEE Transactions on Communications, 2019, 67, 3965-3977.	7.8	4
29	A Generalisation of Interlinked Cycle Structures and Their Index Coding Capacity. , 2019, , .		1
30	On the Minrank of Symmetric and Neighboring Side-information Index Coding Problems. , 2019, , .		3
31	Optimal Broadcast Rate of a Class of Two-Sender Unicast Index Coding Problems. , 2019, , .		0
32	A Field-Size Independent Code Construction for Groupcast Index Coding Problems. , 2019, , .		1
33	Linear Codes for Broadcasting with Noisy Side-Information and Different Error Thresholds. , 2019, , .		0
34	Weight Enumerating Function, Number of Full Rank Sub-matrices and Network Coding. , 2019, , .		0
35	Optimal Index Codes for Some Interlinked Cycle Structures with Outer Cycles. , 2019, , .		0
36	Optimal Error Correcting Index Codes for Extended Index Coding Problems. , 2019, , .		0

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37	Optimal Scalar Linear Codes for a Class of Jointly Extended Groupcast Index Coding Problems. , 2019, , .		1
38	Reduced Complexity Index Codes and Improved Upperbound on Broadcast Rate for Neighboring Interference Problems. , 2019, , .		3
39	Wireless Bidirectional Relaying Using Physical Layer Network Coding With Heterogeneous PSK Modulation. IEEE Transactions on Vehicular Technology, 2018, 67, 2335-2344.	6.3	6
40	Binary Informed Source Codes and Index Codes Using Certain Near-MDS Codes. IEEE Transactions on Communications, 2018, 66, 2181-2190.	7.8	4
41	On the Broadcast Rate and Fractional Clique Cover of Single Unicast Index Coding Problems. , 2018, , .		0
42	Optimal Error Correcting Delivery Scheme for Coded Caching with Symmetric Batch Prefetching. , 2018, , .		5
43	Index Codes for Interlinked Cycle Structures with Outer Cycles. , 2018, , .		1
44	Construction of Index Codes for Interlinked Cycle Structures with Outer Cycles. , 2018, , .		1
45	Optimal Error Correcting Delivery Scheme for an Optimal Coded Caching Scheme with Small Buffers. , 2018, , .		6
46	On the Conjectures on Optimality of Index Codes from Interlinked Cycle Cover Scheme. , 2018, , .		1
47	On the Broadcast Rate of Index Coding Problems with Symmetric and Consecutive Interference. , 2018, , .		4
48	Reduced Dimensional Optimal Vector Linear Index Codes for Index Coding Problems with Symmetric Neighboring and Consecutive Side-information. , 2018, , .		2
49	Optimal error correcting index codes for two classes of index coding problems. , 2018, , .		2
50	Capacity of Symmetric Index Coding Problems With X-Network Setting With <inline-formula> <tex-math notation="LaTeX">$2×2$ </tex-math> </inline-formula> Local Connectivity. IEEE Wireless Communications Letters, 2018, 7, 396-399.	5.0	0
51	Optimal Index Codes for a New Class of Interlinked Cycle Structure. IEEE Communications Letters, 2018, 22, 684-687.	4.1	10
52	A New Upperbound on the Broadcast Rate and Near-Optimal Vector Linear Codes for Index Coding Problems with Symmetric Neighboring Interference. , 2018, , .		2
53	A Relation Between Network Computation and Functional Index Coding Problems. IEEE Transactions on Communications, 2017, 65, 705-714.	7.8	4
54	Index Coded PSK Modulation for Prioritized Receivers. IEEE Transactions on Vehicular Technology, 2017, 66, 11151-11165.	6.3	10

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55	Optimal Linear Error Correcting Index Codes for Some Index Coding Problems. , 2017, , .		9
56	Optimal Linear Error-Correcting Index Codes for Single-Prior Index-Coding with Side Information. , 2017, , .		8
57	Performance Analysis of Physical Layer Network Coding for Two-Way Relaying over Non-Regenerative Communication Satellites. , 2017, , .		3
58	Generalized index coding problem and discrete polymatroids. , 2017, , .		1
59	On the capacity of index coding problems with symmetric neighboring interference. , 2017, , .		3
60	Alamouti-Index-Coded PSK Modulation for Priority Ordered Receivers. , 2017, , .		0
61	Optimal linear error-correcting index codes for some generalized index coding problems. , 2017, , .		5
62	Optimal scalar linear codes for single unicast neighboring interference symmetric index coding. , 2017, , .		0
63	Characterizing the Number of Optimal Index Codes and Their Relation to Min–Max Probability of Error Performance. IEEE Transactions on Vehicular Technology, 2017, 66, 11023-11038.	6.3	0
64	Error-correcting functional index codes, generalized exclusive laws and graph coloring. , 2016, , .		6
65	Optimal vector linear index codes for some symmetric side information problems. , 2016, , .		5
66	Index coded PSK modulation. , 2016, , .		12
67	Decoding network codes using the sum-product algorithm. , 2016, , .		1
68	Reduced Complexity Sum-Product Algorithm for Decoding Nonlinear Network Codes and In-Network Function Computation. IEEE Transactions on Communications, 2016, , 1-1.	7.8	2
69	A relation between network computation and functional index coding problems. , 2016, , .		3
70	Optimal Scalar Linear Index Codes for One-Sided Neighboring Side-Information Problems. , 2016, , .		21
71	Linear Network Coding, Linear Index Coding and Representable Discrete Polymatroids. IEEE Transactions on Information Theory, 2016, 62, 4096-4119.	2.4	14
72	Error correcting functional source coding with decoder side information using row-Latin rectangles. , 2015, , .		1

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73	Space–Time Coded Spatial Modulated Physical Layer Network Coding for Two-Way Relaying. IEEE Transactions on Wireless Communications, 2015, 14, 331-342.	9.2	17
74	On the Bounds of Certain Maximal Linear Codes in a Projective Space. IEEE Transactions on Information Theory, 2015, 61, 4923-4927.	2.4	1
75	A Matroidal Framework for Network-Error Correcting Codes. IEEE Transactions on Information Theory, 2015, 61, 836-872.	2.4	9
76	Interference Alignment With Diversity for the 2<inline-formula> <tex-math notation="TeX">$,imes,$ </tex-math></inline-formula>2 X-Network With Four Antennas. IEEE Transactions on Information Theory, 2014, 60, 3576-3592.	2.4	12
77	Fast-Decodable MIDO Codes With Large Coding Gain. IEEE Transactions on Information Theory, 2014, 60, 992-1007.	2.4	18
78	Construction of Block Orthogonal STBCs and Reducing Their Sphere Decoding Complexity. IEEE Transactions on Wireless Communications, 2014, 13, 2906-2919.	9.2	9
79	Precoding-Based Network Alignment Using Transform Approach for Acyclic Networks With Delay. IEEE Transactions on Information Theory, 2014, 60, 6276-6302.	2.4	1
80	An Enhanced DMT-Optimality Criterion for STBC Schemes for Asymmetric MIMO Systems. IEEE Transactions on Information Theory, 2013, 59, 5944-5958.	2.4	4
81	An Adaptive Conditional Zero-Forcing Decoder With Full-Diversity, Least Complexity and Essentially-ML Performance for STBCs. IEEE Transactions on Signal Processing, 2013, 61, 253-263.	5.3	9
82	On the Sphere Decoding Complexity of High-Rate Multigroup Decodable STBCs in Asymmetric MIMO Systems. IEEE Transactions on Information Theory, 2013, 59, 5959-5965.	2.4	1
83	Generalized Distributive Law for ML Decoding of Space–Time Block Codes. IEEE Transactions on Information Theory, 2013, 59, 2914-2935.	2.4	5
84	Wireless Network-Coded Bidirectional Relaying Using Latin Squares for <formula formulatype="inline"><tex Notation="TeX">M</tex> </formula>-PSK Modulation. IEEE Transactions on Information Theory, 2013, 59, 6683-6711.	2.4	39
85	Minimizing the Complexity of Fast Sphere Decoding of STBCs. IEEE Transactions on Wireless Communications, 2013, 12, 6142-6153.	9.2	10
86	Asymptotically-Good, Multigroup Decodable Space-Time Block Codes. IEEE Transactions on Wireless Communications, 2013, 12, 5035-5047.	9.2	3
87	Distributed Space Time Coding for Wireless Two-Way Relaying. IEEE Transactions on Signal Processing, 2013, 61, 980-991.	5.3	23
88	Wireless Network Coding for MIMO Two-Way Relaying. IEEE Transactions on Wireless Communications, 2013, 12, 3566-3577.	9.2	17
89	Improved Perfect Space-Time Block Codes. IEEE Transactions on Information Theory, 2013, 59, 7927-7935.	2.4	13
90	Performance Analysis of Adaptive Physical Layer Network Coding for Wireless Two-Way Relaying. IEEE Transactions on Wireless Communications, 2013, 12, 1328-1339.	9.2	32

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91	Physical Layer Network Coding for the K-User Multiple Access Relay Channel. IEEE Transactions on Wireless Communications, 2013, 12, 3107-3119.	9.2	10
92	A matroidal framework for network-error correcting codes. , 2012, , .		6
93	Two-User Gaussian Interference Channel with Finite Constellation Input and FDMA. IEEE Transactions on Wireless Communications, 2012, 11, 2496-2507.	9.2	8
94	Low-Delay, High-Rate Nonsquare Complex Orthogonal Designs. IEEE Transactions on Information Theory, 2012, 58, 2633-2647.	2.4	6
95	Collocated and Distributed STBCs with Partial Interference Cancellation Decoding, Part II: Code Construction. IEEE Transactions on Wireless Communications, 2011, 10, 3042-3052.	9.2	5
96	Low-Complexity Detection in Large-Dimension MIMO-ISI Channels Using Graphical Models. IEEE Journal on Selected Topics in Signal Processing, 2011, 5, 1497-1511.	10.8	97
97	On Two-User Gaussian Multiple Access Channels With Finite Input Constellations. IEEE Transactions on Information Theory, 2011, 57, 1299-1327.	2.4	120
98	Training-Symbol Embedded, High-Rate, Single-Symbol ML-Decodable, Distributed STBCs for Relay Networks. IEEE Transactions on Information Theory, 2011, 57, 6157-6169.	2.4	2
99	Maximum Rate of Unitary-Weight, Single-Symbol Decodable STBCs. IEEE Transactions on Information Theory, 2011, 57, 7972-7981.	2.4	2
100	A Low ML-Decoding Complexity, Full-Diversity, Full-Rate MIMO Precoder. IEEE Transactions on Signal Processing, 2011, 59, 5485-5498.	5.3	23
101	Multigroup ML Decodable Collocated and Distributed Space-Time Block Codes. IEEE Transactions on Information Theory, 2010, 56, 3221-3247.	2.4	64
102	Random-Restart Reactive Tabu Search Algorithm for Detection in Large-MIMO Systems. IEEE Communications Letters, 2010, 14, 1107-1109.	4.1	99
103	DISTRIBUTED SPACE-TIME CODES WITH LOW ML DECODING COMPLEXITY. Series on Coding Theory and Cryptology, 2010, , 77-117.	0.2	1
104	Square complex orthogonal designs with low PAPR and signaling complexity. IEEE Transactions on Wireless Communications, 2009, 8, 204-213.	9.2	8
105	Multigroup Decodable STBCs From Clifford Algebras. IEEE Transactions on Information Theory, 2009, 55, 223-231.	2.4	56
106	High-Rate, Single-Symbol ML Decodable Precoded DSTBCs for Cooperative Networks. IEEE Transactions on Information Theory, 2009, 55, 2004-2015.	2.4	23
107	High-Rate, Multisymbol-Decodable STBCs From Clifford Algebras. IEEE Transactions on Information Theory, 2009, 55, 2682-2695.	2.4	19
108	High-Rate Space–Time Coded Large-MIMO Systems: Low-Complexity Detection and Channel Estimation. IEEE Journal on Selected Topics in Signal Processing, 2009, 3, 958-974.	10.8	112

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109	Low ML-Decoding Complexity, Large Coding Gain, Full-Rate, Full-Diversity STBCs for 2 $\times$ 2 and 4 $\times$ 2 MIMO Systems. IEEE Journal on Selected Topics in Signal Processing, 2009, 3, 916-927.	10.8	91
110	Co-ordinate Interleaved Distributed Space-Time Coding for two-antenna-relays networks. IEEE Transactions on Wireless Communications, 2009, 8, 1783-1791.	9.2	24
111	Single-symbol ML decodable distributed STBCs for partially-coherent cooperative networks. IEEE Transactions on Wireless Communications, 2009, 8, 2672-2681.	9.2	18
112	Low PAPR square STBCs from complex partial-orthogonal designs (CPODs). IEEE Transactions on Wireless Communications, 2009, 8, 2369-2378.	9.2	1
113	A Low-Complexity Detector for Large MIMO Systems and Multicarrier CDMA Systems. IEEE Journal on Selected Areas in Communications, 2008, 26, 473-485.	14.0	210
114	Algebraic distributed differential space-time codes with low decoding complexity. IEEE Transactions on Wireless Communications, 2008, 7, 3962-3971.	9.2	19
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118	On Four-Group ML Decodable Distributed Space Time Codes for Cooperative Communication. , 2007, , .		8
119	Partially-coherent distributed space-time codes with differential encoder and decoder. IEEE Journal on Selected Areas in Communications, 2007, 25, 426-433.	14.0	39
120	Fq-linear Cyclic Codes over $$F_{q^m}$$: DFT Approach. Designs, Codes, and Cryptography, 2005, 34, 89-116.	1.6	16
121	DFT Domain Characterization of Quasi-Cyclic Codes. Applicable Algebra in Engineering, Communications and Computing, 2003, 13, 453-474.	0.5	4
122	Block-coded modulation using two-level group codes over generalized quaternion groups. IEEE Transactions on Information Theory, 1999, 45, 365-372.	2.4	4
123	Rotational invariance of two-level group codes over dihedral and dicyclic groups. Sadhana - Academy Proceedings in Engineering Sciences, 1998, 23, 45-56.	1.3	0
124	Optimal 4- and 8-state across-the-subchannels TCM encoders for DMT systems. , 0, , .		0
125	Full-rank, full-rate STBCs from division algebras. , 0, , .		7
126	STBCs with optimal diversity-multiplexing tradeoff for 2, 3 and 4 transmit antennas. , 0, , .		4

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127	Consta-dihedral codes and their transform domain characterization. , 0, , .		0
128	Matrix characterization of near-MDS codes over Z/sub m/ and abelian groups. , 0, , .		0
129	On the PAPR of binary reed-muller OFDM codes. , 0, , .		3
130	Information-lossless STBCs from crossed-product algebras. , 0, , .		6
131	A 4-state asymmetric 8-PSK TCM scheme for Rayleigh fading channels optimum at high SNRs. , 0, , .		1