Alexander Barg

List of Publications by Year
in descending order

65 papers	1,872 citations	304602 22 h-index	265120 42 g-index
65 all docs	65 docs citations	65 times ranked	864 citing authors

#	Article	IF	Citations
1	A Family of Optimal Locally Recoverable Codes. IEEE Transactions on Information Theory, 2014, 60, 4661-4676.	1.5	386
2	Explicit Constructions of High-Rate MDS Array Codes With Optimal Repair Bandwidth. IEEE Transactions on Information Theory, 2017, 63, 2001-2014.	1.5	148
3	Codes in Permutations and Error Correction for Rank Modulation. IEEE Transactions on Information Theory, 2010, 56, 3158-3165.	1.5	120
4	Explicit Constructions of Optimal-Access MDS Codes With Nearly Optimal Sub-Packetization. IEEE Transactions on Information Theory, 2017, 63, 6307-6317.	1.5	102
5	Bounds on the Parameters of Locally Recoverable Codes. IEEE Transactions on Information Theory, 2016, 62, 3070-3083.	1.5	96
6	Optimal Schemes for Discrete Distribution Estimation Under Locally Differential Privacy. IEEE Transactions on Information Theory, 2018, 64, 5662-5676.	1.5	77
7	A Hypergraph Approach to the Identifying Parent Property: The Case of Multiple Parents. SIAM Journal on Discrete Mathematics, 2001, 14, 423-431.	0.4	69
8	Polar Codes for q-Ary Channels, $q=2^{r}$. IEEE Transactions on Information Theory, 2013, 59, 955-969.	1.5	68
9	Bounds on locally recoverable codes with multiple recovering sets. , 2014, , .		63
10	Secret Key Generation for a Pairwise Independent Network Model. IEEE Transactions on Information Theory, 2010, 56, 6482-6489.	1.5	61
11	Locally Recoverable Codes on Algebraic Curves. IEEE Transactions on Information Theory, 2017, 63, 4928-4939.	1.5	51
12	Achieving Secrecy Capacity of the Wiretap Channel and Broadcast Channel With a Confidential Component. IEEE Transactions on Information Theory, 2017, 63, 1311-1324.	1.5	37
13	Combinatorial Alphabet-Dependent Bounds for Locally Recoverable Codes. IEEE Transactions on Information Theory, 2018, 64, 3481-3492.	1.5	36
14	Cyclic LRC codes, binary LRC codes, and upper bounds on the distance of cyclic codes. International Journal of Information and Coding Theory, 2016, 3, 345.	0.3	34
15	Finite two-distance tight frames. Linear Algebra and Its Applications, 2015, 475, 163-175.	0.4	30
16	Cooperative Repair: Constructions of Optimal MDS Codes for All Admissible Parameters. IEEE Transactions on Information Theory, 2019, 65, 1639-1656.	1.5	30
17	The Repair Problem for Reedâ€"Solomon Codes: Optimal Repair of Single and Multiple Erasures With Almost Optimal Node Size. IEEE Transactions on Information Theory, 2019, 65, 2673-2695.	1.5	29
18	The Matroid of Supports of A Linear Code. Applicable Algebra in Engineering, Communications and Computing, 1997, 8, 165-172.	0.3	28

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19	On the Fingerprinting Capacity Under the Marking Assumption. IEEE Transactions on Information Theory, 2008, 54, 2678-2689.	1.5	28
20	Coding for High-Density Recording on a 1-D Granular Magnetic Medium. IEEE Transactions on Information Theory, 2011, 57, 7403-7417.	1.5	25
21	Explicit Constructions of MSR Codes for Clustered Distributed Storage: The Rack-Aware Storage Model. IEEE Transactions on Information Theory, 2020, 66, 886-899.	1.5	25
22	Error Exponents of Expander Codes under Linear-Complexity Decoding. SIAM Journal on Discrete Mathematics, 2004, 17, 426-445.	0.4	24
23	Locally Recoverable Codes from Algebraic Curves and Surfaces. Association for Women in Mathematics Series, 2017, , 95-127.	0.1	23
24	A class of I.P.P. codes with efficient identification. Journal of Complexity, 2004, 20, 137-147.	0.7	21
25	Construction of Polar Codes for Arbitrary Discrete Memoryless Channels. IEEE Transactions on Information Theory, 2018, 64, 309-321.	1.5	20
26	Restricted Isometry Property of Random Subdictionaries. IEEE Transactions on Information Theory, 2015, 61, 4440-4450.	1.5	17
27	Codes With Hierarchical Locality From Covering Maps of Curves. IEEE Transactions on Information Theory, 2019, 65, 6056-6071.	1.5	16
28	New Bounds for Spherical Two-Distance Sets. Experimental Mathematics, 2013, 22, 187-194.	0.5	15
29	Linear Codes with Exponentially Many Light Vectors. Journal of Combinatorial Theory - Series A, 2001, 96, 396-399.	0.5	14
30	Strengthening the Gilbertâ€"Varshamov bound. Linear Algebra and Its Applications, 2000, 307, 119-129.	0.4	13
31	Enabling Optimal Access and Error Correction for the Repair of Reedâ€"Solomon Codes. IEEE Transactions on Information Theory, 2020, 66, 7439-7456.	1.5	12
32	On Some Polynomials Related to Weight Enumerators of Linear Codes. SIAM Journal on Discrete Mathematics, 2002, 15, 155-164.	0.4	11
33	On Fault Tolerance, Locality, and Optimality in Locally Repairable Codes. ACM Transactions on Storage, 2020, 16, 1-32.	1.4	11
34	On the Number of Errors Correctable with Codes on Graphs. IEEE Transactions on Information Theory, 2011, 57, 910-919.	1.5	10
35	Optimal schemes for discrete distribution estimation under local differential privacy. , 2017, , .		10
36	Linear codes on posets with extension property. Discrete Mathematics, 2014, 317, 1-13.	0.4	9

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37	Group Testing Schemes From Codes and Designs. IEEE Transactions on Information Theory, 2017, 63, 7131-7141.	1.5	8
38	A bound on Grassmannian codes. Journal of Combinatorial Theory - Series A, 2006, 113, 1629-1635.	0.5	7
39	Locally recoverable codes on algebraic curves. , 2015, , .		7
40	Fractional decoding: Error correction from partial information. , 2017, , .		7
41	Incomplete sums, DC-constrained codes, and codes that maintain synchronization. Designs, Codes, and Cryptography, 1993, 3, 105-116.	1.0	6
42	Exploiting Locality for Improved Decoding of Binary Cyclic Codes. IEEE Transactions on Communications, 2018, 66, 2346-2358.	4.9	6
43	Cyclic and Convolutional Codes With Locality. IEEE Transactions on Information Theory, 2021, 67, 755-769.	1.5	6
44	STOLARSKY'S INVARIANCE PRINCIPLE FOR FINITE METRIC SPACES. Mathematika, 2021, 67, 158-186.	0.3	6
45	Performance Analysis of Algebraic Soft-Decision Decoding of Reed–Solomon Codes. IEEE Transactions on Information Theory, 2008, 54, 5012-5018.	1.5	4
46	Common Randomness, Multiuser Secrecy and Tree Packing. , 2008, , .		4
47	Cyclic LRC codes with hierarchy and availability. , 2020, , .		4
48	Error Correction Based on Partial Information. IEEE Transactions on Information Theory, 2020, 66, 1396-1404.	1.5	4
49	Node Repair on Connected Graphs. IEEE Transactions on Information Theory, 2022, 68, 3081-3095.	1.5	4
50	A construction of maximally recoverable codes. Designs, Codes, and Cryptography, 2022, 90, 939-945.	1.0	4
51	A large family of sequences with low periodic correlation. Discrete Mathematics, 1997, 176, 21-27.	0.4	3
52	The repair problem under connectivity constraints: Explicit MSR codes for the rack-aware model of distributed storage. , 2018, , .		3
53	Codes on Curves with Hierarchical Locality. , 2018, , .		3
54	Group testing schemes from low-weight codewords of BCH codes. , 2016, , .		2

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55	Capacity of Dynamical Storage Systems. IEEE Transactions on Information Theory, 2021, 67, 329-346.	1.5	2
56	Bounds for discrepancies in the Hamming space. Journal of Complexity, 2021, 65, 101552.	0.7	2
57	Optimal locally private estimation under ℓ_{p} loss for $1 \le p \le 2$. Electronic Journal of Statistics, 2019, 13, .	0.4	2
58	Recoverable Systems. IEEE Transactions on Information Theory, 2022, 68, 3681-3699.	1.5	2
59	High-Rate Storage Codes on Triangle-Free Graphs. IEEE Transactions on Information Theory, 2022, 68, 7787-7797.	1.5	2
60	A study on the impact of locality in the decoding of binary cyclic codes. , 2017, , .		1
61	Repair of RS codes with optimal access and error correction. , 2020, , .		1
62	Guest Editorial Special Issue: â€œFrom Deletion-Correction to Graph Reconstruction: In Memory of Vladimir I. Levensteinâ€. IEEE Transactions on Information Theory, 2021, 67, 3187-3189.	1.5	1
63	Capacity and Construction of Recoverable Systems. , 2021, , .		1
64	Regenerating codes on graphs. , 2021, , .		1
65	Explicit constructions of MSR codes for the rack-aware storage model. , 2019, , .		0