Bane VasiÄ‡

List of Publications by Year
in descending order

97 papers	1,445 citations	394421 19 h-index	414414 32 g-index
97 all docs	97 docs citations	97 times ranked	564 citing authors

#	Article	IF	Citations
1	On the Construction of Structured LDPC Codes Free of Small Trapping Sets. IEEE Transactions on Information Theory, 2012, 58, 2280-2302.	2.4	89
2	Eliminating trapping sets in low-density parity-check codes by using Tanner graph covers. IEEE Transactions on Information Theory, 2008, 54, 3763-3768.	2.4	78
3	Channel Models and Detectors for Two-Dimensional Magnetic Recording. IEEE Transactions on Magnetics, 2010, 46, 804-811.	2.1	77
4	Error Floors of LDPC Codes on the Binary Symmetric Channel. , 2006, , .		73
5	Trapping set ontology. , 2009, , .		73
6	LDPC-Coded MIMO Optical Communication Over the Atmospheric Turbulence Channel. Journal of Lightwave Technology, 2008, 26, 478-487.	4.6	67
7	Fault-Tolerant Probabilistic Gradient-Descent Bit Flipping Decoder. IEEE Communications Letters, 2014, 18, 1487-1490.	4.1	62
8	Finite Alphabet Iterative Decodersâ€"Part I: Decoding Beyond Belief Propagation on the Binary Symmetric Channel. IEEE Transactions on Communications, 2013, 61, 4033-4045.	7.8	60
9	Error-Correction Coded Orbital-Angular-Momentum Modulation for FSO Channels Affected by Turbulence. Journal of Lightwave Technology, 2012, 30, 2846-2852.	4.6	55
10	An Information Theoretical Framework for Analysis and Design of Nanoscale Fault-Tolerant Memories Based on Low-Density Parity-Check Codes. IEEE Transactions on Circuits and Systems I: Regular Papers, 2007, 54, 2438-2446.	5.4	49
11	Channel Modeling and Capacity Bounds for Two-Dimensional Magnetic Recording. IEEE Transactions on Magnetics, 2010, 46, 812-818.	2.1	40
12	Error-Correction Capability of Column-Weight-Three LDPC Codes. IEEE Transactions on Information Theory, 2009, 55, 2055-2061.	2.4	32
13	Finite Alphabet Iterative Decodersâ€"Part II: Towards Guaranteed Error Correction of LDPC Codes via Iterative Decoder Diversity. IEEE Transactions on Communications, 2013, 61, 4046-4057.	7.8	31
14	Instanton-based techniques for analysis and reduction of error floors of LDPC codes. IEEE Journal on Selected Areas in Communications, 2009, 27, 855-865.	14.0	30
15	On Trapping Sets and Guaranteed Error Correction Capability of LDPC Codes and GLDPC Codes. IEEE Transactions on Information Theory, 2010, 56, 1600-1611.	2.4	30
16	Efficient Hardware Implementation of Probabilistic Gradient Descent Bit-Flipping. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 906-917.	5.4	27
17	Signal Processing and Coding Techniques for 2-D Magnetic Recording: An Overview. Proceedings of the IEEE, 2018, 106, 286-318.	21.3	24
18	Pulse Energy Probability Density Functions for Long-Haul Optical Fiber Transmission Systems by Using Instantons and Edgeworth Expansion. IEEE Photonics Technology Letters, 2007, 19, 1604-1606.	2.5	22

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19	Two-Bit Bit Flipping Algorithms for LDPC Codes and Collective Error Correction. IEEE Transactions on Communications, 2014, 62, 1153-1163.	7.8	21
20	Read Channel Modeling for Detection in Two-Dimensional Magnetic Recording Systems. IEEE Transactions on Magnetics, 2009, 45, 3679-3682.	2.1	20
21	Optimization of Bit Geometry and Multi-Reader Geometry for Two-Dimensional Magnetic Recording. IEEE Transactions on Magnetics, 2016, 52, 1-7.	2.1	19
22	Error Errore Eicitur: A Stochastic Resonance Paradigm for Reliable Storage of Information on Unreliable Media. IEEE Transactions on Communications, 2016, 64, 3596-3608.	7.8	18
23	Learning to Decode LDPC Codes with Finite-Alphabet Message Passing. , 2018, , .		18
24	Structured LDPC codes from permutation matrices free of small trapping sets. , 2010, , .		17
25	On Fault Tolerance of the Gallager B Decoder Under Data-Dependent Gate Failures. IEEE Communications Letters, 2015, 19, 1299-1302.	4.1	17
26	Trapping Sets of Quantum LDPC Codes. Quantum - the Open Journal for Quantum Science, 0, 5, 562.	0.0	17
27	Finite Alphabet Iterative Decoders for LDPC Codes: Optimization, Architecture and Analysis. IEEE Transactions on Circuits and Systems I: Regular Papers, 2014, 61, 1366-1375.	5.4	16
28	Designing Finite Alphabet Iterative Decoders of LDPC Codes Via Recurrent Quantized Neural Networks. IEEE Transactions on Communications, 2020, 68, 3963-3974.	7.8	16
29	A Study of TDMR Signal Processing Opportunities Based on Quasi-Micromagnetic Simulations. IEEE Transactions on Magnetics, 2015, 51, 1-7.	2.1	15
30	Power Efficient LDPC-Coded Modulation for Free-Space Optical Communication over the Atmospheric Turbulence Channel. , 2007, , .		14
31	Hardware Implementation and Performance Analysis of Resource Efficient Probabilistic Hard Decision LDPC Decoders. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 3074-3084.	5.4	14
32	Reed-Solomon-Based Quasi-Cyclic LDPC Codes: Designs, Cycle Structure and Erasure Correction. , 2018, , .		14
33	Investigation Into Harmful Patterns Over Multitrack Shingled Magnetic Detection Using the Voronoi Model. IEEE Transactions on Magnetics, 2015, 51, 1-7.	2.1	13
34	A Probabilistic Parallel Bit-Flipping Decoder for Low-Density Parity-Check Codes. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 403-416.	5.4	13
35	A Sub-Graph Expansion-Contraction Method for Error Floor Computation. IEEE Transactions on Communications, 2020, 68, 3984-3995.	7.8	13
36	Detection for two-dimensional magnetic recording systems. , 2013, , .		12

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37	LDPC Decoding Strategies for Two-Dimensional Magnetic Recording. , 2009, , .		11
38	Interval-Passing Algorithm for Non-Negative Measurement Matrices: Performance and Reconstruction Analysis. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2012, 2, 424-432.	3.6	11
39	Two-bit message passing decoders for LDPC codes over the binary symmetric channel. , 2009, , .		10
40	Error Correction Capability of Column-Weight-Three LDPC Codes Under the Gallager A Algorithmâ€"Part II. IEEE Transactions on Information Theory, 2010, 56, 2626-2639.	2.4	10
41	Generalized belief propagation based TDMR detector and decoder. , 2016, , .		10
42	2-D LDPC Codes and Joint Detection and Decoding for Two-Dimensional Magnetic Recording. IEEE Transactions on Magnetics, 2018, 54, 1-11.	2.1	10
43	LDPC coded orthogonal frequency division multiplexing over the atmospheric turbulence channel. , 2006, , .		9
44	Finite alphabet iterative decoding (FAID) of the (155,64,20) Tanner code. , 2010, , .		9
45	A novel high-throughput, low-complexity bit-flipping decoder for LDPC codes. , 2017, , .		9
46	Reed-Solomon Based Quasi-Cyclic LDPC Codes: Designs, Girth, Cycle Structure, and Reduction of Short Cycles. IEEE Transactions on Communications, 2019, 67, 5275-5286.	7.8	9
47	Syndrome-Based Min-Sum vs OSD-0 Decoders: FPGA Implementation and Analysis for Quantum LDPC Codes. IEEE Access, 2021, 9, 138734-138743.	4.2	8
48	Coding for Correcting Insertions and Deletions in Bit-Patterned Media Recording. , 2011, , .		6
49	Reliability of Memories Built From Unreliable Components Under Data-Dependent Gate Failures. IEEE Communications Letters, 2015, 19, 2098-2101.	4.1	6
50	Stochastic resonance decoding for quantum LDPC codes. , 2017, , .		6
51	Globally Coupled Finite Geometry and Finite Field LDPC Coding Schemes. IEEE Transactions on Vehicular Technology, 2021, 70, 9207-9216.	6.3	6
52	Performance of affine geometry low-density parity-check codes in long-haul optical communications. European Transactions on Telecommunications, 2004, 15, 477-483.	1.2	5
53	Analytical Performance of One-Step Majority Logic Decoding of Regular LDPC Codes. , 2007, , .		5
54	On the guaranteed error correction capability of LDPC codes. , 2008, , .		5

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55	Guaranteed error correction capability of codes on graphs. , 2009, , .		5
56	Two-bit bit flipping decoding of LDPC codes. , 2011, , .		5
57	An efficient exhaustive low-weight codeword search for structured LDPC codes. , 2013, , .		5
58	Low complexity memory architectures based on LDPC codes: Benefits and disadvantages. , 2015, , .		5
59	Majority Logic Decoding Under Data-Dependent Logic Gate Failures. IEEE Transactions on Information Theory, 2017, 63, 6295-6306.	2.4	5
60	Towards the exact rate-memory trade-off for uncoded caching with secure delivery. , 2017, , .		5
61	FAID Diversity via Neural Networks. , 2021, , .		5
62	Transition Response Characteristics of Heat-Assisted Magnetic Recording and Their Performance With MTR Codes. IEEE Transactions on Magnetics, 2007, 43, 2298-2300.	2.1	4
63	Can the storage capacity of memories built from unreliable components be determined?. , 2008, , .		3
64	Iterative reconstruction algorithms in compressed sensing. , 2011, , .		3
65	Decimation-enhanced finite alphabet iterative decoders for LDPC codes on the BSC. , 2011, , .		3
66	Check-hybrid GLDPC codes without small trapping sets. , 2014, , .		3
67	Trapping Set Analysis of Horizontal Layered Decoder. , 2018, , .		3
68	Syndrome-Generalized Belief Propagation Decoding for Quantum Memories. , 2019, , .		3
69	Quasi-Cyclic LDPC Codes With Parity-Check Matrices of Column Weight Two or More for Correcting Phased Bursts of Erasures. IEEE Transactions on Communications, 2021, 69, 2812-2823.	7.8	3
70	LDPC-Coded MIMO Optical Communication Over the Atmospheric Turbulence Channel. , 2007, , .		2
71	Girth of the Tanner graph and error correction capability of LDPC codes. , 2008, , .		2
72	Error and erasure rates for two-dimensional magnetic recording systems. , 2009, , .		2

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73	Energy-Efficient Free-Space Optical Communication by Coded OAM Modulation. , 2011, , .		2
74	Blind QIM-LDPC watermarking of 3D-meshes. , 2013, , .		2
75	GBP-based detection and symmetric information rate for rectangular-grain TDMR model. , 2014, , .		2
76	Check-hybrid GLDPC codes: Systematic elimination of trapping sets by super checks. , 2014, , .		2
77	Generalized Belief Propagation Based Deliberate Bit Flipping Modulation Coding. , 2016, , .		2
78	Asymptotic Error Probability of the Gallager B Decoder Under Timing Errors. IEEE Communications Letters, 2017, 21, 698-701.	4.1	2
79	Girth-Eight Reed-Solomon Based QC-LDPC Codes. , 2018, , .		2
80	A Deliberate Bit Flipping Coding Scheme for Data-Dependent Two-Dimensional Channels. IEEE Transactions on Communications, 2020, 68, 752-764.	7.8	2
81	Lozenge tiling constrained codes. Facta Universitatis - Series Electronics and Energetics, 2014, 27, 521-542.	0.9	2
82	Short column-weight-three LDPC codes without small trapping sets. , 2010, , .		1
83	Selecting two-bit bit flipping algorithms for collective error correction. , 2012, , .		1
84	Enhancing the error correction of finite alphabet iterative decoders via adaptive decimation. , 2012, , .		1
85	Interval-Passing Algorithm for Chemical Mixture Estimation. IEEE Signal Processing Letters, 2013, 20, 849-852.	3.6	1
86	Check-hybrid GLDPC codes: Systematic elimination of trapping sets and guaranteed error correction capability. Transactions on Emerging Telecommunications Technologies, 2016, 27, 1679-1692.	3.9	1
87	Serial concatenation of reed muller and LDPC codes with low error floor. , 2017, , .		1
88	Hard-decision decoding of LDPC codes under timing errors: Overview and new results. , 2017, , .		1
89	Trapping Set Analysis of Finite-Length Quantum LDPC Codes. , 2021, , .		1
90	Constraint Satisfaction Through GBP-Guided Deliberate Bit Flipping. Lecture Notes in Computer Science, 2019, , 26-37.	1.3	1

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91	Applicability of single- and two-hidden-layer neural networks in decoding linear block codes. , 2021, , .		1
92	Finite Shift-Invariant Optical Orthogonal Codes for Quasi-Synchronous Communication Systems. , 2006, , .		0
93	Multilevel Coding for Spectrally Efficient Noncoherent Optical Transmission. , 2006, , .		0
94	Quasi-cyclic codes exhibiting the gene regulatory network of the cell cycle. , 2012, , .		0
95	Signal recovery performance of the interval-passing algorithm. , 2012, , .		0
96	Guest Editorial Channel Modeling, Coding and Signal Processing for Novel Physical Memory Devices and Systems. IEEE Journal on Selected Areas in Communications, 2016, 34, 2289-2293.	14.0	0
97	Stochastic resonance in iterative decoding: Message passing and gradient descent bit flipping. , 2017, , .		0