

# Albert GuillÃ©n i FÃ© bregas

## List of Publications by Year in descending order

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128  
papers

1,943  
citations

430874

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330143

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g-index

128  
all docs

128  
docs citations

128  
times ranked

1029  
citing authors

#	ARTICLE	IF	CITATIONS
1	Bit-Interleaved Coded Modulation Revisited: A Mismatched Decoding Perspective. IEEE Transactions on Information Theory, 2009, 55, 2756-2765.	2.4	194
2	Bit-Interleaved Coded Modulation. Foundations and Trends in Communications and Information Theory, 2007, 5, 1-153.	3.1	158
3	Coded modulation in the block-fading channel: coding theorems and code construction. IEEE Transactions on Information Theory, 2006, 52, 91-114.	2.4	146
4	Low-Density Parity-Check Codes for Nonergodic Block-Fading Channels. IEEE Transactions on Information Theory, 2010, 56, 4286-4300.	2.4	93
5	Outage probability of the Gaussian MIMO free-space optical channel with PPM. IEEE Transactions on Communications, 2009, 57, 3682-3690.	7.8	82
6	Enhanced belief propagation decoding of polar codes through concatenation. , 2014, , .		81
7	Mismatched Decoding: Error Exponents, Second-Order Rates and Saddlepoint Approximations. IEEE Transactions on Information Theory, 2014, 60, 2647-2666.	2.4	81
8	Turbo-coded APSK modulations design for satellite broadband communications. International Journal of Satellite Communications and Networking, 2006, 24, 261-281.	1.8	54
9	Saddlepoint approximation of random-coding bounds. , 2011, , .		51
10	Outage analysis of the hybrid free-space optical and radio-frequency channel. IEEE Journal on Selected Areas in Communications, 2009, 27, 1709-1719.	14.0	45
11	Optimal Throughput-Diversity-Delay Tradeoff in MIMO ARQ Block-Fading Channels. IEEE Transactions on Information Theory, 2008, 54, 3968-3986.	2.4	39
12	Polar Code Constructions Based on LLR Evolution. IEEE Communications Letters, 2017, 21, 1221-1224.	4.1	34
13	Bit-Interleaved Coded Modulation in the Wideband Regime. IEEE Transactions on Information Theory, 2008, 54, 5447-5455.	2.4	32
14	Expurgated Random-Coding Ensembles: Exponents, Refinements, and Connections. IEEE Transactions on Information Theory, 2014, 60, 4449-4462.	2.4	31
15	Capacity Approaching Codes for Non-Coherent Orthogonal Modulation. IEEE Transactions on Wireless Communications, 2007, 6, 4004-4013.	9.2	27
16	MIMO ARQ With Multibit Feedback: Outage Analysis. IEEE Transactions on Information Theory, 2012, 58, 765-779.	2.4	27
17	Second-Order Rate Region of Constant-Composition Codes for the Multiple-Access Channel. IEEE Transactions on Information Theory, 2015, 61, 157-172.	2.4	23
18	Bayesian $\chi^2$ Hypothesis Testing: The Meta-Converse and Verdan-Han Bounds Are Tight. IEEE Transactions on Information Theory, 2016, 62, 2324-2333.	2.4	23

#	ARTICLE	IF	CITATIONS
19	Saddlepoint approximations of lower and upper bounds to the error probability in channel coding. , 2018, , .		22
20	A Tight Lower Bound to the Outage Probability of Discrete-Input Block-Fading Channels. IEEE Transactions on Information Theory, 2007, 53, 4314-4322.	2.4	21
21	Bit-interleaved coded modulation with shaping. , 2010, , .		21
22	Information-Theoretic Foundations of Mismatched Decoding. Foundations and Trends in Communications and Information Theory, 2020, 17, 149-401.	3.1	21
23	The likelihood decoder: Error exponents and mismatch. , 2015, , .		20
24	Design and Analysis of Low-Density Parity-Check Codes for Block-Fading Channels. , 2007, , .		19
25	Ensemble-tight error exponents for mismatched decoders. , 2012, , .		19
26	A Closed-Form Approximation for the Error Probability of BPSK Fading Channels. IEEE Transactions on Wireless Communications, 2007, 6, 2051-2054.	9.2	18
27	Multidimensional Coded Modulation in Block-Fading Channels. IEEE Transactions on Information Theory, 2008, 54, 2367-2372.	2.4	17
28	Saddlepoint Approximation of the Error Probability of Binary Hypothesis Testing. , 2018, , .		17
29	Power allocation for block-fading channels with arbitrary input constellations. IEEE Transactions on Wireless Communications, 2009, 8, 2514-2523.	9.2	16
30	Generalized Random Gilbert-Varshamov Codes. IEEE Transactions on Information Theory, 2019, 65, 3452-3469.	2.4	16
31	Outage probability of the MIMO Gaussian free-space optical channel with PPM. , 2008, , .		15
32	Outage probability of the free-space optical channel with doubly stochastic scintillation. IEEE Transactions on Communications, 2009, 57, 2899-2902.	7.8	15
33	An achievable error exponent for the mismatched multiple-access channel. , 2012, , .		15
34	Large Deviations Behavior of the Logarithmic Error Probability of Random Codes. IEEE Transactions on Information Theory, 2020, 66, 6635-6659.	2.4	15
35	Nearest Neighbor Decoding in MIMO Block-Fading Channels With Imperfect CSIR. IEEE Transactions on Information Theory, 2012, 58, 1483-1517.	2.4	14
36	Extremes of Error Exponents. IEEE Transactions on Information Theory, 2013, 59, 2201-2207.	2.4	14

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37	A Counter-Example to the Mismatched Decoding Converse for Binary-Input Discrete Memoryless Channels. IEEE Transactions on Information Theory, 2015, 61, 5387-5395.	2.4	14
38	Multiuser Random Coding Techniques for Mismatched Decoding. IEEE Transactions on Information Theory, 2016, 62, 3950-3970.	2.4	14
39	Sphere Lower Bound for Rotated Lattice Constellations in Fading Channels. IEEE Transactions on Wireless Communications, 2008, 7, 825-830.	9.2	13
40	MIMO Block-Fading Channels With Mismatched CSI. IEEE Transactions on Information Theory, 2014, 60, 7166-7185.	2.4	13
41	Coding for Segmented Edit Channels. IEEE Transactions on Information Theory, 2018, 64, 3086-3098.	2.4	12
42	Large-SNR error probability analysis of BICM with uniform interleaving in fading channels. IEEE Transactions on Wireless Communications, 2009, 8, 38-44.	9.2	11
43	Multi-Class Source-Channel Coding. IEEE Transactions on Information Theory, 2016, 62, 5093-5104.	2.4	11
44	A Single-Letter Upper Bound to the Mismatch Capacity. IEEE Transactions on Information Theory, 2021, 67, 2013-2033.	2.4	11
45	New Space-Time Trellis Codes for Two-Antenna Quasi-Static Channels. IEEE Transactions on Vehicular Technology, 2007, 56, 3581-3587.	6.3	10
46	Impact of signal constellation expansion on the achievable diversity of pragmatic bit-interleaved space-time codes. IEEE Transactions on Wireless Communications, 2006, 5, 2032-2037.	9.2	9
47	MIMO ARQ Systems with multi-Level feedback. , 2009, , .		9
48	Outage Exponents of Block-Fading Channels With Power Allocation. IEEE Transactions on Information Theory, 2010, 56, 2373-2381.	2.4	9
49	A derivation of the asymptotic random-coding prefactor. , 2013, , .		9
50	Efficient Systematic Encoding of Non-binary VT Codes. , 2018, , .		9
51	Approaching the Outage Probability of the Amplify-and-Forward Relay Fading Channel. IEEE Communications Letters, 2007, 11, 808-810.	4.1	8
52	Coded Modulation With Mismatched CSIT Over MIMO Block-Fading Channels. IEEE Transactions on Information Theory, 2010, 56, 5631-5640.	2.4	8
53	Distortion outage probability in MIMO block-fading channels. , 2010, , .		8
54	Random-coding bounds for threshold decoders: Error exponent and saddlepoint approximation. , 2011, , .		8

#	ARTICLE	IF	CITATIONS
55	Nearest neighbour decoding and pilot-aided channel estimation in stationary Gaussian flat-fading channels. , 2011, , .		8
56	Source-channel coding with multiple classes. , 2014, , .		8
57	A complex-integration approach to the saddlepoint approximation for random-coding bounds. , 2014, , .		8
58	Bit-interleaved coded modulation revisited: A mismatched decoding perspective. , 2008, , .		7
59	Rate-Diversity-Delay Tradeoff for ARQ Systems over MIMO Block-Fading Channels. , 2009, , .		7
60	Corrections to "Bit-Interleaved Coded Modulation in the Wideband Regime" [Dec 08 5447-5455. IEEE Transactions on Information Theory, 2010, 56, 6513-6513.	2.4	7
61	Random-coding joint source-channel bounds. , 2011, , .		7
62	Superposition codes for mismatched decoding. , 2013, , .		7
63	A Derivation of the Source-Channel Error Exponent Using Nonidentical Product Distributions. IEEE Transactions on Information Theory, 2014, 60, 3209-3217.	2.4	7
64	Large-System Analysis of Multiuser Detection With an Unknown Number of Users: A High-SNR Approach. IEEE Transactions on Information Theory, 2011, 57, 3416-3428.	2.4	6
65	The capacity loss of dense constellations. , 2012, , .		6
66	The saddlepoint approximation: Unified random coding asymptotics for fixed and varying rates. , 2014, , .		6
67	A Sphere-Packing Exponent for Mismatched Decoding. , 2021, , .		6
68	Power Allocation for Discrete-Input Non-Ergodic Block-Fading Channels. , 2007, , .		5
69	Cost-constrained random coding and applications. , 2013, , .		5
70	Fixed-threshold polar codes. , 2013, , .		5
71	Importance Sampling for Coded-Modulation Error Probability Estimation. IEEE Transactions on Communications, 2020, 68, 289-300.	7.8	5
72	Outage probability of the free-space optical channel with doubly stochastic scintillation. , 2008, , .		4

#	ARTICLE	IF	CITATIONS
73	Optimal Power Control for LDPC Codes in Block-Fading Channels. IEEE Transactions on Communications, 2011, 59, 1759-1765.	7.8	4
74	Converse bounds for finite-length joint source-channel coding. , 2012, , .		4
75	Mismatched Multi-Letter Successive Decoding for the Multiple-Access Channel. IEEE Transactions on Information Theory, 2018, 64, 2253-2266.	2.4	4
76	The Error Probability of Generalized Perfect Codes via the Meta-Converse. IEEE Transactions on Information Theory, 2019, 65, 5705-5717.	2.4	4
77	A Recursive Quantizer Design Algorithm for Binary-Input Discrete Memoryless Channels. IEEE Transactions on Communications, 2021, 69, 5069-5078.	7.8	4
78	High-SNR analysis of optimum multiuser detection with an unknown number of users. , 2009, , .		3
79	Nearest neighbour decoding with pilot-assisted channel estimation for fading multiple-access channels. , 2011, , .		3
80	Mismatched CSI outage exponents of block-fading channels. , 2011, , .		3
81	Extremes of random coding error exponents. , 2011, , .		3
82	Achieving Csisz&#x00E1;r's source-channel coding exponent with product distributions. , 2012, , .		3
83	Mismatched shaping schemes for bit-interleaved coded modulation. , 2012, , .		3
84	Hybrid RF/FSO communications. , 0, , 273-302.		3
85	Second-order rate region of constant-composition codes for the multiple-access channel. , 2013, , .		3
86	The mismatched multiple-access channel: General alphabets. , 2013, , .		3
87	Refinements of the third-order term in the fixed error asymptotics of constant-composition codes. , 2015, , .		3
88	Asymptotics of the error probability in quasi-static binary symmetric channels. , 2017, , .		3
89	Mismatched Binary Hypothesis Testing: Error Exponent Sensitivity. IEEE Transactions on Information Theory, 2022, 68, 6738-6761.	2.4	3
90	Analysis and Computation of the Outage Probability of Discrete-Input Block-Fading Channels. , 2007, , .		2

#	ARTICLE	IF	CITATIONS
91	Outage probability of the Gaussian free space optical channel with pulse-position modulation. , 2008, ,		2
92	Asymptotic outage performance of power allocation in block-fading channels. , 2008, ,		2
93	Coded modulation with mismatched power control over block-fading channels. , 2009, ,		2
94	Outage diversity of MIMO block-fading channels with causal channel state information. , 2010, ,		2
95	Irregular turbo codes in block-fading channels. , 2010, ,		2
96	Hybrid free-space optical and radio-frequency communications: Outage analysis. , 2010, ,		2
97	Coding for the MIMO ARQ block-fading channel with imperfect feedback and CSIR. , 2010, ,		2
98	The meta-converse bound is tight. , 2013, ,		2
99	Mismatched multi-letter successive decoding for the multiple-access channel. , 2014, ,		2
100	An achievable error exponent for the multiple access channel with correlated sources. , 2017, ,		2
101	Saddlepoint Approximation of the Cost-Constrained Random Coding Error Probability. , 2018, ,		2
102	Multiple-Access Channel with Independent Sources: Error Exponent Analysis. , 2018, ,		2
103	An Upper Bound to the Mismatch Capacity. , 2019, ,		2
104	Multilayer Codes for Synchronization From Deletions and Insertions. IEEE Transactions on Information Theory, 2021, 67, 3342-3359.	2.4	2
105	A Dual-Domain Achievability of the Typical Error Exponent. , 2021, ,		2
106	Asymptotics of the Random Coding Union Bound. , 2018, ,		2
107	Mismatched Decoding Reliability Function at Zero Rate. IEEE Transactions on Information Theory, 2022, 68, 1482-1495.	2.4	2
108	Concentration of Random-Coding Error Exponents. , 2021, ,		2

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109	Performance of Rotated Lattice Constellations in Fading Channels. , 2006, , .		1
110	Multidimensional Coded Modulation in Block-Fading Channels. , 2007, , .		1
111	Bit-Interleaved Coded Modulation in the Wideband Regime. , 2007, , .		1
112	Full-diversity product codes for block erasure and block fading channels. , 2008, , .		1
113	Power control for block-fading channels with peak-to-average power constraints. , 2008, , .		1
114	Generalized low-density codes with BCH constituents for full-diversity near-outage performance. , 2008, , .		1
115	Nearest neighbour decoding in block-fading channels with imperfect CSIR. , 2009, , .		1
116	Large system analysis of iterative multiuser joint decoding with an uncertain number of users. , 2010, , .		1
117	MIMO block-fading channels with mismatched CSIR. , 2010, , .		1
118	Random coding bounds that attain the joint source-channel exponent. , 2012, , .		1
119	GMI and mismatched-CSI outage exponents in MIMO block-fading channels. , 2013, , .		1
120	Low-complexity fixed-to-fixed joint source-channel coding. , 2014, , .		1
121	Asymptotics of the Random Coding Error Probability for Constant-Composition Codes. , 2019, , .		1
122	Optimal SNR Exponent for Discrete-Input MIMO ARQ Block-Fading Channels. , 2007, , .		0
123	Error probability of BICM in fading channels: Uniform interleaving analysis. , 2009, , .		0
124	Improved exponents and rates for bit-interleaved coded modulation. , 2013, , .		0
125	Expurgated joint source-channel coding bounds and error exponents. , 2017, , .		0
126	A Recursive Cost-Constrained Construction that Attains the Expurgated Exponent. , 2019, , .		0



#	ARTICLE	IF	CITATIONS
127	Nearest Neighbor Decoding and Pilot-Aided Channel Estimation for Fading Channels. Entropy, 2020, 22, 971.	2.2	0
128	Multi-Class Cost-Constrained Random Coding for Correlated Sources over the Multiple-Access Channel. Entropy, 2021, 23, 569.	2.2	0