

Henry D Pfister

List of Publications by Year in descending order

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125
papers

2,545
citations

430754

18
h-index

315616

38
g-index

125
all docs

125
docs citations

125
times ranked

1300
citing authors

#	ARTICLE	IF	CITATIONS
1	Polar Codes for the Deletion Channel: Weak and Strong Polarization. IEEE Transactions on Information Theory, 2022, 68, 2239-2265.	1.5	5
2	An Information-Theoretic Perspective on Successive Cancellation List Decoding and Polar Code Design. IEEE Transactions on Information Theory, 2022, 68, 5779-5791.	1.5	11
3	Adaptive procedures for discriminating between arbitrary tensor-product quantum states. Physical Review A, 2022, 106, .	1.0	1
4	Understanding Phase Transitions via Mutual Information and MMSE. , 2021, , 197-228.		2
5	Physics-Based Deep Learning for Fiber-Optic Communication Systems. IEEE Journal on Selected Areas in Communications, 2021, 39, 280-294.	9.7	51
6	Model-Based Machine Learning for Joint Digital Backpropagation and PMD Compensation. Journal of Lightwave Technology, 2021, 39, 949-959.	2.7	20
7	Belief propagation with quantum messages for quantum-enhanced classical communications. Npj Quantum Information, 2021, 7, .	2.8	10
8	Trellis BMA: Coded Trace Reconstruction on IDS Channels for DNA Storage. , 2021, , .		31
9	On the Duality Between the BSC and Quantum PSC. , 2021, , .		2
10	Polar Codes for Channels with Insertions, Deletions, and Substitutions. , 2021, , .		6
11	Decoding Reed-Muller Codes Using Redundant Code Constraints. , 2020, , .		24
12	Adaptive Procedures for Discriminating Between Arbitrary Tensor-Product Quantum States. , 2020, , .		2
13	Classical Coding Problem from Transversal T Gates. , 2020, , .		3
14	Reinforcement Learning with Neural Networks for Quantum Multiple Hypothesis Testing. , 2020, , .		2
15	Kerdock Codes Determine Unitary 2-Designs. IEEE Transactions on Information Theory, 2020, 66, 6104-6120.	1.5	5
16	On Optimality of CSS Codes for Transversal T . IEEE Journal on Selected Areas in Information Theory, 2020, 1, 499-514.	1.9	17
17	Successive Cancellation Inactivation Decoding for Modified Reed-Muller and eBCH Codes. , 2020, , .		4
18	Quantum Advantage via Qubit Belief Propagation. , 2020, , .		2

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19	Efficient Maximum-Likelihood Decoding of Reed-Muller $RM(3, m)$ Codes. , 2020, , .		3
20	Revisiting Efficient Multi-Step Nonlinearity Compensation With Machine Learning: An Experimental Demonstration. Journal of Lightwave Technology, 2020, 38, 3114-3124.	2.7	31
21	Logical Clifford Synthesis for Stabilizer Codes. IEEE Transactions on Quantum Engineering, 2020, 1, 1-17.	2.9	9
22	Model-Based Machine Learning for Joint Digital Backpropagation and PMD Compensation. , 2020, , .		7
23	Kerdock Codes Determine Unitary 2-Designs. , 2019, , .		4
24	Near-Optimal Finite-Length Scaling for Polar Codes Over Large Alphabets. IEEE Transactions on Information Theory, 2019, 65, 5643-5655.	1.5	4
25	The Replica-Symmetric Prediction for Random Linear Estimation With Gaussian Matrices Is Exact. IEEE Transactions on Information Theory, 2019, 65, 2252-2283.	1.5	28
26	Minimal sets to destroy the k -core in random networks. Physical Review E, 2019, 99, 022310.	0.8	8
27	Learned Belief-Propagation Decoding with Simple Scaling and SNR Adaptation. , 2019, , .		43
28	Reinforcement Learning for Channel Coding: Learned Bit-Flipping Decoding. , 2019, , .		24
29	Enhancing Capacity of Spatial Multiplexing Systems Using Reconfigurable Cavity-Backed Metasurface Antennas in Clustered MIMO Channels. IEEE Transactions on Communications, 2019, 67, 1070-1084.	4.9	53
30	Approaching Miscorrection-Free Performance of Product Codes With Anchor Decoding. IEEE Transactions on Communications, 2018, 66, 2797-2808.	4.9	36
31	On Low-Complexity Decoding of Product Codes for High-Throughput Fiber-Optic Systems. , 2018, , .		11
32	Synthesis of Logical Clifford Operators via Symplectic Geometry. , 2018, , .		12
33	What Can Machine Learning Teach Us about Communications?. , 2018, , .		13
34	Decoding Reed-Muller Codes Using Minimum-Weight Parity Checks. , 2018, , .		32
35	ASIC Implementation of Time-Domain Digital Backpropagation with Deep-Learned Chromatic Dispersion Filters. , 2018, , .		10
36	Wideband Time-Domain Digital Backpropagation via Subband Processing and Deep Learning. , 2018, , .		3

#	ARTICLE	IF	CITATIONS
37	Mutual Information as a Function of Matrix SNR for Linear Gaussian Channels. , 2018, , .		8
38	Deep Learning of the Nonlinear Schrödinger Equation in Fiber-Optic Communications. , 2018, , .		15
39	Nonlinear Interference Mitigation via Deep Neural Networks. , 2018, , .		41
40	Reed-Muller Codes Achieve Capacity on Erasure Channels. IEEE Transactions on Information Theory, 2017, 63, 4298-4316.	1.5	89
41	Density Evolution for Deterministic Generalized Product Codes on the Binary Erasure Channel at High Rates. IEEE Transactions on Information Theory, 2017, 63, 4357-4378.	1.5	21
42	Approaching Capacity at High Rates with Iterative Hard-Decision Decoding. IEEE Transactions on Information Theory, 2017, , 1-1.	1.5	27
43	Cycle-expansion method for the Lyapunov exponent, susceptibility, and higher moments. Physical Review E, 2017, 96, 032129.	0.8	2
44	A Single-Letter Upper Bound on the Feedback Capacity of Unifilar Finite-State Channels. IEEE Transactions on Information Theory, 2017, 63, 1392-1409.	1.5	21
45	Near-optimal finite-length scaling for polar codes over large alphabets. , 2016, , .		16
46	Reed-Muller codes achieve capacity on erasure channels. , 2016, , .		25
47	Increasing the rate of spatially-coupled codes via optimized irregular termination. , 2016, , .		14
48	Deterministic and ensemble-based spatially-coupled product codes. , 2016, , .		1
49	Density evolution for deterministic generalized product codes with higher-order modulation. , 2016, , .		3
50	Reed-muller codes achieve capacity on the quantum erasure channel. , 2016, , .		7
51	Beyond double transitivity: Capacity-achieving cyclic codes on erasure channels. , 2016, , .		6
52	Comparing the bit-MAP and block-MAP decoding thresholds of reed-muller codes on BMS channels. , 2016, , .		17
53	A single-letter upper bound on the feedback capacity of unifilar finite-state channels. , 2016, , .		2
54	The replica-symmetric prediction for compressed sensing with Gaussian matrices is exact. , 2016, , .		65

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55	Density Evolution and Error Floor Analysis for Staircase and Braided Codes. , 2016, , .		8
56	On the limits of treating interference as noise for two-user symmetric Gaussian interference channels. , 2015, , .		5
57	Belief-propagation reconstruction for compressed sensing: Quantization vs. Gaussian approximation. , 2015, , .		0
58	Spatially-coupled codes for write-once memories. , 2015, , .		4
59	Symmetric product codes. , 2015, , .		16
60	Delay-Sensitive Communication Over Fading Channels: Queueing Behavior and Code Parameter Selection. IEEE Transactions on Vehicular Technology, 2015, 64, 3957-3970.	3.9	8
61	On Parameter Optimization for Staircase Codes. , 2015, , .		12
62	Cyclic polar codes. , 2015, , .		0
63	On the Performance of Block Codes Over Finite-State Channels in the Rare-Transition Regime. IEEE Transactions on Communications, 2015, 63, 3974-3990.	4.9	2
64	An introduction to spatially-coupled codes via practical examples. , 2014, , .		1
65	Convergence of Weighted Min-Sum Decoding Via Dynamic Programming on Trees. IEEE Transactions on Information Theory, 2014, 60, 943-963.	1.5	1
66	Threshold Saturation for Spatially Coupled LDPC and LDGM Codes on BMS Channels. IEEE Transactions on Information Theory, 2014, 60, 7389-7415.	1.5	63
67	A Simple Proof of Maxwell Saturation for Coupled Scalar Recursions. IEEE Transactions on Information Theory, 2014, 60, 6943-6965.	1.5	54
68	Spatially-coupled codes for side-information problems. , 2014, , .		5
69	Multilevel lattices based on spatially-coupled LDPC codes with applications. , 2014, , .		10
70	First-Passage Time and Large-Deviation Analysis for Erasure Channels With Memory. IEEE Transactions on Information Theory, 2013, 59, 5547-5565.	1.5	6
71	Code Design for the Noisy Slepian-Wolf Problem. IEEE Transactions on Communications, 2013, 61, 2535-2545.	4.9	6
72	On the relevance of graph covers and zeta functions for the analysis of SPA decoding of cycle codes. , 2013, , .		5

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73	Spatially-coupled low density lattices based on construction a with applications to compute-and-forward. , 2013, , .		13
74	Code-Rate Selection, Queueing Behavior, and the Correlated Erasure Channel. IEEE Transactions on Information Theory, 2013, 59, 397-407.	1.5	12
75	Spatially-coupled multi-edge type LDPC codes with bounded degrees that achieve capacity on the BEC under BP decoding. , 2013, , .		13
76	Iterative hard-decision decoding of braided BCH codes for high-speed optical communication. , 2013, , .		24
77	Approaching capacity at high rates with iterative hard-decision decoding. , 2012, , .		31
78	Threshold saturation of spatially-coupled codes on intersymbol-interference channels. , 2012, , .		16
79	On the queueing behavior of Gilbert-Elliott channels in the rare-transition regime. , 2012, , .		1
80	Direction of arrival estimation using canonical and crystallographic volumetric element configurations. , 2012, , .		4
81	A proof of threshold saturation for spatially-coupled LDPC codes on BMS channels. , 2012, , .		19
82	A simple proof of threshold saturation for coupled scalar recursions. , 2012, , .		55
83	Iterative collision resolution for slotted ALOHA: An optimal uncoordinated transmission policy. , 2012, , .		79
84	On the performance of random block codes over finite-state fading channels. , 2012, , .		2
85	A simple proof of threshold saturation for coupled vector recursions. , 2012, , .		20
86	On the maximum a posteriori decoding thresholds of multiuser systems with erasures. , 2012, , .		2
87	Verification Decoding of High-Rate LDPC Codes With Applications in Compressed Sensing. IEEE Transactions on Information Theory, 2012, 58, 5042-5058.	1.5	39
88	Universality for the noisy Slepian-Wolf problem via spatial coupling. , 2011, , .		16
89	An Iterative Joint Linear-Programming Decoding of LDPC Codes and Finite-State Channels. , 2011, , .		7
90	Analysis of Verification-Based Decoding on the q -ary Symmetric Channel for Large q . IEEE Transactions on Information Theory, 2011, 57, 6754-6770.	1.5	11

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91	Joint Decoding of LDPC Codes and Finite-State Channels Via Linear-Programming. IEEE Journal on Selected Topics in Signal Processing, 2011, 5, 1563-1576.	7.3	15
92	On Multiple Decoding Attempts for Reed-Solomon Codes: A Rate-Distortion Approach. IEEE Transactions on Information Theory, 2011, 57, 668-691.	1.5	7
93	Large deviations on empirical service for erasure channels with memory. , 2011, , .		0
94	Queueing behavior of the Gilbert-Elliott channel: BCH codes and Poisson arrivals. , 2011, , .		3
95	Universal codes for the Gaussian MAC via spatial coupling. , 2011, , .		50
96	Joint Physical Layer Coding and Network Coding for Bidirectional Relaying. IEEE Transactions on Information Theory, 2010, 56, 5641-5654.	1.5	297
97	Convergence of weighted min-sum decoding via dynamic programming on coupled trees. , 2010, , .		4
98	On the queueing behavior of random codes over a gilbert-elliott erasure channel. , 2010, , .		4
99	LDPC codes for rank modulation in flash memories. , 2010, , .		18
100	The effect of spatial coupling on compressive sensing. , 2010, , .		68
101	IMP: A message-passing algorithm for matrix completion. , 2010, , .		4
102	LDPC code design for transmission of correlated sources across noisy channels without CSIT. , 2010, , .		5
103	A rate-distortion exponent approach to multiple decoding attempts for Reed-Solomon codes. , 2010, , .		0
104	Code rate, queueing behavior and the correlated erasure channel. , 2010, , .		3
105	First-passage time analysis for digital communication over erasure channels with delay-sensitive traffic. , 2010, , .		4
106	On the joint decoding of LDPC codes and finite-state channels via linear programming. , 2010, , .		5
107	Can iterative decoding for erasure correlated sources be universal?. , 2009, , .		9
108	A rate-distortion perspective on multiple decoding attempts for Reed-Solomon codes. , 2009, , .		2

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109	Design and implementation of physical-layer network-coding protocols. , 2009, , .		7
110	Modulation codes for flash memory based on load-balancing theory. , 2009, , .		0
111	Girth-10 LDPC Codes Based on 3-D Cyclic Lattices. IEEE Transactions on Vehicular Technology, 2008, 57, 1049-1060.	3.9	7
112	Joint iterative decoding of LDPC codes for channels with memory and erasure noise. IEEE Journal on Selected Areas in Communications, 2008, 26, 320-337.	9.7	19
113	Upper bounds on the MAP threshold of iterative decoding systems with erasure noise. , 2008, , .		6
114	Compressed sensing and linear codes over real numbers. , 2008, , .		30
115	Capacity Upper Bounds for the Deletion Channel. , 2007, , .		50
116	List-Message Passing Achieves Capacity on the q-ary Symmetric Channel for Large q. , 2007, , .		14
117	Determining and Approaching Achievable Rates of Binary Intersymbol Interference Channels Using Multistage Decoding. IEEE Transactions on Information Theory, 2007, 53, 1416-1429.	1.5	35
118	Accumulateâ€“Repeatâ€“Accumulate Codes: Capacity-Achieving Ensembles of Systematic Codes for the Erasure Channel With Bounded Complexity. IEEE Transactions on Information Theory, 2007, 53, 2088-2115.	1.5	50
119	WLC08-5: Link-Level Modeling and Performance of CDMA Interference Cancellation. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	2
120	Recent Results on Capacity-Achieving Codes for the Erasure Channel with Bounded Complexity. , 2006, , .		1
121	Capacity-Achieving Ensembles for the Binary Erasure Channel With Bounded Complexity. IEEE Transactions on Information Theory, 2005, 51, 2352-2379.	1.5	103
122	Capacity-approaching bandwidth-efficient coded modulation schemes based on low-density parity-check codes. IEEE Transactions on Information Theory, 2003, 49, 2141-2155.	1.5	238
123	On Approaching the Capacity of Finite-State Intersymbol Interference Channels. , 2002, , 365-378.		1
124	The capacity of finite-state channels in the high-noise regime. , 0, , 179-222.		5
125	Reinforcement Learning with Neural Networks for Quantum Multiple Hypothesis Testing. Quantum - the Open Journal for Quantum Science, 0, 6, 633.	0.0	0