

# Markus Grassl

## List of Publications by Year in descending order

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113  
papers

2,848  
citations

257357

24  
h-index

206029

48  
g-index

117  
all docs

117  
docs citations

117  
times ranked

1795  
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum information processing and communication. European Physical Journal D, 2005, 36, 203-228.	0.6	272
2	Codes for the quantum erasure channel. Physical Review A, 1997, 56, 33-38.	1.0	226
3	ON OPTIMAL QUANTUM CODES. International Journal of Quantum Information, 2004, 02, 55-64.	0.6	204
4	Symmetric informationally complete positive-operator-valued measures: A new computer study. Journal of Mathematical Physics, 2010, 51, .	0.5	190
5	Computing local invariants of quantum-bit systems. Physical Review A, 1998, 58, 1833-1839.	1.0	134
6	Applying Grover's Algorithm to AES: Quantum Resource Estimates. Lecture Notes in Computer Science, 2016, , 29-43.	1.0	110
7	Grover's quantum search algorithm for an arbitrary initial amplitude distribution. Physical Review A, 1999, 60, 2742-2745.	1.0	93
8	Convolutional and Tail-Biting Quantum Error-Correcting Codes. IEEE Transactions on Information Theory, 2007, 53, 865-880.	1.5	74
9	EFFICIENT QUANTUM CIRCUITS FOR NON-QUBIT QUANTUM ERROR-CORRECTING CODES. International Journal of Foundations of Computer Science, 2003, 14, 757-775.	0.8	71
10	Analysis of generalized Grover quantum search algorithms using recursion equations. Physical Review A, 2000, 63, .	1.0	54
11	Tomography of Quantum States in Small Dimensions. Electronic Notes in Discrete Mathematics, 2005, 20, 151-164.	0.4	53
12	Quantum Reed-Solomon Codes. Lecture Notes in Computer Science, 1999, , 231-244.	1.0	45
13	Stabilizing Distinguishable Qubits against Spontaneous Decay by Detected-Jump Correcting Quantum Codes. Physical Review Letters, 2001, 86, 4402-4405.	2.9	43
14	Quantum technology: from research to application. Applied Physics B: Lasers and Optics, 2016, 122, 1.	1.1	42
15	On self-dual MDS codes. , 2008, , .		40
16	Quantum MDS codes over small fields. , 2015, , .		39
17	Quantum concepts in optical polarization. Advances in Optics and Photonics, 2021, 13, 1.	12.1	39
18	Cyclic quantum error-correcting codes and quantum shift registers. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2000, 456, 2689-2706.	1.0	38

#	ARTICLE	IF	CITATIONS
19	Extremal quantum states and their Majorana constellations. <i>Physical Review A</i> , 2015, 92, .	1.0	38
20	Graphs, quadratic forms, and quantum codes. , 0, , .		37
21	Fibonacci-Lucas SIC-POVMs. <i>Journal of Mathematical Physics</i> , 2017, 58, .	0.5	34
22	Quantum metrology at the limit with extremal Majorana constellations. <i>Optica</i> , 2017, 4, 1429.	4.8	34
23	Generalized decoding, effective channels, and simplified security proofs in quantum key distribution. <i>Physical Review A</i> , 2006, 74, .	1.0	33
24	Non-catastrophic Encoders and Encoder Inverses for Quantum Convolutional Codes. , 2006, , .		32
25	Quantum Codes of Maximal Distance and Highly Entangled Subspaces. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 4, 284.	0.0	32
26	Searching for linear codes with large minimum distance. , 2006, , 287-313.		31
27	The Weights in MDS Codes. <i>IEEE Transactions on Information Theory</i> , 2011, 57, 392-396.	1.5	29
28	Quantum Error-Correcting Codes for Qudit Amplitude Damping. <i>IEEE Transactions on Information Theory</i> , 2018, 64, 4674-4685.	1.5	29
29	Simulating quantum operations with mixed environments. <i>Physical Review A</i> , 1999, 60, 881-885.	1.0	28
30	Generalized concatenated quantum codes. <i>Physical Review A</i> , 2009, 79, .	1.0	27
31	On circulant self-dual codes over small fields. <i>Designs, Codes, and Cryptography</i> , 2009, 52, 57-81.	1.0	26
32	Stars of the quantum Universe: extremal constellations on the Poincaré sphere. <i>Physica Scripta</i> , 2015, 90, 108008.	1.2	26
33	Cryptanalysis of the Tillich-Zamor Hash Function. <i>Journal of Cryptology</i> , 2011, 24, 148-156.	2.1	24
34	Extremal quantum states. <i>AVS Quantum Science</i> , 2020, 2, .	1.8	24
35	Entropic Proofs of Singleton Bounds for Quantum Error-Correcting Codes. <i>IEEE Transactions on Information Theory</i> , 2022, 68, 3942-3950.	1.5	23
36	A New Class of Designs Which Protect against Quantum Jumps. <i>Designs, Codes, and Cryptography</i> , 2003, 29, 51-70.	1.0	21

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37	Gate simulation and lower bounds on the simulation time. <i>Physical Review A</i> , 2004, 70, .	1.0	21
38	Quantum Convolutional BCH Codes. , 2007, , .		21
39	Entanglement-assisted quantum communication beating the quantum Singleton bound. <i>Physical Review A</i> , 2021, 103, .	1.0	20
40	Quantum block and convolutional codes from self-orthogonal product codes. , 2005, , .		18
41	The monomial representations of the Clifford group. <i>Quantum Information and Computation</i> , 2012, 12, 404-431.	0.1	17
42	On quantum MDS codes. , 0, , .		16
43	Constructions of Quantum Convolutional Codes. , 2007, , .		16
44	Four-qubit pure states as fermionic states. <i>Physical Review A</i> , 2013, 88, .	1.0	16
45	Some results on the structure of constacyclic codes and new linear codes over $\mathbb{F}_q$ from quasi-twisted codes. <i>Advances in Mathematics of Communications</i> , 2017, 11, 245-258.	0.4	16
46	The Quantum Hamming and Hexacodes. <i>Fortschritte Der Physik</i> , 1998, 46, 459-491.	1.5	14
47	Detected-jump-error-correcting quantum codes, quantum error designs, and quantum computation. <i>Physical Review A</i> , 2003, 68, .	1.0	14
48	Computing Equiangular Lines in Complex Space. <i>Lecture Notes in Computer Science</i> , 2008, , 89-104.	1.0	14
49	On the connection between mutually unbiased bases and orthogonal Latin squares. <i>Physica Scripta</i> , 2010, T140, 014031.	1.2	14
50	Graph concatenation for quantum codes. <i>Journal of Mathematical Physics</i> , 2011, 52, 022201.	0.5	14
51	Codes for simultaneous transmission of quantum and classical information. , 2017, , .		14
52	Isoentangled Mutually Unbiased Bases, Symmetric Quantum Measurements, and Mixed-State Designs. <i>Physical Review Letters</i> , 2020, 124, 090503.	2.9	13
53	Quantum Goethals-Preparata codes. , 2008, , .		12
54	Stabilization of quantum states in quantum-optical systems. <i>Physical Review A</i> , 1996, 54, 2698-2702.	1.0	11

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55	Weaknesses in the $SL_2(\mathbb{F}_{2^n})$ Hashing Scheme. Lecture Notes in Computer Science, 2000, , 287-299.	1.0	11
56	Systems of Imprimitivity for the Clifford group. Quantum Information and Computation, 2014, 14, 339-360.	0.1	11
57	New bounds for $n_4(k,d)$ and classification of some optimal codes over $GF(4)$ . Discrete Mathematics, 2004, 281, 43-66.	0.4	10
58	Residual and Destroyed Accessible Information after Measurements. Physical Review Letters, 2018, 120, 160501.	2.9	10
59	Multi-error-correcting amplitude damping codes. , 2010, , .		9
60	Canonical form of three-fermion pure-states with six single particle states. Journal of Mathematical Physics, 2014, 55, .	0.5	9
61	Invariant perfect tensors. New Journal of Physics, 2017, 19, 063029.	1.2	9
62	New codes from chains of quasi-cyclic codes. , 2005, , .		8
63	Small sets of complementary observables. Physical Review A, 2017, 95, .	1.0	8
64	Codeword stabilized quantum codes for asymmetric channels. , 2016, , .		7
65	New self-dual additive $F_4$ codes constructed from circulant graphs. Discrete Mathematics, 2017, 340, 399-403.	0.4	7
66	A New Minimum Weight Algorithm for Additive Codes. , 2006, , .		6
67	New Constructions of Codes for Asymmetric Channels via Concatenation. IEEE Transactions on Information Theory, 2015, 61, 1879-1886.	1.5	6
68	Coarse graining the phase space of $N$ qubits. Physical Review A, 2017, 95, .	1.0	6
69	Testing a quantum error-correcting code on various platforms. Science Bulletin, 2021, 66, 29-35.	4.3	6
70	Algorithmic aspects of quantum error-correcting codes. Computational Mathematics Series, 2002, , .	0.0	6
71	New binary codes from a chain of cyclic codes. IEEE Transactions on Information Theory, 2001, 47, 1178-1181.	1.5	5
72	Non-additive quantum codes from Goethals and Preparata codes. , 2008, , .		5

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73	Generalized concatenation for quantum codes. , 2009, , .		5
74	Structured error recovery for code-word-stabilized quantum codes. Physical Review A, 2010, 81, .	1.0	5
75	Quantum error-correcting codes for amplitude damping. , 2014, , .		5
76	Concatenated codes for amplitude damping. , 2016, , .		5
77	Experimental detection of entanglement polytopes via local filters. Npj Quantum Information, 2017, 3, .	2.8	5
78	New good linear codes by special puncturings. , 0, , .		4
79	Convolutional and Block Quantum Error-Correcting Codes. , 2006, , .		4
80	Experimental implementation of a codeword-stabilized quantum code. Physical Review A, 2012, 85, .	1.0	4
81	New constructions of codes for asymmetric channels via concatenation. , 2012, , .		4
82	A Generalized Construction and Improvements on Nonbinary Codes From Goppa Codes. IEEE Transactions on Information Theory, 2013, 59, 7299-7304.	1.5	4
83	Asymmetric quantum codes detecting a single amplitude error. , 2013, , .		4
84	Algebraic quantum codes: linking quantum mechanics and discrete mathematics. International Journal of Computer Mathematics: Computer Systems Theory, 2020, , 1-17.	0.7	4
85	Computing Extensions of Linear Codes. , 2007, , .		3
86	Quantum-capacity-approaching codes for the detected-jump channel. Physical Review A, 2010, 82, .	1.0	3
87	Leveraging automorphisms of quantum codes for fault-tolerant quantum computation. , 2013, , .		3
88	Stabilizer formalism for generalized concatenated quantum codes. , 2013, , .		3
89	New binary codes from extended Goppa codes. Designs, Codes, and Cryptography, 2014, 70, 149-156.	1.0	3
90	A Generalized Construction of Extended Goppa Codes. IEEE Transactions on Information Theory, 2014, 60, 5296-5303.	1.5	3

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91	Tomography from collective measurements. Quantum Information Processing, 2018, 17, 1.	1.0	3
92	Variations on Encoding Circuits for Stabilizer Quantum Codes. Lecture Notes in Computer Science, 2011, , 142-158.	1.0	3
93	Quantumness beyond entanglement: The case of symmetric states. Physical Review A, 2022, 105, .	1.0	3
94	New linear codes derived from binary cyclic codes of length 151. IET Communications, 2006, 153, 581.	1.0	2
95	Implementation of Generalized Measurements with Minimal Disturbance on a Quantum Computer. , 0, , 399-424.		2
96	Quantum Error Correction and Fault Tolerant Quantum Computing. , 2012, , 2478-2496.		2
97	Algorithms for Quantum Systems - Quantum Algorithms. , 2005, , 1-13.		1
98	Clustered bounded-distance decoding of codeword-stabilized quantum codes. , 2010, , .		1
99	On encoders for quantum convolutional codes. , 2010, , .		1
100	Computing extensions of linear codes using a greedy algorithm. , 2012, , .		1
101	Nonadditive quantum codes. , 0, , 261-278.		1
102	Decoding algorithm for linear binary codes based on the interpolation curve. , 0, , .		0
103	Quantum Computing - Applicable Algebra goes to Physics. Applicable Algebra in Engineering, Communications and Computing, 2000, 10, 269-272.	0.3	0
104	Methods of quantum error correction. , 0, , .		0
105	Quantum Error Correction. , 0, , 105-120.		0
106	Classical Information Theory and Classical Error Correction. , 0, , 3-16.		0
107	Implementation of generalized measurements with minimal disturbance on a quantum computer. Fortschritte Der Physik, 2006, 54, 898-916.	1.5	0
108	Fehlerkorrektur für Quantensysteme (Quantum Error-Correcting Codes). IT - Information Technology, 2006, 48, 354-358.	0.6	0

#	ARTICLE	IF	CITATIONS
109	Chains of cyclic codes, Construction X and incremental redundancy. , 2008, , .		0
110	Cryptanalysis of an authentication scheme using truncated polynomials. Information Processing Letters, 2009, 109, 861-863.	0.4	0
111	Fully Ramified Characters and Clifford Codes. Communications in Algebra, 2010, 39, 100-115.	0.3	0
112	There Is No Binary [35, 10, 13] Code. IEEE Transactions on Information Theory, 2011, 57, 6094-6096.	1.5	0
113	Comment on "An encryption protocol for NEQR images based on one-particle quantum walks on a circle": Quantum Information Processing, 2021, 20, 1.	1.0	0