

# Madhu Sudan

## List of Publications by Year in descending order

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69  
papers

5,373  
citations

331538

21  
h-index

223716

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g-index

73  
all docs

73  
docs citations

73  
times ranked

1197  
citing authors

#	ARTICLE	IF	CITATIONS
1	Decoding multivariate multiplicity codes on product sets. , 2021, , .		1
2	Local decoding and testing of polynomials over grids. Random Structures and Algorithms, 2020, 57, 658-694.	0.6	1
3	Sparse affine-invariant linear codes are locally testable. Computational Complexity, 2017, 26, 37-77.	0.2	0
4	Limitations on Testable Affine-Invariant Codes in the High-Rate Regime. , 2015, , .		1
5	Robust Testing of Lifted Codes with Applications to Low-Degree Testing. , 2015, , .		1
6	Optimal error rates for interactive coding I. , 2014, , .		42
7	2-Transitivity is Insufficient for Local Testability. Computational Complexity, 2013, 22, 137-158.	0.2	3
8	Extensions to the Method of Multiplicities, with Applications to Kakeya Sets and Mergers. SIAM Journal on Computing, 2013, 42, 2305-2328.	0.8	50
9	New affine-invariant codes from lifting. , 2013, , .		53
10	Optimal Testing of Multivariate Polynomials over Small Prime Fields. SIAM Journal on Computing, 2013, 42, 536-562.	0.8	9
11	Succinct Representation of Codes with Applications to Testing. SIAM Journal on Discrete Mathematics, 2012, 26, 1618-1634.	0.4	6
12	Sparse Affine-Invariant Linear Codes Are Locally Testable. , 2012, , .		3
13	A New Upper Bound on the Query Complexity for Testing Generalized Reed-Muller codes. Lecture Notes in Computer Science, 2012, , 639-650.	1.0	4
14	Optimal Testing of Multivariate Polynomials over Small Prime Fields. , 2011, , .		11
15	Symmetric LDPC Codes are not Necessarily Locally Testable. , 2011, , .		18
16	Kakeya-type sets in finite vector spaces. Journal of Algebraic Combinatorics, 2011, 34, 337-355.	0.4	5
17	Guest column: testing linear properties. ACM SIGACT News, 2011, 42, 59-80.	0.1	4
18	Optimal Error Correction for Computationally Bounded Noise. IEEE Transactions on Information Theory, 2010, 56, 5673-5680.	1.5	14

#	ARTICLE	IF	CITATIONS
19	Optimal Testing of Reed-Muller Codes. Lecture Notes in Computer Science, 2010, , 269-275.	1.0	0
20	Locally Testable Codes Require Redundant Testers. SIAM Journal on Computing, 2010, 39, 3230-3247.	0.8	13
21	Optimal Testing of Reed-Muller Codes. , 2010, , .		48
22	Invariance in Property Testing. Lecture Notes in Computer Science, 2010, , 211-227.	1.0	19
23	Testing Linear-Invariant Non-linear Properties: A Short Report. Lecture Notes in Computer Science, 2010, , 260-268.	1.0	4
24	Probabilistically checkable proofs. Communications of the ACM, 2009, 52, 76-84.	3.3	11
25	Locally Testable Codes Require Redundant Testers. , 2009, , .		9
26	Extensions to the Method of Multiplicities, with Applications to Kakeya Sets and Mergers. , 2009, , .		47
27	Succinct Representation of Codes with Applications to Testing. Lecture Notes in Computer Science, 2009, , 534-547.	1.0	15
28	Decodability of group homomorphisms beyond the johnson bound. , 2008, , .		10
29	Short PCPs with Polylog Query Complexity. SIAM Journal on Computing, 2008, 38, 551-607.	0.8	104
30	2-Transitivity Is Insufficient for Local Testability. , 2008, , .		24
31	Algebraic property testing. , 2008, , .		84
32	Algebraic algorithms and coding theory. , 2008, , .		0
33	Improved lower bound on the size of Kakeya sets over finite fields. Analysis and PDE, 2008, 1, 375-379.	0.6	30
34	Complexity Theory. Oberwolfach Reports, 2006, 2, 1431-1504.	0.0	0
35	Robust PCPs of Proximity, Shorter PCPs, and Applications to Coding. SIAM Journal on Computing, 2006, 36, 889-974.	0.8	144
36	On Dinur's proof of the PCP theorem. Bulletin of the American Mathematical Society, 2006, 44, 19-62.	0.8	10

#	ARTICLE	IF	CITATIONS
37	Robust locally testable codes and products of codes. <i>Random Structures and Algorithms</i> , 2006, 28, 387-402.	0.6	36
38	Local Decoding and Testing for Homomorphisms. <i>Lecture Notes in Computer Science</i> , 2006, , 375-385.	1.0	4
39	Locally testable codes and PCPs of almost-linear length. <i>Journal of the ACM</i> , 2006, 53, 558-655.	1.8	96
40	MacWilliams identities. <i>Resonance</i> , 2005, 10, 74-82.	0.2	0
41	Simple PCPs with poly-log rate and query complexity. , 2005, , .		37
42	Robust Locally Testable Codes and Products of Codes. <i>Lecture Notes in Computer Science</i> , 2004, , 286-297.	1.0	13
43	Improved Low-Degree Testing and its Applications. <i>Combinatorica</i> , 2003, 23, 365-426.	0.6	122
44	Reconstructing curves in three (and higher) dimensional space from noisy data. , 2003, , .		32
45	Bounds on 2-Query Codeword Testing. <i>Lecture Notes in Computer Science</i> , 2003, , 216-227.	1.0	15
46	Hardness of Approximate Hypergraph Coloring. <i>SIAM Journal on Computing</i> , 2002, 31, 1663-1686.	0.8	35
47	The Approximability of Constraint Satisfaction Problems. <i>SIAM Journal on Computing</i> , 2001, 30, 1863-1920.	0.8	148
48	Pseudorandom Generators without the XOR Lemma. <i>Journal of Computer and System Sciences</i> , 2001, 62, 236-266.	0.9	243
49	Linear-Consistency Testing. <i>Journal of Computer and System Sciences</i> , 2001, 62, 589-607.	0.9	12
50	Ideal Error-Correcting Codes: Unifying Algebraic and Number-Theoretic Algorithms. <i>Lecture Notes in Computer Science</i> , 2001, , 36-45.	1.0	14
51	Small PCPs with Low Query Complexity. <i>Lecture Notes in Computer Science</i> , 2001, , 327-338.	1.0	0
52	Learning Polynomials with Queries: The Highly Noisy Case. <i>SIAM Journal on Discrete Mathematics</i> , 2000, 13, 535-570.	0.4	82
53	Gadgets, Approximation, and Linear Programming. <i>SIAM Journal on Computing</i> , 2000, 29, 2074-2097.	0.8	133
54	List Decoding: Algorithms and Applications. <i>Lecture Notes in Computer Science</i> , 2000, , 25-41.	1.0	12

#	ARTICLE	IF	CITATIONS
55	On Representations of Algebraic-Geometric Codes for List Decoding. Lecture Notes in Computer Science, 2000, , 244-255.	1.0	0
56	Pseudorandom generators without the XOR Lemma (extended abstract). , 1999, , .		37
57	Chinese remaindering with errors. , 1999, , .		53
58	Linear Consistency Testing. Lecture Notes in Computer Science, 1999, , 109-120.	1.0	1
59	Reconstructing Algebraic Functions from Mixed Data. SIAM Journal on Computing, 1998, 28, 487-510.	0.8	35
60	On Syntactic versus Computational Views of Approximability. SIAM Journal on Computing, 1998, 28, 164-191.	0.8	125
61	Free Bits, PCPs, and Nonapproximability--Towards Tight Results. SIAM Journal on Computing, 1998, 27, 804-915.	0.8	354
62	Approximate graph coloring by semidefinite programming. Journal of the ACM, 1998, 45, 246-265.	1.8	294
63	Proof verification and the hardness of approximation problems. Journal of the ACM, 1998, 45, 501-555.	1.8	1,079
64	Improved low-degree testing and its applications. , 1997, , .		89
65	Algorithmic issues in coding theory. Lecture Notes in Computer Science, 1997, , 184-199.	1.0	4
66	Decoding of Reed Solomon Codes beyond the Error-Correction Bound. Journal of Complexity, 1997, 13, 180-193.	0.7	556
67	Robust Characterizations of Polynomials with Applications to Program Testing. SIAM Journal on Computing, 1996, 25, 252-271.	0.8	614
68	Highly resilient correctors for polynomials. Information Processing Letters, 1992, 43, 169-174.	0.4	123
69	Self-testing/correcting for polynomials and for approximate functions. , 1991, , .		116