

Josef Dick

List of Publications by Year in descending order

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109
papers

2,593
citations

279701

23
h-index

265120

42
g-index

112
all docs

112
docs citations

112
times ranked

658
citing authors

#	ARTICLE	IF	CITATIONS
1	Extrapolated Polynomial Lattice Rule Integration in Computational Uncertainty Quantification. SIAM-ASA Journal on Uncertainty Quantification, 2022, 10, 651-686.	1.1	0
2	Stability of lattice rules and polynomial lattice rules constructed by the component-by-component algorithm. Journal of Computational and Applied Mathematics, 2021, 382, 113062.	1.1	8
3	Toeplitz Monte Carlo. Statistics and Computing, 2021, 31, 1.	0.8	3
4	Weighted integration over a hyperrectangle based on digital nets and sequences. Journal of Computational and Applied Mathematics, 2021, 393, 113509.	1.1	1
5	A quasi-Monte Carlo data compression algorithm for machine learning. Journal of Complexity, 2021, 67, 101587.	0.7	1
6	Deep Learning Based Unsupervised and Semi-supervised Classification for Keratoconus. , 2020, , .		11
7	A note on the periodic L_2 -discrepancy of Korobov's p -sets. Archiv Der Mathematik, 2020, 115, 67-78.	0.3	3
8	Tractability properties of the discrepancy in Orlicz norms. Journal of Complexity, 2020, 61, 101468.	0.7	2
9	A weighted discrepancy bound of quasi-Monte Carlo importance sampling. Statistics and Probability Letters, 2019, 149, 100-106.	0.4	5
10	Richardson Extrapolation of Polynomial Lattice Rules. SIAM Journal on Numerical Analysis, 2019, 57, 44-69.	1.1	6
11	Improved Efficiency of a Multi-Index FEM for Computational Uncertainty Quantification. SIAM Journal on Numerical Analysis, 2019, 57, 1744-1769.	1.1	5
12	Higher order Quasi-Monte Carlo integration for Bayesian PDE Inversion. Computers and Mathematics With Applications, 2019, 77, 144-172.	1.4	14
13	Lattice-based integration algorithms: Kronecker sequences and rank-1 lattices. Annali Di Matematica Pura Ed Applicata, 2018, 197, 109-126.	0.5	2
14	On the Optimal Order of Integration in Hermite Spaces with Finite Smoothness. SIAM Journal on Numerical Analysis, 2018, 56, 684-707.	1.1	15
15	Digital net properties of a polynomial analogue of Frolov's construction. Finite Fields and Their Applications, 2018, 51, 325-350.	0.6	0
16	Multilevel higher-order quasi-Monte Carlo Bayesian estimation. Mathematical Models and Methods in Applied Sciences, 2017, 27, 953-995.	1.7	34
17	A discrepancy bound for deterministic acceptance-rejection samplers beyond $N^{-1/2}$ in dimension 1. Statistics and Computing, 2017, 27, 901-911.	0.8	1
18	Optimal L_p -discrepancy bounds for second order digital sequences. Israel Journal of Mathematics, 2017, 221, 489-510.	0.4	6

#	ARTICLE	IF	CITATIONS
19	Construction of interlaced polynomial lattice rules for infinitely differentiable functions. <i>Numerische Mathematik</i> , 2017, 137, 257-288.	0.9	4
20	DISCREPANCY OF SECOND ORDER DIGITAL SEQUENCES IN FUNCTION SPACES WITH DOMINATING MIXED SMOOTHNESS. <i>Mathematika</i> , 2017, 63, 863-894.	0.3	5
21	Digital inversive vectors can achieve polynomial tractability for the weighted star discrepancy and for multivariate integration. <i>Proceedings of the American Mathematical Society</i> , 2017, 145, 3297-3310.	0.4	4
22	Discrepancy bounds for uniformly ergodic Markov chain quasi-Monte Carlo. <i>Annals of Applied Probability</i> , 2016, 26, .	0.6	5
23	Multilevel Higher Order QMC Petrov–Galerkin Discretization for Affine Parametric Operator Equations. <i>SIAM Journal on Numerical Analysis</i> , 2016, 54, 2541-2568.	1.1	35
24	Higher Order Quasi–Monte Carlo Integration for Holomorphic, Parametric Operator Equations. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2016, 4, 48-79.	1.1	31
25	Discrepancy Estimates For Acceptance-Rejection Samplers Using Stratified Inputs. <i>Springer Proceedings in Mathematics and Statistics</i> , 2016, , 599-619.	0.1	0
26	On a projection-corrected component-by-component construction. <i>Journal of Complexity</i> , 2016, 32, 74-80.	0.7	4
27	Proof techniques in quasi-Monte Carlo theory. <i>Journal of Complexity</i> , 2015, 31, 327-371.	0.7	14
28	The weighted star discrepancy of Korobov’s s -sets. <i>Proceedings of the American Mathematical Society</i> , 2015, 143, 5043-5057.	0.4	11
29	Spatial low-discrepancy sequences, spherical cone discrepancy, and applications in financial modeling. <i>Journal of Computational and Applied Mathematics</i> , 2015, 286, 28-53.	1.1	12
30	Construction of Interlaced Scrambled Polynomial Lattice Rules of Arbitrary High Order. <i>Foundations of Computational Mathematics</i> , 2015, 15, 1245-1278.	1.5	32
31	Covering of spheres by spherical caps and worst-case error for equal weight cubature in Sobolev spaces. <i>Journal of Mathematical Analysis and Applications</i> , 2015, 431, 782-811.	0.5	21
32	Fast QMC Matrix-Vector Multiplication. <i>SIAM Journal of Scientific Computing</i> , 2015, 37, A1436-A1450.	1.3	9
33	Numerical integration in log-Korobov and log-cosine spaces. <i>Numerical Algorithms</i> , 2015, 70, 753-775.	1.1	1
34	A reduced fast component-by-component construction of lattice points for integration in weighted spaces with fast decreasing weights. <i>Journal of Computational and Applied Mathematics</i> , 2015, 276, 1-15.	1.1	12
35	Higher Order Quasi Monte-Carlo Integration in Uncertainty Quantification. <i>Lecture Notes in Computational Science and Engineering</i> , 2015, , 445-453.	0.1	1
36	Functions of bounded variation, signed measures, and a general Koksma–Hlawka inequality. <i>Acta Arithmetica</i> , 2015, 167, 143-171.	0.2	30

#	ARTICLE	IF	CITATIONS
37	Higher order Sobol' indices. Information and Inference, 2014, 3, 59-81.	0.9	14
38	Higher Order QMC Petrov--Galerkin Discretization for Affine Parametric Operator Equations with Random Field Inputs. SIAM Journal on Numerical Analysis, 2014, 52, 2676-2702.	1.1	70
39	Optimal randomized changing dimension algorithms for infinite-dimensional integration on function spaces with ANOVA-type decomposition. Journal of Approximation Theory, 2014, 184, 111-145.	0.5	19
40	Lattice rules for nonperiodic smooth integrands. Numerische Mathematik, 2014, 126, 259-291.	0.9	43
41	Infinite-Dimensional Integration in Weighted Hilbert Spaces: Anchored Decompositions, Optimal Deterministic Algorithms, and Higher-Order Convergence. Foundations of Computational Mathematics, 2014, 14, 1027-1077.	1.5	18
42	Numerical integration of Hölder continuous, absolutely convergent Fourier, Fourier cosine, and Walsh series. Journal of Approximation Theory, 2014, 183, 14-30.	0.5	9
43	Discrepancy bounds for infinite-dimensional order two digital sequences over \mathbb{F}_2 . Journal of Number Theory, 2014, 136, 204-222.	0.2	14
44	Approximation of analytic functions in Korobov spaces. Journal of Complexity, 2014, 30, 2-28.	0.7	38
45	Explicit constructions of point sets and sequences with low discrepancy. , 2014, , 63-86.		12
46	Discrepancy estimates for variance bounding Markov chain quasi-Monte Carlo. Electronic Journal of Probability, 2014, 19, .	0.5	5
47	Discrepancy bounds for deterministic acceptance-rejection samplers. Electronic Journal of Statistics, 2014, 8, .	0.4	12
48	Discrepancy Theory and Quasi-Monte Carlo Integration. Lecture Notes in Mathematics, 2014, , 539-619.	0.1	20
49	Optimal L_2 discrepancy bounds for higher order digital sequences over the finite field \mathbb{F}_2 . Acta Arithmetica, 2014, 162, 65-99.	0.2	23
50	Low-discrepancy point sets for non-uniform measures. Acta Arithmetica, 2014, 163, 345-369.	0.2	10
51	The Inverse of the Star-Discrepancy Problem and the Generation of Pseudo-Random Numbers. Lecture Notes in Computer Science, 2014, , 173-184.	1.0	1
52	High-dimensional integration: The quasi-Monte Carlo way. Acta Numerica, 2013, 22, 133-288.	6.3	404
53	A Characterization of Sobolev Spaces on the Sphere and an Extension of Stolarsky's Invariance Principle to Arbitrary Smoothness. Constructive Approximation, 2013, 38, 397-445.	1.8	16
54	On the Fast Computation of the Weight Enumerator Polynomial and the \mathbb{F}_2 Value of Digital Nets over Finite Abelian Groups. SIAM Journal on Discrete Mathematics, 2013, 27, 1335-1359.	0.4	10

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55	A simple proof of Stolarsky's invariance principle. Proceedings of the American Mathematical Society, 2013, 141, 2085-2096.	0.4	27
56	Point Sets on the Sphere \mathbb{S}^2 with Small Spherical Cap Discrepancy. Discrete and Computational Geometry, 2012, 48, 990.	0.4	21
57	A higher order Blokh-Zyablov propagation rule for higher order nets. Finite Fields and Their Applications, 2012, 18, 1169-1183.	0.6	0
58	Random weights, robust lattice rules and the geometry of the cbrc algorithm. Numerische Mathematik, 2012, 122, 443-467.	0.9	4
59	Quasi-Monte Carlo rules for numerical integration over the unit sphere \mathbb{S}^2 . Numerische Mathematik, 2012, 121, 473-502.	0.9	15
60	Efficient calculation of the worst-case error and (fast) component-by-component construction of higher order polynomial lattice rules. Numerical Algorithms, 2012, 59, 403-431.	1.1	36
61	Quasi-Monte Carlo Numerical Integration on \mathbb{R}^s : Digital Nets and Worst-Case Error. SIAM Journal on Numerical Analysis, 2011, 49, 1661-1691.	1.1	2
62	Exponential convergence and tractability of multivariate integration for Korobov spaces. Mathematics of Computation, 2011, 80, 905-905.	1.1	39
63	Higher order scrambled digital nets achieve the optimal rate of the root mean square error for smooth integrands. Annals of Statistics, 2011, 39, .	1.4	24
64	A construction of polynomial lattice rules with small gain coefficients. Numerische Mathematik, 2011, 119, 271-297.	0.9	8
65	Duality theory and propagation rules for higher order nets. Discrete Mathematics, 2011, 311, 362-386.	0.4	8
66	Construction algorithms for higher order polynomial lattice rules. Journal of Complexity, 2011, 27, 281-299.	0.7	21
67	THE DECAY OF THE WALSH COEFFICIENTS OF SMOOTH FUNCTIONS. Bulletin of the Australian Mathematical Society, 2009, 80, 430-453.	0.3	30
68	QMC Rules of Arbitrary High Order: Reproducing Kernel Hilbert Space Approach. Constructive Approximation, 2009, 30, 495-527.	1.8	23
69	Duality for digital sequences. Journal of Complexity, 2009, 25, 406-414.	0.7	4
70	On the approximation of smooth functions using generalized digital nets. Journal of Complexity, 2009, 25, 544-567.	0.7	4
71	A multivariate fast discrete Walsh transform with an application to function interpolation. Mathematics of Computation, 2009, 78, 1573-1591.	1.1	2
72	Duality theory and propagation rules for generalized digital nets. Mathematics of Computation, 2009, 79, 993-1017.	1.1	15

#	ARTICLE	IF	CITATIONS
73	Equidistribution Properties of Generalized Nets and Sequences. , 2009, , 305-322.		11
74	On Quasi-Monte Carlo Rules Achieving Higher Order Convergence. , 2009, , 73-96.		17
75	Koksma's Hlawka type inequalities of fractional order. Annali Di Matematica Pura Ed Applicata, 2008, 187, 385-403.	0.5	4
76	On the exact ϵ -value of Niederreiter and Sobol' sequences. Journal of Complexity, 2008, 24, 572-581.	0.7	16
77	Walsh Spaces Containing Smooth Functions and Quasi-Monte Carlo Rules of Arbitrary High Order. SIAM Journal on Numerical Analysis, 2008, 46, 1519-1553.	1.1	99
78	The construction of good extensible rank-1 lattices. Mathematics of Computation, 2008, 77, 2345-2373.	1.1	39
79	Approximation of Functions Using Digital Nets. , 2008, , 275-297.		6
80	Randomized Smolyak algorithms based on digital sequences for multivariate integration. IMA Journal of Numerical Analysis, 2007, 27, 655-674.	1.5	3
81	Explicit Constructions of Quasi-Monte Carlo Rules for the Numerical Integration of High-Dimensional Periodic Functions. SIAM Journal on Numerical Analysis, 2007, 45, 2141-2176.	1.1	53
82	The construction of extensible polynomial lattice rules with small weighted star discrepancy. Mathematics of Computation, 2007, 76, 2077-2086.	1.1	12
83	Constructions of general polynomial lattice rules based on the weighted star discrepancy. Finite Fields and Their Applications, 2007, 13, 1045-1070.	0.6	10
84	On the existence of higher order polynomial lattices based on a generalized figure of merit. Journal of Complexity, 2007, 23, 581-593.	0.7	13
85	A note on the existence of sequences with small star discrepancy. Journal of Complexity, 2007, 23, 649-652.	0.7	11
86	Strong tractability of multivariate integration of arbitrary order. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1022405-1022406.	0.2	0
87	The construction of good extensible Korobov rules. Computing (Vienna/New York), 2007, 79, 79-91.	3.2	4
88	Strong tractability of multivariate integration of arbitrary high order using digitally shifted polynomial lattice rules. Journal of Complexity, 2007, 23, 436-453.	0.7	30
89	Lattice-Nyström method for Fredholm integral equations of the second kind with convolution type kernels. Journal of Complexity, 2007, 23, 752-772.	0.7	17
90	Cyclic Digital Nets, Hyperplane Nets, and Multivariate Integration in Sobolev Spaces. SIAM Journal on Numerical Analysis, 2006, 44, 385-411.	1.1	22

#	ARTICLE	IF	CITATIONS
91	mean square weighted $\langle \mathbb{m} \rangle$ overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:tbl="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.com/x	0.7	6
92	Periodic functions with bounded remainder. Archiv Der Mathematik, 2006, 87, 554-563.	0.3	5
93	Good Lattice Rules in Weighted Korobov Spaces with General Weights. Numerische Mathematik, 2006, 103, 63-97.	0.9	85
94	The tent transformation can improve the convergence rate of quasi-Monte Carlo algorithms using digital nets. Numerische Mathematik, 2006, 105, 413-455.	0.9	13
95	A Taylor space for multivariate integration. Monte Carlo Methods and Applications, 2006, 12, .	0.3	4
96	A best possible upper bound on the star discrepancy of $(t, m, 2)$ -nets. Monte Carlo Methods and Applications, 2006, 12, 1-17.	0.3	7
97	Diaphony, discrepancy, spectral test and worst-case error. Mathematics and Computers in Simulation, 2005, 70, 159-171.	2.4	10
98	Multivariate integration in weighted Hilbert spaces based on Walsh functions and weighted Sobolev spaces. Journal of Complexity, 2005, 21, 149-195.	0.7	74
99	Star discrepancy estimates for digital $(t, m, 2)$ -nets and digital $(t, 2)$ -sequences over \mathbb{Z}_2 . Acta Mathematica Hungarica, 2005, 109, 239-254.	0.3	6
100	Dyadic Diaphony of Digital Nets Over \mathbb{Z}_2 . Monatshefte Fur Mathematik, 2005, 145, 285-299.	0.5	5
101	Construction algorithms for polynomial lattice rules for multivariate integration. Mathematics of Computation, 2005, 74, 1895-1922.	1.1	52
102	Construction Algorithms for Digital Nets with Low Weighted Star Discrepancy. SIAM Journal on Numerical Analysis, 2005, 43, 76-95.	1.1	23
103	On the mean square weighted L_2 discrepancy of randomized digital (t,m,s) -nets over \mathbb{Z}_2 . Acta Arithmetica, 2005, 117, 371-403.	0.2	25
104	Liberating the weights. Journal of Complexity, 2004, 20, 593-623.	0.7	68
105	On the convergence rate of the component-by-component construction of good lattice rules. Journal of Complexity, 2004, 20, 493-522.	0.7	59
106	On Korobov Lattice Rules in Weighted Spaces. SIAM Journal on Numerical Analysis, 2004, 42, 1760-1779.	1.1	17
107	Constructing Good Lattice Rules with Millions of Points. , 2004, , 181-197.		6
108	Applications of geometric discrepancy in numerical analysis and statistics. , 0, , 39-57.		0

#	ARTICLE	IF	CITATIONS
109	A new regularization for sparse optimization. ANZIAM Journal, 0, 62, C176-C191.	0.0	0