Ronald Cools

List of Publications by Year
in descending order

102 papers	2,468 citations	257101 24 h-index	214527 47 g-index
106 all docs	106 docs citations	106 times ranked	1082 citing authors

#	Article	IF	Citations
1	An encyclopaedia of cubature formulas. Journal of Complexity, 2003, 19, 445-453.	0.7	198
2	Monomial cubature rules since "Stroud" a compilation. Journal of Computational and Applied Mathematics, 1993, 48, 309-326.	1.1	197
3	Fast algorithms for component-by-component construction of rank-1 lattice rules in shift-invariant reproducing kernel {H}ilbert spaces. Mathematics of Computation, 2006, 75, 903-921.	1.1	178
4	Homotopies Exploiting Newton Polytopes for Solving Sparse Polynomial Systems. SIAM Journal on Numerical Analysis, 1994, 31, 915-930.	1.1	163
5	Constructing cubature formulae: the science behind the art. Acta Numerica, 1997, 6, 1-54.	6.3	155
6	Monomial cubature rules since "Stroud" a compilation — part 2. Journal of Computational and Applied Mathematics, 1999, 112, 21-27.	1.1	126
7	Template-Based Continuous Speech Recognition. IEEE Transactions on Audio Speech and Language Processing, 2007, 15, 1377-1390.	3.8	110
8	Constructing Embedded Lattice Rules for Multivariate Integration. SIAM Journal of Scientific Computing, 2006, 28, 2162-2188.	1.3	84
9	Advances in multidimensional integration. Journal of Computational and Applied Mathematics, 2002, 149, 1-12.	1.1	72
10	Fast component-by-component construction of rank-1 lattice rules with a non-prime number of points. Journal of Complexity, 2006, 22, 4-28.	0.7	71
11	Algorithm 824. ACM Transactions on Mathematical Software, 2003, 29, 287-296.	1.6	61
12	The Newton–Raphson method. International Journal of Mathematical Education in Science and Technology, 1995, 26, 177-193.	0.8	56
13	Good permutations for deterministic scrambled Halton sequences in terms of <mml:math altimg="si69.gif" 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:sb="http://www.elsevier.com/xml/common/struct-bib/dtd"	1.1	50
14	Mixed-volume computation by dynamic lifting applied to polynomial system solving. Discrete and Computational Geometry, 1996, 16, 69-112.	0.4	42
15	Cubature formulae and orthogonal polynomials. Journal of Computational and Applied Mathematics, 2001, 127, 121-152.	1.1	37
16	Quadrature rules using first derivatives for oscillatory integrands. Journal of Computational and Applied Mathematics, 2002, 140, 479-497.	1.1	34
17	An adaptive numerical cubature algorithm for simplices. ACM Transactions on Mathematical Software, 2003, 29, 297-308.	1.6	33
18	Minimal cubature formulae of trigonometric degree. Mathematics of Computation, 1996, 65, 1583-1601.	1.1	29

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19	Symbolic homotopy construction. Applicable Algebra in Engineering, Communications and Computing, 1993, 4, 169-183.	0.3	28
20	Extended quadrature rules for oscillatory integrands. Applied Numerical Mathematics, 2003, 46, 59-73.	1.2	28
21	On cubature formulae of degree 4k+1 attaining Mï¿½ller's lower bound for integrals with circular symmetry. Numerische Mathematik, 1992, 61, 395-407.	0.9	27
22	Algorithm 764: Cubpack++. ACM Transactions on Mathematical Software, 1997, 23, 1-15.	1.6	25
23	Numerical integration in logistic-normal models. Computational Statistics and Data Analysis, 2006, 51, 1535-1548.	0.7	24
24	Integrating products of Bessel functions with an additional exponential or rational factor. Computer Physics Communications, 2008, 178, 578-590.	3.0	24
25	Fast Component-by-Component Construction, a Reprise for Different Kernels. , 2006, , 373-387.		24
26	Three- and four-dimensional K-optimal lattice rules of moderate trigonometric degree. Mathematics of Computation, 2001, 70, 1549-1568.	1.1	23
27	Constructing lattice rules based on weighted degree of exactness and worst case error. Computing (Vienna/New York), 2010, 87, 63-89.	3.2	21
28	Mean-field theory for the Q-state Potts-glass neural network with biased patterns. Journal of Physics A, 1993, 26, 549-562.	1.6	20
29	Symmetric homotopy construction. Journal of Computational and Applied Mathematics, 1994, 50, 575-592.	1.1	19
30	Algorithm 858. ACM Transactions on Mathematical Software, 2006, 32, 580-596.	1.6	19
31	Tent-transformed lattice rules for integration and approximation of multivariate non-periodic functions. Journal of Complexity, 2016, 36, 166-181.	0.7	18
32	Quasi-random integration in high dimensions. Mathematics and Computers in Simulation, 2007, 73, 309-319.	2.4	16
33	Conditional Sampling for Barrier Option Pricing under the LT Method. SIAM Journal on Financial Mathematics, 2013, 4, 327-352.	0.7	16
34	A Belgian View on Lattice Rules. , 2008, , 3-21.		15
35	Construction of fully symmetric cubature formulae of degree 4k â 3 for fully symmetric planar regions. Journal of Computational and Applied Mathematics, 1987, 17, 173-180.	1.1	14
36	Five- and six-dimensional lattice rules generated by structured matrices. Journal of Complexity, 2003, 19, 715-729.	0.7	14

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37	Chebyshev lattices, a unifying framework for cubature with Chebyshev weight function. BIT Numerical Mathematics, 2011, 51, 275-288.	1.0	14
38	Smolyak's Construction of Cubature Formulas of Arbitrary Trigonometric Degree. Computing (Vienna/New York), 1999, 62, 147-162.	3.2	13
39	Another step forward in searching for cubature formulae with a minimal number of knots for the square. Computing (Vienna/New York), 1988, 40, 139-146.	3.2	12
40	Minimal cubature formulae of degree $2k-1$ for two classical functionals. Computing (Vienna/New) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	3.2	12
41	An imbedded family of cubature formulae for n-dimensional product regions. Journal of Computational and Applied Mathematics, 1994, 51, 251-260.	1.1	12
42	Automatic computation of knots and weights of cubature formulae for circular symmetric planar regions. Journal of Computational and Applied Mathematics, 1987, 20, 153-158.	1.1	11
43	On the construction of multi-dimensional embedded cubature formulae. Numerische Mathematik, 1989, 55, 735-745.	0.9	11
44	A new lower bound for the number of nodes in cubature formulae of degree 4 n + 1 for some circularly symmetric integrals. , 1993, , 57-66.		11
45	Construction of Symmetric Cubature Formulae with the Number of Knots (Almost) Equal to Möller's Lower Bound. International Series of Numerical Mathematics, 1988, , 25-36.	1.0	11
46	Rotation invariant cubature formulas over the n-dimensional unit cube. Journal of Computational and Applied Mathematics, 2001, 132, 15-32.	1.1	10
47	Different Quality Indexes for Lattice Rules. Journal of Complexity, 1997, 13, 235-258.	0.7	9
48	Decomposing the Secondary Cayley Polytope. Discrete and Computational Geometry, 2000, 23, 367-380.	0.4	9
49	On Generalized Gaussian Quadrature Rules for Singular and Nearly Singular Integrals. SIAM Journal on Numerical Analysis, 2009, 47, 719-739.	1.1	9
50	Conditional Sampling for Barrier Option Pricing Under the Heston Model. Springer Proceedings in Mathematics and Statistics, 2013, , 253-269.	0.1	9
51	Optimal addition of knots to cubature formulae for planar regions. Numerische Mathematik, 1986, 49, 269-274.	0.9	8
52	Algorithm 720: An algorithm for adaptive cubature over a collection of 3-dimensional simplices. ACM Transactions on Mathematical Software, 1993, 19, 320-332.	1.6	8
53	Transforming low-discrepancy sequences from a cube to a simplex. Journal of Computational and Applied Mathematics, 2005, 174, 29-42.	1.1	8
54	Reconstruction and Collocation of a Class of Non-periodic Functions by Sampling Along Tent-Transformed Rank-1 Lattices. Journal of Fourier Analysis and Applications, 2016, 22, 187-214.	0.5	8

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55	A relation between cubature formulae of trigonometric degree and lattice rules. , 1993, , 13-24.		8
56	A Survey of Methods for Constructing Cubature Formulae. , 1992, , 1-24.		8
57	Nonlinear reduction for solving deficient polynomial systems by continuation methods. Numerische Mathematik, 1992, 63, 263-282.	0.9	7
58	On the (non)-existence of some cubature formulas: gaps between a theory and its applications. Journal of Complexity, 2003, 19, 403-405.	0.7	7
59	CHEBINT. ACM Transactions on Mathematical Software, 2013, 40, 1-13.	1.6	7
60	The construction of cubature formulae for a family of integrals: A bifurcation problem. Computing (Vienna/New York), 1988, 40, 337-346.	3.2	6
61	Recent topics in numerical integration. International Journal of Quantum Chemistry, 2009, 109, 1748-1755.	1.0	6
62	Minimum classification error training in example based speech and pattern recognition using sparse weight matrices. Journal of Computational and Applied Mathematics, 2010, 234, 1303-1311.	1.1	6
63	A discriminative locally weighted distance measure for speaker independent template based speech recognition. , 0, , .		6
64	An embedded pair of cubature formulae of degree 5 and 7 for the triangle. BIT Numerical Mathematics, 1988, 28, 357-359.	1.0	5
65	Why do so many cubature formulae have so many positive weights?. BIT Numerical Mathematics, 1988, 28, 791-802.	1.0	5
66	Spherical Product Algorithms and the Integration of Smooth Functions with One Singular Point. SIAM Journal on Numerical Analysis, 2001, 39, 1132-1145.	1.1	5
67	Extrapolation and Adaptivity in Software for Automatic Numerical Integration on a Cube. Numerical Algorithms, 2003, 34, 259-269.	1.1	5
68	On obtaining higher order convergence for smooth periodic functions. Journal of Complexity, 2008, 24, 328-340.	0.7	5
69	On the convergence of quasi-random sampling/importance resampling. Mathematics and Computers in Simulation, 2010, 81, 490-505.	2.4	5
70	Computational investigations of scrambled Faure sequences. Mathematics and Computers in Simulation, 2010, 81, 522-535.	2.4	5
71	Construction of Sequences of Embedded Cubature Formulae for Circular Symmetric Planar Regions. , 1987, , 165-172.		5
72	The Birth of Numerical Analysis. , 2009, , .		5

#	ARTICLE	IF	CITATIONS
73	A note on E. ThiÃ©mard's algorithm to compute bounds for the star discrepancy. Journal of Complexity, 2005, 21, 320-323.	0.7	4
74	Minimizing the <mml:math altimg="si22.gif" 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:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.com/x	1.1	4
75	Note on``Electromagnetic Response of a Large Circular Loop Source on a Layered Earth: A New Computation Method'' by N. P. Singh and T. Mogi. Pure and Applied Geophysics, 2007, 164, 1107-1111.	0.8	4
76	Higher Order Quasi-Monte Carlo Methods: A Comparison. , 2010, , .		4
77	Extended exponentially fitted interpolation formulas for oscillatory functions. Applied Mathematics and Computation, 2013, 224, 178-195.	1.4	4
78	Proof of a conjectured asymptotic expansion for the approximation of surface integrals. Mathematics of Computation, 1994, 63, 717-717.	1.1	3
79	The role of embedded integration rules in Bayesian statistics. Statistics and Computing, 1996, 6, 245-250.	0.8	3
80	Using Box-Muller with Low Discrepancy Points. Lecture Notes in Computer Science, 2006, , 780-788.	1.0	3
81	Fast component-by-component construction of lattice algorithms for multivariate approximation with POD and SPOD weights. Mathematics of Computation, 2020, 90, 787-812.	1.1	3
82	A lower bound for the number of function evaluations in an error estimate for numerical integration. Constructive Approximation, 1990, 6, 353-361.	1.8	2
83	Computing zeros of analytic mappings: A logarithmic residue approach. BIT Numerical Mathematics, 1998, 38, 583-596.	1.0	2
84	A theoretical view on transforming low-discrepancy sequences from a cube to a simplex. Monte Carlo Methods and Applications, 2004, 10, .	0.3	2
85	2. Assessment of Accuracy and Reliability. , 2005, , 13-32.		2
86	A stable recurrence for the incomplete gamma function with imaginary second argument. Numerische Mathematik, 2006, 104, 445-456.	0.9	2
87	An overview of fast componentâ€byâ€component constructions of lattice rules and lattice sequences. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1022609-1022610.	0.2	2
88	On obtaining quadratic and cubic error convergence using weighted Kronecker-sequences. Computing (Vienna/New York), 2007, 80, 75-94.	3.2	2
89	In Search for Good Chebyshev Lattices. Springer Proceedings in Mathematics and Statistics, 2012, , 639-654.	0.1	2
90	Extensions of Fibonacci Lattice Rules. , 2009, , 259-270.		2

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91	Cubature Formulas of a Nonalgebraic Degree of Precision. Constructive Approximation, 2002, 18, 223-240.	1.8	1
92	On the convergence of quasi-random sampling importance resampling. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1022401-1022402.	0.2	1
93	Extremal lattices and the construction of lattice rules. Applied Mathematics and Computation, 2011, 217, 4397-4407.	1.4	1
94	The Construction of Cubature Formulae Using Continuation and Bifurcation Software. , 1990, , 319-333.		1
95	An interactive program to approximate double integrals. ACM SIGNUM Newsletter, 1997, 32, 2-8.	0.2	1
96	A minimum classification error based distance measure for template based speech recognition. , 0, , .		1
97	3. Approximating Integrals, Estimating Errors, and Giving the Wrong Solution for a Deceptively Easy Problem. , 2005, , 33-42.		0
98	Constructions of copy rules. AIP Conference Proceedings, 2007, , .	0.3	0
99	An adaptive approach to cube-based quasi-Monte Carlo integration on. Mathematics and Computers in Simulation, 2010, 80, 1104-1117.	2.4	0
100	Error handling in Fortran 2003. ACM SIGPLAN Fortran Forum, 2012, 31, 7-19.	0.5	0
101	The Analysis of Vertex Modified Lattice Rules in a Non-periodic Sobolev Space. , 2018, , 979-999.		0
102	Construction of Three-Dimensional Cubature Formulae with Points on Regular and Semi-Regular Polytopes. , 1987, , 153-163.		0