Jan Verschelde

List of Publications by Year
in descending order

52	1,539	516215	315357
papers	citations	16 h-index	38 g-index

53	53	53	463
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Algorithm 795. ACM Transactions on Mathematical Software, 1999, 25, 251-276.	1.6	439
2	Homotopies Exploiting Newton Polytopes for Solving Sparse Polynomial Systems. SIAM Journal on Numerical Analysis, 1994, 31, 915-930.	1.1	163
3	Numerical Decomposition of the Solution Sets of Polynomial Systems into Irreducible Components. SIAM Journal on Numerical Analysis, 2001, 38, 2022-2046.	1.1	105
4	Newton's method with deflation for isolated singularities of polynomial systems. Theoretical Computer Science, 2006, 359, 111-122.	0.5	105
5	Symmetric Functions Applied to Decomposing Solution Sets of Polynomial Systems. SIAM Journal on Numerical Analysis, 2002, 40, 2026-2046.	1.1	79
6	Numerical Homotopies to Compute Generic Points on Positive Dimensional Algebraic Sets. Journal of Complexity, 2000, 16, 572-602.	0.7	71
7	Advances in Polynomial Continuation for Solving Problems in Kinematics. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 262-268.	1.7	50
8	Polyhedral end games for polynomial continuation. Numerical Algorithms, 1998, 18, 91-108.	1.1	38
9	Homotopies for Intersecting Solution Components of Polynomial Systems. SIAM Journal on Numerical Analysis, 2004, 42, 1552-1571.	1.1	31
10	Higher-Order Deflation for Polynomial Systems With Isolated Singular Solutions. The IMA Volumes in Mathematics and Its Applications, 2008, , 79-97.	0.5	29
11	Symbolic homotopy construction. Applicable Algebra in Engineering, Communications and Computing, 1993, 4, 169-183.	0.3	28
12	Polynomial homotopy continuation with PHCpack. ACM Communications in Computer Algebra, 2011, 44, 217-220.	0.2	27
13	Numerical factorization of multivariate complex polynomials. Theoretical Computer Science, 2004, 315, 651-669.	0.5	25
14	The GBQ-Algorithm for Constructing Start Systems of Homotopies for Polynomial Systems. SIAM Journal on Numerical Analysis, 1993, 30, 583-594.	1.1	24
15	Pieri Homotopies for Problems in Enumerative Geometry Applied to Pole Placement in Linear Systems Control. SIAM Journal on Control and Optimization, 2000, 38, 1265-1287.	1.1	23
16	Symmetric homotopy construction. Journal of Computational and Applied Mathematics, 1994, 50, 575-592.	1.1	19
17	Numerical Irreducible Decomposition Using PHCpack. , 2003, , 109-129.		19
18	Numerical Evidence for a Conjecture in Real Algebraic Geometry. Experimental Mathematics, 2000, 9, 183-196.	0.5	14

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19	A Robust Numerical Path Tracking Algorithm for Polynomial Homotopy Continuation. SIAM Journal of Scientific Computing, 2020, 42, A3610-A3637.	1.3	14
20	Parallel Homotopy Algorithms to Solve Polynomial Systems. Lecture Notes in Computer Science, 2006, , 225-234.	1.0	13
21	Solving Polynomial Systems Equation by Equation. The IMA Volumes in Mathematics and Its Applications, 2008, , 133-152.	0.5	13
22	PHClab: A MATLAB/Octave Interface to PHCpack. The IMA Volumes in Mathematics and Its Applications, 2008, , 15-32.	0.5	13
23	An intrinsic homotopy for intersecting algebraic varieties. Journal of Complexity, 2005, 21, 593-608.	0.7	12
24	Decomposing solution sets of polynomial systems: a new parallel monodromy breakup algorithm. International Journal of Computational Science and Engineering, 2009, 4, 94.	0.4	12
25	Balancing the lifting values to improve the numerical stability of polyhedral homotopy continuation methods. Applied Mathematics and Computation, 2000, 114, 233-247.	1.4	11
26	Geometric completion of differential systems using numeric-symbolic continuation. SIGSAM Bulletin: A Quarterly Publication of the Special Interest Group on Symbolic & Algebraic Manipulation, 2002, 36, 1-17.	0.3	11
27	Computing Puiseux series for algebraic surfaces. , 2012, , .		11
28	Polyhedral Methods for Space Curves Exploiting Symmetry Applied to the Cyclic n-roots Problem. Lecture Notes in Computer Science, 2013, , 10-29.	1.0	11
29	A new start system for solving deficient polynomial systems using continuation. Applied Mathematics and Computation, 1991, 44, 225-239.	1.4	10
30	Polynomial homotopies on multicore workstations. , 2010, , .		10
31	Homotopies for solving polynomial systems within a bounded domain. Theoretical Computer Science, 1994, 133, 165-185.	0.5	9
32	Sweeping algebraic curves for singular solutions. Journal of Computational and Applied Mathematics, 2010, 234, 1228-1237.	1.1	9
33	Evaluating Polynomials in Several Variables and their Derivatives on a GPU Computing Processor. , 2012, , .		9
34	Toric Newton Method for Polynomial Homotopies. Journal of Symbolic Computation, 2000, 29, 777-793.	0.5	8
35	Interfacing with the Numerical Homotopy Algorithms in PHCpack. Lecture Notes in Computer Science, 2006, , 354-360.	1.0	8
36	Nonlinear reduction for solving deficient polynomial systems by continuation methods. Numerische Mathematik, 1992, 63, 263-282.	0.9	7

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37	Tropical algebraic geometry in Maple: A preprocessing algorithm for finding common factors for multivariate polynomials with approximate coefficients. Journal of Symbolic Computation, 2011, 46, 755-772.	0.5	6
38	Symbolic-numeric completion of differential systems by homotopy continuation. , 2005, , .		5
39	Orthogonalization on a General Purpose Graphics Processing Unit with Double Double and Quad Double Arithmetic. , 2013, , .		5
40	Accelerating polynomial homotopy continuation on a graphics processing unit with double double and quad double arithmetic. , 2015, , .		5
41	The method of Gaussâ€“Newton to compute power series solutions of polynomial homotopies. Linear Algebra and Its Applications, 2018, 542, 569-588.	0.4	5
42	Advances in Polynomial Continuation for Solving Problems in Kinematics. , 2002, , 481.		4
43	Solving schubert problems with Littlewood-Richardson homotopies. , 2010, , .		4
44	GPU Acceleration of Newton's Method for Large Systems of Polynomial Equations in Double Double and Quad Double Arithmetic. , 2014, , .		4
45	Tracking Many Solution Paths of a Polynomial Homotopy on a Graphics Processing Unit in Double Double and Quad Double Arithmetic. , 2015, , .		4
46	Parallel Implementation of a Subsystem-by-Subsystem Solver. 2008 22nd International Symposium on High Performance Computing Systems and Applications, 2008, , .	0.0	3
47	Parallel Software to Offset the Cost of Higher Precision. ACM SIGAda Ada Letters, 2021, 40, 59-64.	0.1	3
48	Robust Numerical Tracking of One Path of a Polynomial Homotopy on Parallel Shared Memory Computers. Lecture Notes in Computer Science, 2020, , 563-582.	1.0	3
49	Polynomial homotopy continuation on GPUs. ACM Communications in Computer Algebra, 2016, 49, 130-133.	0.2	2
50	Accelerated Polynomial Evaluation and Differentiation at Power Series in Multiple Double Precision. , 2021, , .		1
51	Computing All Space Curve Solutions of Polynomial Systems by Polyhedral Methods. Lecture Notes in Computer Science, 2016, , 73-86.	1.0	1
52	Sampling algebraic sets in local intrinsic coordinates. Computers and Mathematics With Applications, 2011, 62, 3706-3721.	1.4	0