Charles W Wampler

List of Publications by Year
in descending order

65 papers	2,239 citations	236833 25 h-index	302012 39 g-index
71 all docs	71 docs citations	71 times ranked	748 citing authors

#	Article	IF	Citations
1	Forward displacement analysis of general six-in-parallel sps (Stewart) platform manipulators using soma coordinates. Mechanism and Machine Theory, 1996, 31, 331-337.	2.7	155
2	Numerical Decomposition of the Solution Sets of Polynomial Systems into Irreducible Components. SIAM Journal on Numerical Analysis, 2001, 38, 2022-2046.	1.1	105
3	Adaptive Multiprecision Path Tracking. SIAM Journal on Numerical Analysis, 2008, 46, 722-746.	1.1	81
4	Symmetric Functions Applied to Decomposing Solution Sets of Polynomial Systems. SIAM Journal on Numerical Analysis, 2002, 40, 2026-2046.	1.1	79
5	Regeneration homotopies for solving systems of polynomials. Mathematics of Computation, 2010, 80, 345-377.	1.1	72
6	Numerical algebraic geometry and algebraic kinematics. Acta Numerica, 2011, 20, 469-567.	6.3	67
7	Solving the 6R inverse position problem using a generic-case solution methodology. Mechanism and Machine Theory, 1991, 26, 91-106.	2.7	65
8	Head injury criterion. IEEE Robotics and Automation Magazine, 2009, 16, 71-74.	2.2	61
9	Advances in Polynomial Continuation for Solving Problems in Kinematics. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 262-268.	1.7	50
10	Solving the Kinematics of Planar Mechanisms by Dixon Determinant and a Complex-Plane Formulation. Journal of Mechanical Design, Transactions of the ASME, 2001, 123, 382-387.	1.7	47
11	Isosingular Sets and Deflation. Foundations of Computational Mathematics, 2013, 13, 371-403.	1.5	47
12	A power series method for computing singular solutions to nonlinear analytic systems. Numerische Mathematik, 1992, 63, 391-409.	0.9	46
13	Mechanism mobility and a local dimension test. Mechanism and Machine Theory, 2011, 46, 1193-1206.	2.7	38
14	Bezout number calculations for multi-homogeneous polynomial systems. Applied Mathematics and Computation, 1992, 51, 143-157.	1.4	36
15	A Product-Decomposition Bound for Bezout Numbers. SIAM Journal on Numerical Analysis, 1995, 32, 1308-1325.	1.1	35
16	Computing singular solutions to nonlinear analytic systems. Numerische Mathematik, 1990, 58, 669-684.	0.9	33
17	Displacement Analysis of Spherical Mechanisms Having Three or Fewer Loops. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 93-100.	1.7	32
18	Computing singular solutions to polynomial systems. Advances in Applied Mathematics, 1992, 13, 305-327.	0.4	31

#	Article	IF	Citations
19	Homotopies for Intersecting Solution Components of Polynomial Systems. SIAM Journal on Numerical Analysis, 2004, 42, 1552-1571.	1.1	31
20	Regenerative cascade homotopies for solving polynomial systems. Applied Mathematics and Computation, 2011, 218, 1240-1246.	1.4	29
21	The Complete Solution of Altâ€"Burmester Synthesis Problems for Four-Bar Linkages. Journal of Mechanisms and Robotics, 2016, 8, .	1.5	28
22	Cell decomposition of almost smooth real algebraic surfaces. Numerical Algorithms, 2013, 63, 645-678.	1.1	27
23	Isotropic Coordinates, Circularity, and Bezout Numbers: Planar Kinematics From a New Perspective. , 1996, , .		27
24	Numerical factorization of multivariate complex polynomials. Theoretical Computer Science, 2004, 315, 651-669.	0.5	25
25	Software for Numerical Algebraic Geometry: A Paradigm and Progress Towards its Implementation. The IMA Volumes in Mathematics and Its Applications, 2008, , 1-14.	0.5	25
26	Multiple-priority impedance control. , 2011, , .		24
27	Solution of Polynomial Systems Derived from Differential Equations. Computing (Vienna/New York), 2006, 76, 1-10.	3.2	21
28	Decoupled torque control of tendon-driven fingers with tension management. International Journal of Robotics Research, 2013, 32, 247-258.	5.8	20
29	Numerical Irreducible Decomposition Using PHCpack. , 2003, , 109-129.		19
30	Geometric Design of Cylindric PRS Serial Chains. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 269-277.	1.7	18
31	Applied joint-space torque and stiffness control of tendon-driven fingers. , 2010, , .		17
32	A New Mobility Formula for Spatial Mechanisms. , 2007, , .		16
33	On a Rigid Body Subject to Point-Plane Constraints. Journal of Mechanical Design, Transactions of the ASME, 2006, 128, 151-158.	1.7	13
34	Computing the Branches, Singularity Trace, and Critical Points of Single Degree-of-Freedom, Closed-Loop Linkages. Journal of Mechanisms and Robotics, 2014, 6, .	1.5	13
35	Solving Polynomial Systems Equation by Equation. The IMA Volumes in Mathematics and Its Applications, 2008, , 133-152.	0.5	13
36	An intrinsic homotopy for intersecting algebraic varieties. Journal of Complexity, 2005, 21, 593-608.	0.7	12

#	Article	IF	Citations
37	An efficient start system for multi-homogeneous polynomial continuation. Numerische Mathematik, 1993, 66, 517-523.	0.9	11
38	Synthesis of three-revolute spatial chains for body guidance. Mechanism and Machine Theory, 2017, 110, 61-72.	2.7	11
39	Algorithm 976. ACM Transactions on Mathematical Software, 2017, 44, 1-30.	1.6	11
40	Displacement Analysis of Spherical Mechanisms Having Three or Fewer Loops. , 2002, , 1075.		10
41	Unification and extension of intersection algorithms in numerical algebraic geometry. Applied Mathematics and Computation, 2017, 293, 226-243.	1.4	10
42	Exceptional Sets and Fiber Products. Foundations of Computational Mathematics, 2008, 8, 171-196.	1.5	9
43	Numerical computation of the genus of an irreducible curve within an algebraic set. Journal of Pure and Applied Algebra, 2011, 215, 1844-1851.	0.3	9
44	Mechanism Branches, Turning Curves, and Critical Points. , 2012, , .		9
45	Comparison of probabilistic algorithms for analyzing the components of an affine algebraic variety. Applied Mathematics and Computation, 2014, 231, 619-633.	1.4	9
46	Algebraic -actions and the inverse kinematics of a general 6R manipulator. Applied Mathematics and Computation, 2010, 216, 2512-2524.	1.4	7
47	The Inverse Function Approach to Kinematic Control of Redundant Manipulators. , 1988, , .		6
48	Object impedance control using a closed-chain task definition. , 2010, , .		6
49	Applying Numerical Algebraic Geometry to Kinematics. , 2013, , 125-159.		6
50	Numerically intersecting algebraic varieties via witness sets. Applied Mathematics and Computation, 2013, 219, 5730-5742.	1.4	5
51	On Computing a Cell Decomposition of a Real Surface Containing Infinitely Many Singularities. Lecture Notes in Computer Science, 2014, , 246-252.	1.0	5
52	Advances in Polynomial Continuation for Solving Problems in Kinematics. , 2002, , 481.		4
53	Singular foci of planar linkages. Mechanism and Machine Theory, 2004, 39, 1123-1138.	2.7	4
54	Smoothing Methods for Numerical Differentiation to Identify Electrochemical Reactions from Open-Circuit-Potential Data. Journal of the Electrochemical Society, 2018, 165, A4000-A4011.	1.3	3

#	Article	IF	Citations
55	Development of an Electro-Rheological Fluidic Actuator and Haptic Systems for Vehicular Instrument Control. , 2003, , 759.		2
56	The geometry of singular foci of planar linkages. Mechanism and Machine Theory, 2004, 39, 1139-1153.	2.7	2
57	A numerical algebraic geometry approach to regional stability analysis of polynomial systems. , 2013, , .		2
58	Singularity Traces of Single Degree-of-Freedom Planar Linkages That Include Prismatic and Revolute Joints. Journal of Mechanisms and Robotics, 2016, 8, .	1.5	2
59	Exceptional Stewart--Gough Platforms, Segre Embeddings, and the Special Euclidean Group. SIAM Journal on Applied Algebra and Geometry, 2018, 2, 179-205.	0.9	2
60	A General Method for Constructing Planar Cognate Mechanisms. Journal of Mechanisms and Robotics, 2021, 13, .	1.5	2
61	Using the Singularity Trace to Understand Linkage Motion Characteristics. , 2013, , .		2
62	Homotopies for Connected Components of Algebraic Sets with Application to Computing Critical Sets. Lecture Notes in Computer Science, 2017, , 107-120.	1.0	2
63	Type Synthesis of Mechanisms for Variable Valve Actuation. , 1993, , .		1
64	Locating N Points of a Rigid Body on N Given Planes. , 2004, , 513.		1
65	Advances in the Theory of Planar Curve Cognates. Journal of Mechanisms and Robotics, 0, , 1-12.	1.5	0