Xiang Zhang

List of Publications by Year
in descending order

118 papers	1,879 citations	257357 24 h-index	345118 36 g-index
119 all docs	119 docs citations	119 times ranked	449 citing authors

#	Article	IF	Citations
1	Limit Cycles Near a Centre and a Heteroclinic Loop in a Near–Hamiltonian Differential System. Journal of Dynamics and Differential Equations, 2024, 36, 405-420.	1.0	0
2	Global Stability and Canard Explosions of the Predator-Prey Model with the Sigmoid Functional Response. SIAM Journal on Applied Mathematics, 2022, 82, 976-1000.	0.8	2
3	A survey on algebraic and explicit non-algebraic limit cycles in planar differential systems. , 2021, 39, 48-61.		4
4	Limit cycles and global dynamics of planar piecewise linear refracting systems of focus–focus type. Nonlinear Analysis: Real World Applications, 2021, 58, 103228.	0.9	8
5	Eighteen limit cycles around two symmetric foci in a cubic planar switching polynomial system. Journal of Differential Equations, 2021, 275, 939-959.	1.1	11
6	Complex planar Hamiltonian systems: Linearization and dynamics. Discrete and Continuous Dynamical Systems, 2021, 41, 3295.	0.5	1
7	Global Dynamical Behavior of FitzHugh–Nagumo Systems with Invariant Algebraic Surfaces. Qualitative Theory of Dynamical Systems, 2021, 20, 1.	0.8	0
8	The Number of Limit Cycles Bifurcating from a Degenerate Center of Piecewise Smooth Differential Systems. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2021, 31, 2150067.	0.7	1
9	Traveling pulses in a coupled FitzHugh–Nagumo equation. Physica D: Nonlinear Phenomena, 2021, 418, 132848.	1.3	9
10	Dynamics of the predator–prey model with the Sigmoid functional response. Studies in Applied Mathematics, 2021, 147, 300-318.	1.1	13
11	Polynomial differential equations over the quaternions. Journal of Differential Equations, 2021, 282, 566-595.	1.1	3
12	Regularity and convergence of local first integrals of analytic differential systems. Journal of Differential Equations, 2021, 294, 40-59.	1.1	1
13	On limit cycles near two centres and a double homoclinic loop in Liénard differential system. Journal of Differential Equations, 2021, 300, 226-251.	1.1	2
14	The Period Function of Hamiltonian Systems with Separable Variables. Journal of Dynamics and Differential Equations, 2020, 32, 741-767.	1.0	8
15	Limit cycles bifurcating from periodic orbits near a centre and a homoclinic loop with a nilpotent singularity of Hamiltonian systems. Nonlinearity, 2020, 33, 2723-2754.	0.6	8
16	Homoclinic, heteroclinic and periodic orbits of singularly perturbed systems. Science China Mathematics, 2019, 62, 1687-1704.	0.8	5
17	Relaxation oscillations in a slow–fast modified Leslie–Gower model. Applied Mathematics Letters, 2019, 87, 147-153.	1.5	20
18	Limit cycles of polynomial Liénard systems via the averaging method. Nonlinear Analysis: Real World Applications, 2019, 45, 650-667.	0.9	7

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19	Limit cycles created by piecewise linear centers. Chaos, 2019, 29, 053116.	1.0	11
20	Canards, heteroclinic and homoclinic orbits for a slow-fast predator-prey model of generalized Holling type III. Journal of Differential Equations, 2019, 267, 3397-3441.	1.1	49
21	Limit Cycles for Discontinuous Planar Piecewise Linear Differential Systems Separated by an Algebraic Curve. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2019, 29, 1950017.	0.7	19
22	Global dynamics of planar quasi-homogeneous differential systems. Nonlinear Analysis: Real World Applications, 2019, 49, 90-110.	0.9	0
23	The non-existence, existence and uniqueness of limit cycles for quadratic polynomial differential systems. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2019, 149, 1-14.	0.8	5
24	Preface with a Biography of Professor Jiaqi Mo. Qualitative Theory of Dynamical Systems, 2018, 17, 1-6.	0.8	1
25	Stability Loss Delay and Smoothness of the Return Map in Slow-Fast Systems. SIAM Journal on Applied Dynamical Systems, 2018, 17, 788-822.	0.7	27
26	Modeling and sliding mode predictive control of the ultra-supercritical boiler-turbine system with uncertainties and input constraints. ISA Transactions, 2018, 76, 43-56.	3.1	33
27	Averaging Theory of Arbitrary Order for Piecewise Smooth Differential Systems and Its Application. Journal of Dynamics and Differential Equations, 2018, 30, 55-79.	1.0	21
28	Bifurcation theory for finitely smooth planar autonomous differential systems. Journal of Differential Equations, 2018, 264, 3596-3618.	1.1	70
29	Quadratic differential systems with complex conjugate invariant lines meeting at a finite point. Journal of Differential Equations, 2018, 265, 3650-3684.	1.1	8
30	Limit cycles for discontinuous planar piecewise linear differential systems separated by one straight line and having a center. Journal of Mathematical Analysis and Applications, 2018, 467, 537-549.	0.5	40
31	Dynamics of a nonlinear equation modelling the capillary rise. Physica D: Nonlinear Phenomena, 2018, 384-385, 34-38.	1.3	5
32	Dynamics of Some Three-Dimensional Lotkaâ€"Volterra Systems. Mediterranean Journal of Mathematics, 2017, 14, 1.	0.4	4
33	Integrability of Dynamical Systems: Algebra and Analysis. Developments in Mathematics, 2017, , .	0.2	39
34	Limit cycles of the classical LiÃ©nard differential systems: A survey on the Lins Neto, de Melo and Pughâ€™s conjecture. , 2017, 35, 286-299.		7
35	Generalized involutive symmetry and its application in integrability of differential systems. Zeitschrift Fur Angewandte Mathematik Und Physik, 2017, 68, 1.	0.7	3
36	A note on local integrability of differential systems. Journal of Differential Equations, 2017, 263, 7309-7321.	1.1	6

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37	Liouvillian integrability of polynomial differential systems. Transactions of the American Mathematical Society, 2016, 368, 607-620.	0.5	22
38	Limit cycles of linear vector fields on manifolds. Nonlinearity, 2016, 29, 3120-3131.	0.6	1
39	Normal form and limit cycle bifurcation of piecewise smooth differential systems with a center. Journal of Differential Equations, 2016, 261, 1399-1428.	1.1	8
40	The number of polynomial solutions of polynomial Riccati equations. Journal of Differential Equations, 2016, 261, 5071-5093.	1.1	15
41	Liouvillian Integrability Versus Darboux Polynomials. Qualitative Theory of Dynamical Systems, 2016, 15, 503-515.	0.8	5
42	Averaging methods of arbitrary order, periodic solutions and integrability. Journal of Differential Equations, 2016, 260, 4130-4156.	1.1	25
43	Varieties and analytic normalizations of partially integrable systems. Journal of Differential Equations, 2016, 260, 6855-6871.	1.1	7
44	Equivalence of the Melnikov Function Method and the Averaging Method. Qualitative Theory of Dynamical Systems, 2016, 15, 471-479.	0.8	46
45	Integrability of vector fields versus inverse Jacobian multipliers and normalizers. Discrete and Continuous Dynamical Systems, 2016, 36, 6539-6555.	0.5	1
46	Vector fields with homogeneous nonlinearities and many limit cycles. Journal of Differential Equations, 2015, 258, 3286-3303.	1.1	12
47	The Embedding Flow of 3-Dimensional Locally Hyperbolic C^∞ Diffeomorphisms. Journal of Dynamics and Differential Equations, 2015, 27, 29-54.	1.0	1
48	On polynomial integrability of the Euler equations on so(4). Journal of Geometry and Physics, 2015, 96, 36-41.	0.7	8
49	The Completely Integrable Differential Systems are Essentially Linear Differential Systems. Journal of Nonlinear Science, 2015, 25, 815-826.	1.0	13
50	Center of planar quintic quasi--homogeneous polynomial differential systems. Discrete and Continuous Dynamical Systems, 2015, 35, 2177-2191.	0.5	13
51	Limit cycle bifurcations near generalized homoclinic loop in piecewise smooth differential systems. Discrete and Continuous Dynamical Systems, 2015, 36, 2803-2825.	0.5	16
52	On the Limit Cycles of Linear Differential Systems with Homogeneous Nonlinearities. Canadian Mathematical Bulletin, 2015, 58, 818-823.	0.3	5
53	Global C^∞ Integrability of Cubic–Linear Polynomial Differential Systems. Qualitative Theory of Dynamical Systems, 2014, 13, 73-87.	0.8	3
54	Darboux integrability and algebraic limit cycles for a class of polynomial differential systems. Science China Mathematics, 2014, 57, 775-794.	0.8	2

#	ARTICLE	IF	CITATIONS
55	Local Darboux first integrals of analytic differential systems. Bulletin Des Sciences Mathematiques, 2014, 138, 71-88.	0.5	5
56	Nonuniform dichotomy spectrum and normal forms for nonautonomous differential systems. Journal of Functional Analysis, 2014, 267, 1889-1916.	0.7	13
57	Varieties of local integrability of analytic differential systems and their applications. Journal of Differential Equations, 2014, 257, 3079-3101.	1.1	22
58	On the Limit Cycles of the Polynomial Differential Systems with a Linear Node and Homogeneous Nonlinearities. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2014, 24, 1450065.	0.7	7
59	Inverse Jacobian multipliers and Hopf bifurcation on center manifolds. Journal of Differential Equations, 2014, 256, 3278-3299.	1.1	5
60	Analytic normalization of analytically integrable differential systems near a periodic orbit. Journal of Differential Equations, 2014, 256, 3552-3567.	1.1	2
61	Study of a transition in the qualitative behavior of a simple oscillator with Coulomb friction. Nonlinear Dynamics, 2013, 74, 517-531.	2.7	12
62	ON THE SLIDING BIFURCATION OF A CLASS OF PLANAR FILIPPOV SYSTEMS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2013, 23, 1350040.	0.7	15
63	DYNAMICS OF THE MUTHUSWAMYâ€"CHUA SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2013, 23, 1350136.	0.7	9
64	The Sliding Bifurcations in Planar Piecewise Smooth Differential Systems. Journal of Dynamics and Differential Equations, 2013, 25, 1001-1026.	1.0	24
65	Analytic integrable systems: Analytic normalization and embedding flows. Journal of Differential Equations, 2013, 254, 3000-3022.	1.1	18
66	Bifurcation of limit cycles from generalized homoclinic loops in planar piecewise smooth systems. Journal of Differential Equations, 2013, 255, 4403-4436.	1.1	42
67	Comment on â€œOn the polynomial integrability of the Kirchoff equations, Physica D 241 (2012) 1417â€"1420â€. Physica D: Nonlinear Phenomena, 2013, 250, 47-51.	1.3	1
68	Global dynamics of the generalized Lorenz systems having invariant algebraic surfaces. Physica D: Nonlinear Phenomena, 2013, 244, 25-35.	1.3	19
69	ALGEBRAIC ASPECTS OF INTEGRABILITY FOR POLYNOMIAL DIFFERENTIAL SYSTEMS. Journal of Applied Analysis and Computation, 2013, 3, 51-69.	0.2	2
70	On the Darboux Integrability of Polynomial Differential Systems. Qualitative Theory of Dynamical Systems, 2012, 11, 129-144.	0.8	44
71	Darboux polynomials and rational first integrals of the generalized Lorenz systems. Bulletin Des Sciences Mathematiques, 2012, 136, 291-308.	0.5	20
72	Generalized rational first integrals of analytic differential systems. Journal of Differential Equations, 2011, 251, 2770-2788.	1.1	20

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73	The 16th Hilbert problem on algebraic limit cycles. Journal of Differential Equations, 2011, 251, 1778-1789.	1.1	27
74	Global Structure of Quaternion Polynomial Differential Equations. Communications in Mathematical Physics, 2011, 303, 301-316.	1.0	35
75	The hyperelliptic limit cycles of the Liénard systems. Journal of Mathematical Analysis and Applications, 2011, 376, 535-539.	0.5	12
76	On the Hopf-zero bifurcation of the Michelson system. Nonlinear Analysis: Real World Applications, 2011, 12, 1650-1653.	0.9	22
77	The embedding flows of `<mml:math altimg="si1.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/`	1.1	11
78	Heteroclinic orbits for a class of Hamiltonian systems on Riemannian manifolds. Discrete and Continuous Dynamical Systems, 2011, 29, 1097-1111.	0.5	0
79	Limit Cycles for a Class of Third-Order Differential Equations. Rocky Mountain Journal of Mathematics, 2010, 40, .	0.2	6
80	Integrable Natural Hamiltonian Systems on the Suspensions of Toric Automorphism. Qualitative Theory of Dynamical Systems, 2010, 9, 301-318.	0.8	1
81	Embedding smooth diffeomorphisms in flows. Journal of Differential Equations, 2010, 248, 1603-1616.	1.1	6
82	Rational first integrals in the Darboux theory of integrability in `<mml:math altimg="si1.gif" display="inline" 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/co`	0.5	40
83	Analytic Normalizations of Analytic Integrable Systems. , 2009, , .		0
84	Embedding diffeomorphisms in flows in Banach spaces. Ergodic Theory and Dynamical Systems, 2009, 29, 1349-1367.	0.4	6
85	Darboux theory of integrability in `<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:msup><mml:mi mathvariant="double-struck">C</mml:mi><mml:mi>n</mml:mi></mml:msup></mml:math>` taking into account the multiplicity. Journal of Differential Equations, 2009, 246, 541-551.	1.1	90
86	Integrable Hamiltonian systems with positive topological entropy. Bulletin Des Sciences Mathematiques, 2009, 133, 837-847.	0.5	2
87	Darboux theory of integrability for polynomial vector fields in `<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" display="inline" overflow="scroll"><mml:msup><mml:mi mathvariant="double-struck">R</mml:mi><mml:mi>n</mml:mi></mml:msup></mml:math>` taking into account the multiplicity at infinity. Bulletin Des Sciences Mathematiques, 2009, 133, 765-778.	0.5	56
88	One-dimensional quaternion homogeneous polynomial differential equations. Journal of Mathematical Physics, 2009, 50, 082705.	0.5	26
89	Hopf bifurcation in higher dimensional differential systems via the averaging method. Pacific Journal of Mathematics, 2009, 240, 321-341.	0.2	25
90	Analytic normalization of analytic integrable systems and the embedding flows. Journal of Differential Equations, 2008, 244, 1080-1092.	1.1	37

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91	First integrals and normal forms for germs of analytic vector fields. Journal of Differential Equations, 2008, 245, 1167-1184.	1.1	16
92	On the algebraic limit cycles of LiÃ©nard systems. Nonlinearity, 2008, 21, 2011-2022.	0.6	14
93	THE CHEN SYSTEM HAVING AN INVARIANT ALGEBRAIC SURFACE. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2008, 18, 3753-3758.	0.7	12
94	The topological structure of the Rabinovich system having an invariant algebraic surface. Nonlinearity, 2008, 21, 211-220.	0.6	19
95	DARBOUX POLYNOMIALS AND ALGEBRAIC INTEGRABILITY OF THE CHEN SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2007, 17, 2739-2748.	0.7	23
96	Dynamics of the Lorenz system having an invariant algebraic surface. Journal of Mathematical Physics, 2007, 48, 082702.	0.5	23
97	Orthogonal separable Hamiltonian systems on T 2. Science in China Series A: Mathematics, 2007, 50, 1735-1747.	0.5	2
98	Planar analytic systems having locally analytic first integrals at an isolated singular point. Nonlinearity, 2004, 17, 791-801.	0.6	2
99	EXPONENTIAL FACTORS AND DARBOUX INTEGRABILITY FOR THE RÃ–SSLER SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2004, 14, 4275-4283.	0.7	9
100	Melnikov functions for period annulus, nondegenerate centers, heteroclinic and homoclinic cycles. Pacific Journal of Mathematics, 2004, 213, 49-77.	0.2	16
101	Invariant algebraic curves and rational first integrals of holomorphic foliations in CP(2). Science in China Series A: Mathematics, 2003, 46, 271.	0.5	6
102	Existence of piecewise linear differential systems with exactly n limit cycles for all. Nonlinear Analysis: Theory, Methods & Applications, 2003, 54, 977-994.	0.6	20
103	Local first integrals for systems of differential equations. Journal of Physics A, 2003, 36, 12243-12253.	1.6	13
104	Invariant algebraic surfaces of the Rabinovich system. Journal of Physics A, 2003, 36, 499-516.	1.6	20
105	Exponential factors and Darbouxian first integrals of the Lorenz system. Journal of Mathematical Physics, 2002, 43, 4987.	0.5	15
106	Invariant algebraic surfaces of the Lorenz system. Journal of Mathematical Physics, 2002, 43, 1622-1645.	0.5	76
107	DARBOUX INTEGRABILITY FOR THE RÃ–SSLER SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2002, 12, 421-428.	0.7	18
108	Polynomial first integrals for quasi-homogeneous polynomial differential systems. Nonlinearity, 2002, 15, 1269-1280.	0.6	55

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109	Darboux integrability and invariant algebraic curves for planar polynomial systems. Journal of Physics A, 2002, 35, 2457-2476.	1.6	45
110	Invariant hyperplanes and Darboux integrability of polynomial vector fields. Journal of Physics A, 2002, 35, 9931-9941.	1.6	4
111	Extension of Floquet's theory to nonlinear periodic differential systems and embedding diffeomorphisms in differential flows. American Journal of Mathematics, 2002, 124, 107-127.	0.5	26
112	Darboux integrability of real polynomial vector fields on regular algebraic hypersurfaces. Rendiconti Del Circolo Matematico Di Palermo, 2002, 51, 109-126.	0.6	17
113	On the Limit Cycles of Quadratic Differential Systems. Acta Mathematica Sinica, English Series, 2002, 18, 803-816.	0.2	1
114	On the differentiability of first integrals of two dimensional flows. Proceedings of the American Mathematical Society, 2002, 130, 2079-2088.	0.4	27
115	Polynomial First Integrals of Quadratic Systems. Rocky Mountain Journal of Mathematics, 2001, 31, 1317.	0.2	8
116	Planar analytic vector fields with generalized rational first integrals. Bulletin Des Sciences Mathematiques, 2001, 125, 341-361.	0.5	14
117	Invariant algebraic surfaces of the Rikitake system. Journal of Physics A, 2000, 33, 7613-7635.	1.6	39
118	Coexistence of chaotic attractor and unstable limit cycles in a 3D dynamical system. Open Research Europe, 0, 1, 50.	2.0	3