# Xiang Zhang

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/93080/publications.pdf

Version: 2024-02-01

| 118 | 1,879 | 257357 | 345118 |
|---|---|---|---|
| papers | citations | 24 h-index | 36 g-index |

| 119 | 119 | 119 | 449 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | 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 |
| 2 | Invariant algebraic surfaces of the Lorenz system. Journal of Mathematical Physics, 2002, 43, 1622-1645. | 0.5 | 76 |
| 3 | Bifurcation theory for finitely smooth planar autonomous differential systems. Journal of Differential Equations, 2018, 264, 3596-3618. | 1.1 | 70 |
| 4 | 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 |
| 5 | Polynomial first integrals for quasi-homogeneous polynomial differential systems. Nonlinearity, 2002, 15, 1269-1280. | 0.6 | 55 |
| 6 | 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 |
| 7 | Equivalence of the Melnikov Function Method and the Averaging Method. Qualitative Theory of Dynamical Systems, 2016, 15, 471-479. | 0.8 | 46 |
| 8 | Darboux integrability and invariant algebraic curves for planar polynomial systems. Journal of Physics A, 2002, 35, 2457-2476. | 1.6 | 45 |
| 9 | On the Darboux Integrability of Polynomial Differential Systems. Qualitative Theory of Dynamical Systems, 2012, 11, 129-144. | 0.8 | 44 |
| 10 | Bifurcation of limit cycles from generalized homoclinic loops in planar piecewise smooth systems. Journal of Differential Equations, 2013, 255, 4403-4436. | 1.1 | 42 |
| 11 | 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 |
| 12 | 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 |
| 13 | Invariant algebraic surfaces of the Rikitake system. Journal of Physics A, 2000, 33, 7613-7635. | 1.6 | 39 |
| 14 | Integrability of Dynamical Systems: Algebra and Analysis. Developments in Mathematics, 2017, , . | 0.2 | 39 |
| 15 | Analytic normalization of analytic integrable systems and the embedding flows. Journal of Differential Equations, 2008, 244, 1080-1092. | 1.1 | 37 |
| 16 | Global Structure of Quaternion Polynomial Differential Equations. Communications in Mathematical Physics, 2011, 303, 301-316. | 1.0 | 35 |
| 17 | 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 |
| 18 | The 16th Hilbert problem on algebraic limit cycles. Journal of Differential Equations, 2011, 251, 1778-1789. | 1.1 | 27 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | 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 |
| 20 | On the differentiability of first integrals of two dimensional flows. Proceedings of the American Mathematical Society, 2002, 130, 2079-2088. | 0.4 | 27 |
| 21 | 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 |
| 22 | One-dimensional quaternion homogeneous polynomial differential equations. Journal of Mathematical Physics, 2009, 50, 082705. | 0.5 | 26 |
| 23 | Averaging methods of arbitrary order, periodic solutions and integrability. Journal of Differential Equations, 2016, 260, 4130-4156. | 1.1 | 25 |
| 24 | Hopf bifurcation in higher dimensional differential systems via the averaging method. Pacific Journal of Mathematics, 2009, 240, 321-341. | 0.2 | 25 |
| 25 | The Sliding Bifurcations in Planar Piecewise Smooth Differential Systems. Journal of Dynamics and Differential Equations, 2013, 25, 1001-1026. | 1.0 | 24 |
| 26 | 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 |
| 27 | Dynamics of the Lorenz system having an invariant algebraic surface. Journal of Mathematical Physics, 2007, 48, 082702. | 0.5 | 23 |
| 28 | On the Hopf-zero bifurcation of the Michelson system. Nonlinear Analysis: Real World Applications, 2011, 12, 1650-1653. | 0.9 | 22 |
| 29 | Varieties of local integrability of analytic differential systems and their applications. Journal of Differential Equations, 2014, 257, 3079-3101. | 1.1 | 22 |
| 30 | Liouvillian integrability of polynomial differential systems. Transactions of the American Mathematical Society, 2016, 368, 607-620. | 0.5 | 22 |
| 31 | 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 |
| 32 | 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 |
| 33 | Invariant algebraic surfaces of the Rabinovich system. Journal of Physics A, 2003, 36, 499-516. | 1.6 | 20 |
| 34 | Generalized rational first integrals of analytic differential systems. Journal of Differential Equations, 2011, 251, 2770-2788. | 1.1 | 20 |
| 35 | Darboux polynomials and rational first integrals of the generalized Lorenz systems. Bulletin Des Sciences Mathematiques, 2012, 136, 291-308. | 0.5 | 20 |
| 36 | Relaxation oscillations in a slowâ€“fast modified Leslieâ€“Gower model. Applied Mathematics Letters, 2019, 87, 147-153. | 1.5 | 20 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | The topological structure of the Rabinovich system having an invariant algebraic surface. Nonlinearity, 2008, 21, 211-220. | 0.6 | 19 |
| 38 | Global dynamics of the generalized Lorenz systems having invariant algebraic surfaces. Physica D: Nonlinear Phenomena, 2013, 244, 25-35. | 1.3 | 19 |
| 39 | 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 |
| 40 | 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 |
| 41 | Analytic integrable systems: Analytic normalization and embedding flows. Journal of Differential Equations, 2013, 254, 3000-3022. | 1.1 | 18 |
| 42 | Darboux integrability of real polynomial vector fields on regular algebraic hypersurfaces. Rendiconti Del Circolo Matematico Di Palermo, 2002, 51, 109-126. | 0.6 | 17 |
| 43 | First integrals and normal forms for germs of analytic vector fields. Journal of Differential Equations, 2008, 245, 1167-1184. | 1.1 | 16 |
| 44 | Melnikov functions for period annulus, nondegenerate centers, heteroclinic and homoclinic cycles. Pacific Journal of Mathematics, 2004, 213, 49-77. | 0.2 | 16 |
| 45 | Limit cycle bifurcations near generalized homoclinic loop in piecewise smooth differential systems. Discrete and Continuous Dynamical Systems, 2015, 36, 2803-2825. | 0.5 | 16 |
| 46 | Exponential factors and Darbouxian first integrals of the Lorenz system. Journal of Mathematical Physics, 2002, 43, 4987. | 0.5 | 15 |
| 47 | 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 |
| 48 | The number of polynomial solutions of polynomial Riccati equations. Journal of Differential Equations, 2016, 261, 5071-5093. | 1.1 | 15 |
| 49 | Planar analytic vector fields with generalized rational first integrals. Bulletin Des Sciences Mathematiques, 2001, 125, 341-361. | 0.5 | 14 |
| 50 | On the algebraic limit cycles of LiÃ©nard systems. Nonlinearity, 2008, 21, 2011-2022. | 0.6 | 14 |
| 51 | Local first integrals for systems of differential equations. Journal of Physics A, 2003, 36, 12243-12253. | 1.6 | 13 |
| 52 | Nonuniform dichotomy spectrum and normal forms for nonautonomous differential systems. Journal of Functional Analysis, 2014, 267, 1889-1916. | 0.7 | 13 |
| 53 | The Completely Integrable Differential Systems are Essentially Linear Differential Systems. Journal of Nonlinear Science, 2015, 25, 815-826. | 1.0 | 13 |
| 54 | Dynamics of the predatorâ€“prey model with the Sigmoid functional response. Studies in Applied Mathematics, 2021, 147, 300-318. | 1.1 | 13 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Center of planar quintic quasi--homogeneous polynomial differential systems. Discrete and Continuous Dynamical Systems, 2015, 35, 2177-2191. | 0.5 | 13 |
| 56 | 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 |
| 57 | The hyperelliptic limit cycles of the LiÃ©nard systems. Journal of Mathematical Analysis and Applications, 2011, 376, 535-539. | 0.5 | 12 |
| 58 | Study of a transition in the qualitative behavior of a simple oscillator with Coulomb friction. Nonlinear Dynamics, 2013, 74, 517-531. | 2.7 | 12 |
| 59 | Vector fields with homogeneous nonlinearities and many limit cycles. Journal of Differential Equations, 2015, 258, 3286-3303. | 1.1 | 12 |
| 60 | 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/x | 1.1 | 11 |
| 61 | Limit cycles created by piecewise linear centers. Chaos, 2019, 29, 053116. | 1.0 | 11 |
| 62 | 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 |
| 63 | 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 |
| 64 | DYNAMICS OF THE MUTHUSWAMYâ€“CHUA SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2013, 23, 1350136. | 0.7 | 9 |
| 65 | Traveling pulses in a coupled FitzHughâ€“Nagumo equation. Physica D: Nonlinear Phenomena, 2021, 418, 132848. | 1.3 | 9 |
| 66 | Polynomial First Integrals of Quadratic Systems. Rocky Mountain Journal of Mathematics, 2001, 31, 1317. | 0.2 | 8 |
| 67 | On polynomial integrability of the Euler equations on so(4). Journal of Geometry and Physics, 2015, 96, 36-41. | 0.7 | 8 |
| 68 | 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 |
| 69 | Quadratic differential systems with complex conjugate invariant lines meeting at a finite point. Journal of Differential Equations, 2018, 265, 3650-3684. | 1.1 | 8 |
| 70 | The Period Function of Hamiltonian Systems with Separable Variables. Journal of Dynamics and Differential Equations, 2020, 32, 741-767. | 1.0 | 8 |
| 71 | Limit cycles and global dynamics of planar piecewise linear refracting systems of focusâ€“focus type. Nonlinear Analysis: Real World Applications, 2021, 58, 103228. | 0.9 | 8 |
| 72 | 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 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | 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 |
| 74 | Varieties and analytic normalizations of partially integrable systems. Journal of Differential Equations, 2016, 260, 6855-6871. | 1.1 | 7 |
| 75 | 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 |
| 76 | Limit cycles of polynomial LiÃ©nard systems via the averaging method. Nonlinear Analysis: Real World Applications, 2019, 45, 650-667. | 0.9 | 7 |
| 77 | 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 |
| 78 | Embedding diffeomorphisms in flows in Banach spaces. Ergodic Theory and Dynamical Systems, 2009, 29, 1349-1367. | 0.4 | 6 |
| 79 | Limit Cycles for a Class of Third-Order Differential Equations. Rocky Mountain Journal of Mathematics, 2010, 40, . | 0.2 | 6 |
| 80 | Embedding smooth diffeomorphisms in flows. Journal of Differential Equations, 2010, 248, 1603-1616. | 1.1 | 6 |
| 81 | A note on local integrability of differential systems. Journal of Differential Equations, 2017, 263, 7309-7321. | 1.1 | 6 |
| 82 | Local Darboux first integrals of analytic differential systems. Bulletin Des Sciences Mathematiques, 2014, 138, 71-88. | 0.5 | 5 |
| 83 | Inverse Jacobian multipliers and Hopf bifurcation on center manifolds. Journal of Differential Equations, 2014, 256, 3278-3299. | 1.1 | 5 |
| 84 | Liouvillian Integrability Versus Darboux Polynomials. Qualitative Theory of Dynamical Systems, 2016, 15, 503-515. | 0.8 | 5 |
| 85 | Dynamics of a nonlinear equation modelling the capillary rise. Physica D: Nonlinear Phenomena, 2018, 384-385, 34-38. | 1.3 | 5 |
| 86 | Homoclinic, heteroclinic and periodic orbits of singularly perturbed systems. Science China Mathematics, 2019, 62, 1687-1704. | 0.8 | 5 |
| 87 | 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 |
| 88 | On the Limit Cycles of Linear Differential Systems with Homogeneous Nonlinearities. Canadian Mathematical Bulletin, 2015, 58, 818-823. | 0.3 | 5 |
| 89 | Invariant hyperplanes and Darboux integrability of polynomial vector fields. Journal of Physics A, 2002, 35, 9931-9941. | 1.6 | 4 |
| 90 | Dynamics of Some Three-Dimensional Lotkaâ€“Volterra Systems. Mediterranean Journal of Mathematics, 2017, 14, 1. | 0.4 | 4 |

| # | Article | IF | Citations |
|---|---|---|---|
| 91 | A survey on algebraic and explicit non-algebraic limit cycles in planar differential systems. , 2021, 39, 48-61. | | 4 |
| 92 | Global $${varvec{C}}^{varvec{infty }}$$ C â^ž Integrability of Cubicâ€“Linear Polynomial Differential Systems. Qualitative Theory of Dynamical Systems, 2014, 13, 73-87. | 0.8 | 3 |
| 93 | Generalized involutive symmetry and its application in integrability of differential systems. Zeitschrift Fur Angewandte Mathematik Und Physik, 2017, 68, 1. | 0.7 | 3 |
| 94 | Polynomial differential equations over the quaternions. Journal of Differential Equations, 2021, 282, 566-595. | 1.1 | 3 |
| 95 | Coexistence of chaotic attractor and unstable limit cycles in a 3D dynamical system. Open Research Europe, 0, 1, 50. | 2.0 | 3 |
| 96 | Planar analytic systems having locally analytic first integrals at an isolated singular point. Nonlinearity, 2004, 17, 791-801. | 0.6 | 2 |
| 97 | Orthogonal separable Hamiltonian systems on T 2. Science in China Series A: Mathematics, 2007, 50, 1735-1747. | 0.5 | 2 |
| 98 | Integrable Hamiltonian systems with positive topological entropy. Bulletin Des Sciences Mathematiques, 2009, 133, 837-847. | 0.5 | 2 |
| 99 | Darboux integrability and algebraic limit cycles for a class of polynomial differential systems. Science China Mathematics, 2014, 57, 775-794. | 0.8 | 2 |
| 100 | Analytic normalization of analytically integrable differential systems near a periodic orbit. Journal of Differential Equations, 2014, 256, 3552-3567. | 1.1 | 2 |
| 101 | On limit cycles near two centres and a double homoclinic loop in LiÃ©nard differential system. Journal of Differential Equations, 2021, 300, 226-251. | 1.1 | 2 |
| 102 | ALGEBRAIC ASPECTS OF INTEGRABILITY FOR POLYNOMIAL DIFFERENTIAL SYSTEMS. Journal of Applied Analysis and Computation, 2013, 3, 51-69. | 0.2 | 2 |
| 103 | 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 |
| 104 | On the Limit Cycles of Quadratic Differential Systems. Acta Mathematica Sinica, English Series, 2002, 18, 803-816. | 0.2 | 1 |
| 105 | Integrable Natural Hamiltonian Systems on the Suspensions of Toric Automorphism. Qualitative Theory of Dynamical Systems, 2010, 9, 301-318. | 0.8 | 1 |
| 106 | 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 |
| 107 | The Embedding Flow of 3-Dimensional Locally Hyperbolic $$C^infty $$ C â^ž Diffeomorphisms. Journal of Dynamics and Differential Equations, 2015, 27, 29-54. | 1.0 | 1 |
| 108 | Limit cycles of linear vector fields on manifolds. Nonlinearity, 2016, 29, 3120-3131. | 0.6 | 1 |

| # | Article | IF | Citations |
|---|---|---|---|
| 109 | Preface with a Biography of Professor Jiaqi Mo. Qualitative Theory of Dynamical Systems, 2018, 17, 1-6. | 0.8 | 1 |
| 110 | Complex planar Hamiltonian systems: Linearization and dynamics. Discrete and Continuous Dynamical Systems, 2021, 41, 3295. | 0.5 | 1 |
| 111 | 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 |
| 112 | Regularity and convergence of local first integrals of analytic differential systems. Journal of Differential Equations, 2021, 294, 40-59. | 1.1 | 1 |
| 113 | Integrability of vector fields versus inverse Jacobian multipliers and normalizers. Discrete and Continuous Dynamical Systems, 2016, 36, 6539-6555. | 0.5 | 1 |
| 114 | Analytic Normalizations of Analytic Integrable Systems. , 2009, , . | | 0 |
| 115 | Global dynamics of planar quasi-homogeneous differential systems. Nonlinear Analysis: Real World Applications, 2019, 49, 90-110. | 0.9 | 0 |
| 116 | Global Dynamical Behavior of FitzHughâ€“Nagumo Systems with Invariant Algebraic Surfaces. Qualitative Theory of Dynamical Systems, 2021, 20, 1. | 0.8 | 0 |
| 117 | Heteroclinic orbits for a class of Hamiltonian systems on Riemannian manifolds. Discrete and Continuous Dynamical Systems, 2011, 29, 1097-1111. | 0.5 | 0 |
| 118 | Limit Cycles Near a Centre and a Heteroclinic Loop in a Nearâ€“Hamiltonian Differential System. Journal of Dynamics and Differential Equations, 2024, 36, 405-420. | 1.0 | 0 |