Roman O Popovych

List of Publications by Year
in descending order

80	1,826	279798 23	289244 40
papers	citations	h-index	g-index

80	80	80	383
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Physics-informed neural networks for the shallow-water equations on the sphere. Journal of Computational Physics, 2022, 456, 111024.	3.8	30
2	Mapping method of group classification. Journal of Mathematical Analysis and Applications, 2022, 513, 126209.	1.0	2
3	Parameter-dependent linear ordinary differential equations and topology of domains. Journal of Differential Equations, 2021, 284, 546-575.	2.2	0
4	Point and contact equivalence groupoids of two-dimensional quasilinear hyperbolic equations. Applied Mathematics Letters, 2021, 116, 107068.	2.7	1
5	Realizations of Lie algebras on the line and the new group classification of (1+1)-dimensional generalized nonlinear Kleinâ€“Gordon equations. Analysis and Mathematical Physics, 2021, 11, 1.	1.3	4
6	On the ineffectiveness of constant rotation in the primitive equations and their symmetry analysis. Communications in Nonlinear Science and Numerical Simulation, 2021, 101, 105885.	3.3	1
7	Extended symmetry analysis of two-dimensional degenerate Burgers equation. Journal of Geometry and Physics, 2021, 169, 104336.	1.4	7
8	Inverse problem on conservation laws. Physica D: Nonlinear Phenomena, 2020, 401, 132175.	2.8	10
9	Extended symmetry analysis of an isothermal no-slip drift flux model. Physica D: Nonlinear Phenomena, 2020, 402, 132188.	2.8	8
10	Enhanced group classification of nonlinear diffusionâ€“reaction equations with gradient-dependent diffusivity. Journal of Mathematical Analysis and Applications, 2020, 484, 123739.	1.0	17
11	GBDT version of the Darboux transformation for the matrix coupled dispersionless equations (local) Tj ETQq1 1 0.784314 rgBT /Overl	0.4	0
12	Lie symmetries of two-dimensional shallow water equations with variable bottom topography. Chaos, 2020, 30, 073132.	2.5	19
13	Generalized symmetries and conservation laws of (1 + 1)-dimensional Kleinâ€“Gordon equation. Journal of Mathematical Physics, 2020, 61, .	1.1	3
14	Generalized symmetries, conservation laws and Hamiltonian structures of an isothermal no-slip drift flux model. Physica D: Nonlinear Phenomena, 2020, 411, 132546.	2.8	5
15	Equivalence groupoids and group classification of multidimensional nonlinear SchrÃ¶dinger equations. Journal of Mathematical Analysis and Applications, 2020, 491, 124271.	1.0	4
16	Generalization of the algebraic method of group classification with application to nonlinear wave and elliptic equations. Communications in Nonlinear Science and Numerical Simulation, 2020, 91, 105419.	3.3	15
17	Zerothâ€order conservation laws of twoâ€dimensional shallow water equations with variable bottom topography. Studies in Applied Mathematics, 2020, 145, 291-321.	2.4	5
18	Variational symmetries and conservation laws of the wave equation in one space dimension. Applied Mathematics Letters, 2020, 104, 106225.	2.7	6

#	Article	IF	Citations
19	Equivalence groupoid and group classification of a class of variable-coefficient Burgers equations. Journal of Mathematical Analysis and Applications, 2020, 491, 124215.	1.0	6
20	Enhanced Symmetry Analysis of Two-Dimensional Burgers System. Acta Applicandae Mathematicae, 2019, 163, 91-128.	1.0	13
21	Algebraic Method for Group Classification of (1+1)-Dimensional Linear SchrÃ¶dinger Equations. Acta Applicandae Mathematicae, 2018, 157, 171-203.	1.0	12
22	Group classification of linear evolution equations. Journal of Mathematical Analysis and Applications, 2017, 448, 982-1005.	1.0	17
23	Extended symmetry analysis of generalized Burgers equations. Journal of Mathematical Physics, 2017, 58, .	1.1	12
24	Group analysis of general Burgersâ€“Kortewegâ€“de Vries equations. Journal of Mathematical Physics, 2017, 58, .	1.1	21
25	Singular reduction modules of differential equations. Journal of Mathematical Physics, 2016, 57, .	1.1	13
26	Algebraic method for finding equivalence groups. Journal of Physics: Conference Series, 2015, 621, 012001.	0.4	8
27	Equivalence groupoids of classes of linear ordinary differential equations and their group classification. Journal of Physics: Conference Series, 2015, 621, 012002.	0.4	6
28	Group analysis of Benjaminâ€”Bonaâ€”Mahony equations with time dependent coefficients. Journal of Physics: Conference Series, 2015, 621, 012016.	0.4	1
29	Equivalence transformations in the study of integrability. Physica Scripta, 2014, 89, 038003.	2.5	40
30	Invariant parameterization and turbulence modeling on the beta-plane. Physica D: Nonlinear Phenomena, 2014, 269, 48-62.	2.8	7
31	Group classification and exact solutions of variable-coefficient generalized Burgers equations with linear damping. Applied Mathematics and Computation, 2014, 243, 232-244.	2.2	21
32	Complete point symmetry group of the barotropic vorticity equation on a rotating sphere. Journal of Engineering Mathematics, 2013, 82, 31-38.	1.2	15
33	Preface to the special issue on the tercentenary of the Laplaceâ€“Rungeâ€“Lenz vector. Journal of Engineering Mathematics, 2013, 82, 1-3.	1.2	0
34	Lie symmetries of systems of second-order linear ordinary differential equations with constant coefficients. Journal of Mathematical Analysis and Applications, 2013, 397, 434-440.	1.0	16
35	Reduction operators of Burgers equation. Journal of Mathematical Analysis and Applications, 2013, 398, 270-277.	1.0	5
36	Symmetry preserving parameterization schemes. Journal of Mathematical Physics, 2012, 53, .	1.1	42

#	Article	IF	Citations
37	Invariant Discretization Schemes for the Shallow-Water Equations. SIAM Journal of Scientific Computing, 2012, 34, B810-B839.	2.8	35
38	Reduction operators and exact solutions of generalized Burgers equations. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 2847-2850.	2.1	9
39	Extended group analysis of variable coefficient reactionâ€“diffusion equations with exponential nonlinearities. Journal of Mathematical Analysis and Applications, 2012, 396, 225-242.	1.0	61
40	Complete group classification of a class of nonlinear wave equations. Journal of Mathematical Physics, 2012, 53, .	1.1	43
41	Lie reduction and exact solutions of vorticity equation on rotating sphere. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 1179-1184.	2.1	6
42	Generalized conditional symmetries of evolution equations. Journal of Mathematical Analysis and Applications, 2011, 379, 444-460.	1.0	23
43	Enhanced preliminary group classification of a class of generalized diffusion equations. Communications in Nonlinear Science and Numerical Simulation, 2011, 16, 3622-3638.	3.3	36
44	Lie symmetry analysis and exact solutions of the quasigeostrophic two-layer problem. Journal of Mathematical Physics, 2011, 52, .	1.1	14
45	Group analysis of variable coefficient diffusion-convection equations. I. Enhanced group classification. Lobachevskii Journal of Mathematics, 2010, 31, 100-122.	0.9	45
46	Admissible Transformations and Normalized Classes ofÂNonlinear SchrÃ¶dinger Equations. Acta Applicandae Mathematicae, 2010, 109, 315-359.	1.0	99
47	Symmetry justification of Lorenzâ€™ maximum simplification. Nonlinear Dynamics, 2010, 61, 101-107.	5.2	2
48	Lowest-dimensional example on non-universality of generalized InÃ¶nÃ¼â€“Wigner contractions. Journal of Algebra, 2010, 324, 2742-2756.	0.7	6
49	Conservation laws and normal forms of evolution equations. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 2210-2217.	2.1	28
50	More common errors in finding exact solutions of nonlinear differential equations: Part I. Communications in Nonlinear Science and Numerical Simulation, 2010, 15, 3887-3899.	3.3	50
51	Lie symmetries and exact solutions of the barotropic vorticity equation. Journal of Mathematical Physics, 2009, 50, .	1.1	24
52	Symmetry Analysis of Barotropic Potential Vorticity Equation. Communications in Theoretical Physics, 2009, 52, 697-700.	2.5	6
53	Enhanced Group Analysis and Exact Solutions ofÂVariable Coefficient Semilinear Diffusion Equations withÂaÂPower Source. Acta Applicandae Mathematicae, 2009, 106, 1-46.	1.0	77
54	Conservation laws and hierarchies of potential symmetries for certain diffusion equations. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 343-356.	2.6	18

#	Article	IF	Citations
55	Equivalence of diagonal contractions to generalized IW-contractions with integer exponents. Linear Algebra and Its Applications, 2009, 431, 1096-1104.	0.9	5
56	Group analysis of nonlinear fin equations. Applied Mathematics Letters, 2008, 21, 248-253.	2.7	22
57	Conservation Laws and Potential Symmetries of Linear Parabolic Equations. Acta Applicandae Mathematicae, 2008, 100, 113-185.	1.0	57
58	Multi-dimensional quasi-simple waves in weakly dissipative flows. Physica D: Nonlinear Phenomena, 2008, 237, 405-419.	2.8	10
59	Invariants of solvable lie algebras with triangular nilradicals and diagonal nilindependent elements. Linear Algebra and Its Applications, 2008, 428, 834-854.	0.9	12
60	Exact solutions of a remarkable fin equation. Applied Mathematics Letters, 2008, 21, 209-214.	2.7	21
61	Potential conservation laws. Journal of Mathematical Physics, 2008, 49, .	1.1	14
62	Reduction operators of linear second-order parabolic equations. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 185202.	2.1	15
63	Singular reduction operators in two dimensions. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 505201.	2.1	21
64	Local conservation laws of second-order evolution equations. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 362002.	2.1	17
65	Invariants of triangular Lie algebras with one nil-independent diagonal element. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 9783-9792.	2.1	5
66	Invariants of triangular Lie algebras. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 7557-7572.	2.1	8
67	Invariants of Lie algebras with fixed structure of nilradicals. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 113-130.	2.1	21
68	Equivalence of Conservation Laws and Equivalence of Potential Systems. International Journal of Theoretical Physics, 2007, 46, 2658-2668.	1.2	6
69	Potential nonclassical symmetries and solutions of fast diffusion equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 362, 166-173.	2.1	37
70	Enhanced group analysis and conservation laws of variable coefficient reactionâ€“diffusion equations with power nonlinearities. Journal of Mathematical Analysis and Applications, 2007, 330, 1363-1386.	1.0	86
71	Computation of invariants of Lie algebras by means of moving frames. Journal of Physics A, 2006, 39, 5749-5762.	1.6	35
72	Contractions of low-dimensional Lie algebras. Journal of Mathematical Physics, 2006, 47, 123515.	1.1	52

#	Article	IF	Citations
73	Potential equivalence transformations for nonlinear diffusionâ€“convection equations. Journal of Physics A, 2005, 38, 3145-3155.	1.6	28
74	Effect of External Sources on Finite Time Singularity. Physica Scripta, 2005, 71, 52-59.	2.5	0
75	Hierarchy of conservation laws of diffusion-convection equations. Journal of Mathematical Physics, 2005, 46, 043502.	1.1	44
76	New results on group classification of nonlinear diffusionâ€“convection equations. Journal of Physics A, 2004, 37, 7547-7565.	1.6	101
77	Group classification of (1+1)-dimensional SchrÃ¶dinger equations with potentials and power nonlinearities. Journal of Mathematical Physics, 2004, 45, 3049-3057.	1.1	31
78	Realizations of real low-dimensional Lie algebras. Journal of Physics A, 2003, 36, 7337-7360.	1.6	126
79	A Precise Definition of Reduction of Partial Differential Equations. Journal of Mathematical Analysis and Applications, 1999, 238, 101-123.	1.0	62
80	On Lie Reduction of the Navier-Stokes Equations. Journal of Nonlinear Mathematical Physics, 1995, 2, 301.	1.3	16