

Erik Van Vleck

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2014025/publications.pdf>

Version: 2024-02-01

85
papers

2,031
citations

257450

24
h-index

254184

43
g-index

88
all docs

88
docs citations

88
times ranked

1207
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental demonstration of chaotic instability in biological nitrification. ISME Journal, 2007, 1, 385-393.	9.8	247
2	On the Computation of Lyapunov Exponents for Continuous Dynamical Systems. SIAM Journal on Numerical Analysis, 1997, 34, 402-423.	2.3	162
3	Unitary Integrators and Applications to Continuous Orthonormalization Techniques. SIAM Journal on Numerical Analysis, 1994, 31, 261-281.	2.3	124
4	Traveling Wave Solutions for Systems of ODEs on a Two-Dimensional Spatial Lattice. SIAM Journal on Applied Mathematics, 1998, 59, 455-493.	1.8	102
5	Computation of a few Lyapunov exponents for continuous and discrete dynamical systems. Applied Numerical Mathematics, 1995, 17, 275-291.	2.1	82
6	DYNAMICS OF LATTICE DIFFERENTIAL EQUATIONS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1996, 06, 1605-1621.	1.7	81
7	Lyapunov Spectral Intervals: Theory and Computation. SIAM Journal on Numerical Analysis, 2002, 40, 516-542.	2.3	75
8	Spatially Discrete Nonlinear Diffusion Equations. Rocky Mountain Journal of Mathematics, 1995, 25, 87.	0.4	58
9	Attractors for lattice FitzHugh–Nagumo systems. Physica D: Nonlinear Phenomena, 2005, 212, 317-336.	2.8	58
10	Computation of Mixed Type Functional Differential Boundary Value Problems. SIAM Journal on Applied Dynamical Systems, 2005, 4, 755-781.	1.6	56
11	Analysis and computation of travelling wave solutions of bistable differential-difference equations. Nonlinearity, 1999, 12, 771-798.	1.4	53
12	Lyapunov and Sacker–Sell Spectral Intervals. Journal of Dynamics and Differential Equations, 2007, 19, 265-293.	1.9	53
13	Title is missing!. Journal of Dynamics and Differential Equations, 2002, 14, 493-517.	1.9	51
14	Traveling Wave Solutions for Bistable Differential-Difference Equations with Periodic Diffusion. SIAM Journal on Applied Mathematics, 2001, 61, 1648-1679.	1.8	44
15	Spatially Discrete FitzHugh–Nagumo Equations. SIAM Journal on Applied Mathematics, 2005, 65, 1153-1174.	1.8	44
16	On the error in computing Lyapunov exponents by QR Methods. Numerische Mathematik, 2005, 101, 619-642.	1.9	38
17	The cutoff method for the numerical computation of nonnegative solutions of parabolic PDEs with application to anisotropic diffusion and Lubrication-type equations. Journal of Computational Physics, 2013, 242, 24-36.	3.8	35
18	Orthosymplectic integration of linear Hamiltonian systems. Numerische Mathematik, 1997, 77, 269-282.	1.9	34

#	ARTICLE	IF	CITATIONS
19	Perturbation Theory for Approximation of Lyapunov Exponents by QR Methods. Journal of Dynamics and Differential Equations, 2006, 18, 815-840.	1.9	34
20	Exponential dichotomy on the real line: SVD and QR methods. Journal of Differential Equations, 2010, 248, 287-308.	2.2	27
21	Parallel Speed-Up of Monte Carlo Methods for Global Optimization. Journal of Complexity, 1994, 10, 64-95.	1.3	26
22	Computation of orthonormal factors for fundamental solution matrices. Numerische Mathematik, 1999, 83, 599-620.	1.9	26
23	A Shadowing Lemma Approach to Global Error Analysis for Initial Value ODEs. SIAM Journal of Scientific Computing, 1994, 15, 959-976.	2.8	25
24	Lyapunov Exponents and Localization in Randomly Layered Media. Journal of Computational Physics, 1997, 133, 27-42.	3.8	25
25	On the Error in QR Integration. SIAM Journal on Numerical Analysis, 2008, 46, 1166-1189.	2.3	23
26	Approximating Lyapunov exponents and Sacker's spectrum for retarded functional differential equations. Numerische Mathematik, 2014, 126, 225-257.	1.9	22
27	Turning points and traveling waves in FitzHugh-Nagumo type equations. Journal of Differential Equations, 2006, 225, 381-410.	2.2	21
28	Nucleation and propagation of phase mixtures in a bistable chain. Physical Review B, 2009, 79, .	3.2	21
29	Numerical Techniques for Approximating Lyapunov Exponents and Their Implementation. Journal of Computational and Nonlinear Dynamics, 2011, 6, .	1.2	21
30	Diffusion Induced Chaos in a Closed Loop Thermosyphon. SIAM Journal on Applied Mathematics, 1998, 58, 1072-1093.	1.8	19
31	Detecting exponential dichotomy on the real line: SVD and QR algorithms. BIT Numerical Mathematics, 2011, 51, 555-579.	2.0	18
32	Numerical Shadowing Near Hyperbolic Trajectories. SIAM Journal of Scientific Computing, 1995, 16, 1177-1189.	2.8	16
33	Computation of traveling waves for spatially discrete bistable reaction-diffusion equations. Applied Numerical Mathematics, 1996, 20, 157-169.	2.1	16
34	Slowly-migrating transition layers for the discrete Allen-Cahn and Cahn-Hilliard equations. Nonlinearity, 1995, 8, 861-876.	1.4	15
35	Dynamics of monotone travelling fronts for discretizations of Nagumo PDEs. Nonlinearity, 2005, 18, 1605-1628.	1.4	15
36	Traveling Wavefronts in an Antidiffusion Lattice Nagumo Model. SIAM Journal on Applied Dynamical Systems, 2011, 10, 921-959.	1.6	15

#	ARTICLE	IF	CITATIONS
37	Travelling Waves for Complete Discretizations of Reaction Diffusion Systems. <i>Journal of Dynamics and Differential Equations</i> , 2016, 28, 955-1006.	1.9	15
38	Complex Oscillations in a Closed Thermosyphon. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1998, 08, 41-56.	1.7	14
39	On the Error in the Product QR Decomposition. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2010, 31, 1775-1791.	1.4	13
40	QR methods and error analysis for computing Lyapunov and Sacker's spectral intervals for linear differential-algebraic equations. <i>Advances in Computational Mathematics</i> , 2011, 35, 281-322.	1.6	13
41	Multi-dimensional stability of waves travelling through rectangular lattices in rational directions. <i>Transactions of the American Mathematical Society</i> , 2015, 367, 8757-8808.	0.9	13
42	Negative Diffusion and Traveling Waves in High Dimensional Lattice Systems. <i>SIAM Journal on Mathematical Analysis</i> , 2013, 45, 1068-1135.	1.9	12
43	Assessing the Roles of Fire Frequency and Precipitation in Determining Woody Plant Expansion in Central U.S. Grasslands. <i>Journal of Geophysical Research C: Biogeosciences</i> , 2017, 122, 2683-2698.	3.0	11
44	On the co-existence and stability of trijunctions and quadrjunctions in a simple model. <i>Acta Materialia</i> , 1999, 47, 4627-4639.	7.9	10
45	Dispersal limitation and fire feedbacks maintain mesic savannas in Madagascar. <i>Ecology</i> , 2020, 101, e03177.	3.2	10
46	Anisotropy, propagation failure, and wave speedup in traveling waves of discretizations of a Nagumo PDE. <i>Journal of Computational Physics</i> , 2003, 185, 562-582.	3.8	9
47	Lattice differential equations embedded into reaction-diffusion systems. <i>Proceedings of the Royal Society of Edinburgh Section A: Mathematics</i> , 2009, 139, 193-207.	1.2	8
48	Projected Shadowing-Based Data Assimilation. <i>SIAM Journal on Applied Dynamical Systems</i> , 2018, 17, 2446-2477.	1.6	8
49	Model and data reduction for data assimilation: Particle filters employing projected forecasts and data with application to a shallow water model. <i>Computers and Mathematics With Applications</i> , 2022, 116, 194-211.	2.7	8
50	Quadrjunctions do not stop two-dimensional grain growth. <i>Scripta Materialia</i> , 1996, 34, 909-912.	5.2	7
51	Front Solutions for Bistable Differential-Difference Equations with Inhomogeneous Diffusion. <i>SIAM Journal on Applied Mathematics</i> , 2011, 71, 1374-1400.	1.8	7
52	Propagation of Periodic Patterns in a Discrete System with Competing Interactions. <i>SIAM Journal on Applied Dynamical Systems</i> , 2015, 14, 523-555.	1.6	7
53	Orthonormal integrators based on Householder and Givens transformations. <i>Future Generation Computer Systems</i> , 2003, 19, 363-373.	7.5	6
54	Traveling Waves and Pattern Formation for Spatially Discrete Bistable Reaction-Diffusion Equations. <i>Springer Proceedings in Mathematics and Statistics</i> , 2020, , 55-112.	0.2	6

#	ARTICLE	IF	CITATIONS
55	Numerical Shadowing Using Componentwise Bounds and a Sharper Fixed Point Result. <i>SIAM Journal of Scientific Computing</i> , 2000, 22, 787-801.	2.8	5
56	Perturbation theory for the approximation of stability spectra by QR methods for sequences of linear operators on a Hilbert space. <i>Linear Algebra and Its Applications</i> , 2012, 437, 37-59.	0.9	5
57	Particle filters for data assimilation based on reduced-order data models. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2021, 147, 1892-1907.	2.7	5
58	Mosaic solutions and entropy for spatially discrete Cahn-Hilliard equations. <i>IMA Journal of Applied Mathematics</i> , 2000, 65, 219-255.	1.6	4
59	Traveling Wave Solutions to a Coupled System of Spatially Discrete Nagumo Equations. <i>SIAM Journal on Applied Mathematics</i> , 2006, 66, 945-976.	1.8	4
60	Exponential Dichotomy for Asymptotically Hyperbolic Two-Dimensional Linear Systems. <i>Journal of Dynamics and Differential Equations</i> , 2010, 22, 697-722.	1.9	4
61	A step-size selection strategy for explicit Runge-Kutta methods based on Lyapunov exponent theory. <i>Journal of Computational and Applied Mathematics</i> , 2016, 292, 703-719.	2.0	4
62	Lyapunov Exponents: Computation. , 2015, , 834-838.		4
63	MOSAIC SOLUTIONS AND SPATIAL ENTROPY FOR A CLASS OF NEURAL NETWORK MODELS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2000, 10, 1661-1675.	1.7	3
64	Neutral Mixed Type Functional Differential Equations. <i>Journal of Dynamics and Differential Equations</i> , 2016, 28, 763-804.	1.9	3
65	Continuous Matrix Factorizations. , 2015, , 299-318.		3
66	A Feedback Algorithm for Determining Search Parameters for Monte Carlo Optimization. <i>Journal of Computational Physics</i> , 1998, 146, 263-281.	3.8	2
67	Mosaic solutions and entropy for discrete coupled phase-transition equations. <i>Physica D: Nonlinear Phenomena</i> , 2001, 155, 274-310.	2.8	2
68	Preface "SI: SIAM-2015. <i>Journal of Computational and Applied Mathematics</i> , 2016, 307, 1.	2.0	2
69	A Lyapunov and Sacker-Sell spectral stability theory for one-step methods. <i>BIT Numerical Mathematics</i> , 2018, 58, 749-781.	2.0	2
70	Travelling Waves for Adaptive Grid Discretizations of Reaction Diffusion Systems II: Linear Theory. <i>Journal of Dynamics and Differential Equations</i> , 0, , 1.	1.9	2
71	Discrete dynamics for convex and non-convex smoothing functionals in PDE based image restoration. <i>Communications on Pure and Applied Analysis</i> , 2006, 5, 181-200.	0.8	2
72	Error in approximation of Lyapunov exponents on inertial manifolds: The Kuramoto-Sivashinsky equation. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2008, 9, 555-580.	0.9	2

#	ARTICLE	IF	CITATIONS
73	Travelling Waves for Adaptive Grid Discretizations of Reaction Diffusion Systems III: Nonlinear Theory. <i>Journal of Dynamics and Differential Equations</i> , 2023, 35, 2743-2811.	1.9	2
74	A metric tensor approach to data assimilation with adaptive moving meshes. <i>Journal of Computational Physics</i> , 2022, 466, 111407.	3.8	2
75	On a relation between Lyapunov exponents and the radius of analyticity. <i>Indiana University Mathematics Journal</i> , 2008, 57, 2663-2680.	0.9	1
76	Global error analysis and inertial manifold reduction. <i>Journal of Computational and Applied Mathematics</i> , 2016, 307, 204-215.	2.0	1
77	Travelling Waves for Adaptive Grid Discretizations of Reaction Diffusion Systems I: Well-Posedness. <i>Journal of Dynamics and Differential Equations</i> , 0, , 1.	1.9	1
78	Continuous Orthonormalization for Linear Two-Point Boundary Value Problems Revisited. <i>The IMA Volumes in Mathematics and Its Applications</i> , 2000, , 69-90.	0.5	1
79	Underlying one-step methods and nonautonomous stability of general linear methods. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2018, 23, 2859-2877.	0.9	1
80	Competing interactions and traveling wave solutions in lattice differential equations. <i>Communications on Pure and Applied Analysis</i> , 2016, 15, 457-475.	0.8	1
81	Traveling waves, propagation failure, and anisotropy for spatially discrete reaction diffusion equations. , 0, , .		0
82	Efficient Numerical Shadowing Global Error Estimation for High Dimensional Dissipative Systems. <i>Advanced Nonlinear Studies</i> , 2004, 4, 165-188.	1.7	0
83	Codes for Approximating Lyapunov Exponents. , 2009, , .		0
84	On the error in approximating stability spectra for discrete dynamical systems. <i>Mathematics and Computers in Simulation</i> , 2011, 81, 1006-1016.	4.4	0
85	Transition fronts of Fisher-KPP equations in locally spatially inhomogeneous patchy environments. <i>Nonlinear Analysis: Theory, Methods & Applications</i> , 2022, 217, 112748.	1.1	0