Jean Lubuma

List of Publications by Year
in descending order

75 papers	1,363 citations	430874 18 h-index	377865 34 g-index
75 all docs	75 docs citations	75 times ranked	675 citing authors

#	Article	IF	Citations
1	Contributions to the mathematics of the nonstandard finite difference method and applications. Numerical Methods for Partial Differential Equations, 2001, 17, 518-543.	3.6	185
2	Nonstandard finite difference method by nonlocal approximation. Mathematics and Computers in Simulation, 2003, 61, 465-475.	4.4	113
3	A simple mathematical model for Ebola in Africa. Journal of Biological Dynamics, 2017, 11, 42-74.	1.7	100
4	Mathematical modeling of sterile insect technology for control of anopheles mosquito. Computers and Mathematics With Applications, 2012, 64, 374-389.	2.7	75
5	Modeling the transmission dynamics of the COVID-19 Pandemic in South Africa. Mathematical Biosciences, 2020, 328, 108441.	1.9	74
6	Dynamically consistent nonstandard finite difference schemes for epidemiological models. Journal of Computational and Applied Mathematics, 2014, 255, 161-182.	2.0	57
7	On non-standard finite difference models of reactionâ€“diffusion equations. Journal of Computational and Applied Mathematics, 2005, 175, 11-29.	2.0	39
8	Dynamically-consistent non-standard finite difference method for an epidemic model. Mathematical and Computer Modelling, 2011, 53, 131-150.	2.0	36
9	Uniformly convergent non-standard finite difference methods for self-adjoint singular perturbation problems. Journal of Computational and Applied Mathematics, 2006, 191, 228-238.	2.0	34
10	Topological dynamic consistency of non-standard finite difference schemes for dynamical systems. Journal of Difference Equations and Applications, 2011, 17, 1769-1791.	1.1	28
11	Positivity-preserving nonstandard finite difference schemes for cross-diffusion equations in biosciences. Computers and Mathematics With Applications, 2014, 68, 1071-1082.	2.7	27
12	Qualitatively stable finite difference schemes for advectionâ€“reaction equations. Journal of Computational and Applied Mathematics, 2003, 158, 19-30.	2.0	26
13	Non-standard finite-difference methods for vibro-impact problems. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2005, 461, 1927-1950.	2.1	23
14	On nonstandard finite difference schemes in biosciences. AIP Conference Proceedings, 2012, 1487, 212-223.	0.4	23
15	An Improved Theta-method for Systems of Ordinary Differential Equations. Journal of Difference Equations and Applications, 2003, 9, 1023-1035.	1.1	22
16	Nonstandard finite difference schemes for Michaelisâ€“Menten type reactionâ€diffusion equations. Numerical Methods for Partial Differential Equations, 2013, 29, 337-360.	3.6	21
17	Mathematical modeling of contact tracing as a control strategy of Ebola virus disease. International Journal of Biomathematics, 2018, 11, 1850093.	2.9	21
18	Modeling ebola virus disease transmissions with reservoir in a complex virus life ecology. Mathematical Biosciences and Engineering, 2017, 15, 21-56.	1.9	21

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19	Non-standard methods for singularly perturbed problems possessing oscillatory/layer solutions. Applied Mathematics and Computation, 2007, 187, 1147-1160.	2.2	19
20	Stability Analysis and Dynamics Preserving Nonstandard Finite Difference Schemes for a Malaria Model. Mathematical Population Studies, 2013, 20, 101-122.	2.2	19
21	Mathematical analysis of a model for AVLâ€“HIV co-endemicity. Mathematical Biosciences, 2016, 271, 80-95.	1.9	19
22	Dirichlet problems in polyhedral domains II: Approximation by FEM and BEM. Journal of Computational and Applied Mathematics, 1995, 61, 13-27.	2.0	18
23	Mathematics of a sexâ€structured model for syphilis transmission dynamics. Mathematical Methods in the Applied Sciences, 2018, 41, 8488-8513.	2.3	18
24	Energy properties preserving schemes for Burgers' equation. Numerical Methods for Partial Differential Equations, 2008, 24, 41-59.	3.6	17
25	Global stability of a two-patch cholera model with fast and slow transmissions. Mathematics and Computers in Simulation, 2017, 133, 142-164.	4.4	16
26	A MATHEMATICAL MODEL FOR EBOLA EPIDEMIC WITH SELF-PROTECTION MEASURES. Journal of Biological Systems, 2018, 26, 107-131.	1.4	16
27	Comparison of Some Standard and Nonstandard Numerical Methods for the MSEIR Epidemiological Model. , 2009, , .		14
28	Computational study of three numerical methods for some linear and nonlinear advection-diffusion-reaction problems. Progress in Computational Fluid Dynamics, 2017, 17, 114.	0.2	14
29	Modeling the transmission dynamics of the Middle East Respiratory Syndrome Coronavirus (MERS-CoV) with latent immigrants. Journal of Interdisciplinary Mathematics, 2019, 22, 903-930.	0.7	14
30	Dynamics ofMycobacteriumandbovine tuberculosisin a Human-Buffalo Population. Computational and Mathematical Methods in Medicine, 2014, 2014, 1-20.	1.3	13
31	Nonstandard finite difference method revisited and application to the Ebola virus disease transmission dynamics. Journal of Difference Equations and Applications, 2020, 26, 818-854.	1.1	13
32	CONTRIBUTIONS TO THE THEORY OF NON-STANDARD FINITE DIFFERENCE METHODS AND APPLICATIONS TO SINGULAR PERTURBATION PROBLEMS. , 2005, , 513-560.		12
33	Solving singularly perturbed advectionâ€“reaction equationsvia non-standard finite difference methods. Mathematical Methods in the Applied Sciences, 2007, 30, 1627-1637.	2.3	12
34	Towards the implementation of the singular function method for singular perturbation problems. Applied Mathematics and Computation, 2009, 209, 68-74.	2.2	12
35	From enzyme kinetics to epidemiological models with Michaelisâ€“Menten contact rate: Design of nonstandard finite difference schemes. Computers and Mathematics With Applications, 2012, 64, 201-213.	2.7	12
36	Switching from exact scheme to nonstandard finite difference scheme for linear delay differential equation. Applied Mathematics and Computation, 2015, 258, 388-403.	2.2	12

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37	An explicit nonstandard finite difference scheme for the FitzHughâ€“Nagumo equations. International Journal of Computer Mathematics, 2019, 96, 1993-2009.	1.8	12
38	Reliable numerical schemes for a linear diffusion equation on a nonsmooth domain. Applied Mathematics Letters, 2010, 23, 544-548.	2.7	11
39	The big unknown: The asymptomatic spread of COVID-19. Biomath, 2020, 9, .	0.7	11
40	Finite element method for elliptic problems with edge singularities. Journal of Computational and Applied Mathematics, 1999, 106, 145-168.	2.0	10
41	Global dynamics of a vaccination model for infectious diseases with asymptomatic carriers. Mathematical Biosciences and Engineering, 2016, 13, 813-840.	1.9	10
42	Assessing the impact of the environmental contamination on the transmission of Ebola virus disease (EVD). Journal of Applied Mathematics and Computing, 2017, 55, 205-243.	2.5	9
43	Dirichlet Problems in Polyhedral Domains I: Regularity of the Solutions. Mathematische Nachrichten, 1994, 168, 243-261.	0.8	8
44	Coupling finite volume and nonstandard finite difference schemes for a singularly perturbed SchrÃ¶dinger equation. International Journal of Computer Mathematics, 2016, 93, 1833-1844.	1.8	8
45	Analysis of a Time Implicit Scheme for the Oseen Model Driven by Nonlinear Slip Boundary Conditions. Journal of Mathematical Fluid Mechanics, 2016, 18, 717-730.	1.0	7
46	Modeling pyrethroids repellency and its role on the bifurcation analysis for a bed net malaria model. Chaos, Solitons and Fractals, 2020, 136, 109809.	5.1	7
47	Dynamically Consistent Non-Standard Finite Difference Schemes for the MSEIR Epidemiological Model. , 2009, , .		6
48	Bifurcation analysis of a phage-bacteria interaction model with prophage induction. Mathematical Medicine and Biology, 2021, 38, 28-58.	1.2	6
49	Non-standard finite difference schemes for multi-dimensional second-order systems in non-smooth mechanics. Mathematical Methods in the Applied Sciences, 2007, 30, 789-825.	2.3	5
50	A monotone scheme for Hamilton-Jacobi equations via the nonstandard finite difference method. Mathematical Methods in the Applied Sciences, 2010, 33, 41-48.	2.3	5
51	Total variation diminishing nonstandard finite difference schemes for conservation laws. Mathematical and Computer Modelling, 2010, 51, 160-166.	2.0	5
52	Mathematical analysis of vector-borne diseases on plants. , 2012, , .		5
53	A nonstandard Volterra difference equation for the SIS epidemiological model. Revista De La Real Academia De Ciencias Exactas, Fisicas Y Naturales - Serie A: Matematicas, 2015, 109, 597-602.	1.2	5
54	On the Numerical Solution of the Stationary Power-Law Stokes Equations: A Penalty Finite Element Approach. Journal of Scientific Computing, 2016, 69, 1058-1082.	2.3	5

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55	Analysis of multilevel finite volume approximation of 2D convective Cahnâ€“Hilliard equation. Japan Journal of Industrial and Applied Mathematics, 2017, 34, 253-304.	0.9	5
56	Mathematical modeling and nonstandard finite difference scheme analysis for the environmental and spillover transmissions of Avian Influenza A model. Dynamical Systems, 2021, 36, 212-255.	0.4	5
57	Analysis and Dynamically Consistent Numerical Schemes for the SIS Model and Related Reaction Diffusion Equation. AIP Conference Proceedings, 2011, , .	0.4	4
58	Coupling the modeling of phage-bacteria interaction and cholera epidemiological model with and without optimal control. Journal of Theoretical Biology, 2021, 512, 110537.	1.7	4
59	Classical solutions of two-dimensional stokes problems on non-smooth domains. Part 1: The radon integral operators. Mathematical Methods in the Applied Sciences, 1993, 16, 643-664.	2.3	2
60	Mathematical Modeling of Sterile Insect Technology for Control of Anopheles Mosquito. AIP Conference Proceedings, 2011, , .	0.4	2
61	Backward bifurcation analysis for two continuous and discrete epidemiological models. Mathematical Methods in the Applied Sciences, 2018, 41, 8784-8798.	2.3	2
62	Mathematical analysis of a spatioâ€temporal model for the population ecology of anopheles mosquito. Mathematical Methods in the Applied Sciences, 2020, 43, 3524-3555.	2.3	2
63	Dynamics of host-reservoir transmission of Ebola with spillover potential to humans. Electronic Journal of Qualitative Theory of Differential Equations, 2018, , 1-32.	0.5	2
64	Error estimates in projective solutions of the Radon equation. Journal of Computational and Applied Mathematics, 1993, 45, 309-319.	2.0	1
65	Integral equations for elliptic problems with edge singularities and applications to the fourier-boundary element method. Numerical Functional Analysis and Optimization, 2000, 21, 743-779.	1.4	1
66	Analysis and dynamically consistent nonstandard discretization for a rabies model in humans and dogs. Revista De La Real Academia De Ciencias Exactas, Fisicas Y Naturales - Serie A: Matematicas, 2016, 110, 783-798.	1.2	1
67	Continuous and discrete dynamical systems for the declines of honeybee colonies. Mathematical Methods in the Applied Sciences, 2018, 41, 8724-8740.	2.3	1
68	Prevalence-based modeling approach of schistosomiasis: global stability analysis and integrated control assessment. Computational and Applied Mathematics, 2021, 40, 1.	2.2	1
69	Classical solutions of two-dimensional stokes problems on non-smooth domains. Part 2: Collocation method for the radon equation. Mathematical Methods in the Applied Sciences, 1993, 16, 665-679.	2.3	0
70	Fourier series and integral equation method for the exterior Stokes problem. Numerical Methods for Partial Differential Equations, 2008, 24, 699-727.	3.6	0
71	Symposium on Properties Preserving Numerical Schemes for Differential Equations. , 2009, , .		0
72	Reliable finite element methods for self-adjoint singular perturbation problems. Quaestiones Mathematicae, 2009, 32, 397-413.	0.6	0

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73	An operator splitting method for the advection diffusion reaction equation for problems in porous flow. , 2013, , .		0
74	Global stability for the continuous and discrete SIS-diffusion epidemiological models. Quaestiones Mathematicae, 2017, 40, 161-176.	0.6	0
75	A mathematical model for the cannabis epidemic in a South African province with a non-linear incidence rate. Journal of Statistics and Management Systems, 0, , 1-21.	0.6	0