Hector VÃ¡zquez Leal

List of Publications by Year
in descending order

109	986	516710	580821
papers	citations	16	25
		h-index	g-index

110	110	110	625
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	High Accurate Simple Approximation of Normal Distribution Integral. Mathematical Problems in Engineering, 2012, 2012, 1-22.	1.1	68
2	An auxiliary parameter method using Adomian polynomials and Laplace transformation for nonlinear differential equations. Applied Mathematical Modelling, 2013, 37, 2702-2708.	4.2	46
3	Recent Advances of MEMS Resonators for Lorentz Force Based Magnetic Field Sensors: Design, Applications and Challenges. Sensors, 2016, 16, 1359.	3.8	45
4	An efficient iterated method for mathematical biology model. Neural Computing and Applications, 2013, 23, 677-682.	5.6	42
5	Exploring collision-free path planning by using homotopy continuation methods. Applied Mathematics and Computation, 2013, 219, 7514-7532.	2.2	32
6	Generalized homotopy method for solving nonlinear differential equations. Computational and Applied Mathematics, 2014, 33, 275-288.	1.3	32
7	Modified HPMs Inspired by Homotopy Continuation Methods. Mathematical Problems in Engineering, 2012, 2012, 1-19.	1.1	31
8	Homotopy Path Planning for Terrestrial Robots Using Spherical Algorithm. IEEE Transactions on Automation Science and Engineering, 2018, 15, 567-585.	5.2	30
9	Using perturbation methods and Laplace-Padé approximation to solve nonlinear problems. Miskolc Mathematical Notes, 2013, 14, 89.	0.6	30
10	Rational Biparameter Homotopy Perturbation Method and Laplace-Padé Coupled Version. Journal of Applied Mathematics, 2012, 2012, 1-21.	0.9	24
11	Homotopy method with a formal stop criterion applied to circuit simulation. IEICE Electronics Express, 2011, 8, 1808-1815.	0.8	23
12	A General Solution for Troesch's Problem. Mathematical Problems in Engineering, 2012, 2012, 1-14.	1.1	23
13	Modified Differential Transform Method for Solving the Model of Pollution for a System of Lakes. Discrete Dynamics in Nature and Society, 2014, 2014, 1-12.	0.9	20
14	Laplace transform-homotopy perturbation method as a powerful tool to solve nonlinear problems with boundary conditions defined on finite intervals. Computational and Applied Mathematics, 2015, 34, 1-16.	1.3	20
15	Rational Homotopy Perturbation Method. Journal of Applied Mathematics, 2012, 2012, 1-14.	0.9	19
16	Portable signal conditioning system of a MEMS magnetic field sensor for industrial applications. Microsystem Technologies, 2017, 23, 215-223.	2.0	18
17	Powering Multiparameter Homotopy-Based Simulation with a Fast Path-Following Technique. ISRN Applied Mathematics, 2011, 2011, 1-7.	0.5	18
18	An efficient new iterative method for oscillator differential equation. Scientia Iranica, 2012, 19, 1473-1477.	0.4	17

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19	Biparameter Homotopy-based Direct Current Simulation of Multistable Circuits. British Journal of Mathematics & Computer Science, 2012, 2, 137-150.	0.3	16
20	Removal of Noise Oscillation Term Appearing in the Nonlinear Equation Solution. Journal of Applied Mathematics, 2012, 2012, 1-9.	0.9	14
21	Digital Signal Processing by Virtual Instrumentation of a MEMS Magnetic Field Sensor for Biomedical Applications. Sensors, 2013, 13, 15068-15084.	3.8	14
22	A fully symbolic homotopy-based memristor model for applications to circuit simulation. Analog Integrated Circuits and Signal Processing, 2015, 85, 65-80.	1.4	14
23	Double-Bounded Homotopy for Analysing Nonlinear Resistive Circuits. , 0, , .		13
24	Prediction of silicon dry etching using a piecewise linear algorithm. Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers,Series A/Chung-kuo Kung Ch'eng Hsuch K'an, 2013, 36, 941-950.	1.1	13
25	Laplace transform–homotopy perturbation method with arbitrary initial approximation and residual error cancelation. Applied Mathematical Modelling, 2017, 41, 180-194.	4.2	13
26	PSEM Approximations for Both Branches of Lambert <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" id="M1"><mml:mrow><mml:mi>W</mml:mi></mml:mrow></mml:math> Function with Applications. Discrete Dynamics in Nature and Society, 2019, 2019, 1-15.	0.9	13
27	Modified Reduced Differential Transform Method for Partial Differential-Algebraic Equations. Journal of Applied Mathematics, 2014, 2014, 1-9.	0.9	12
28	Direct application of Padé approximant for solving nonlinear differential equations. SpringerPlus, 2014, 3, 563.	1.2	12
29	Exploring the Cross-Correlation as a Means for Detecting Digital Watermarks and Its Reformulation Into the Fractional Calculus Framework. IEEE Access, 2018, 6, 71699-71718.	4.2	12
30	Improved spherical continuation algorithm with application to the double-bounded homotopy (DBH). Computational and Applied Mathematics, 2014, 33, 147-161.	1.3	11
31	Power Series Extender Method for the Solution of Nonlinear Differential Equations. Mathematical Problems in Engineering, 2015, 2015, 1-7.	1.1	11
32	A Novel and Reduced CPU Time Modeling and Simulation Methodology for Path Planning Based on Resistive Grids. Arabian Journal for Science and Engineering, 2019, 44, 2321-2333.	3.0	11
33	Transient and DC approximate expressions for diode circuits. IEICE Electronics Express, 2012, 9, 522-530.	0.8	10
34	Design and modeling of a novel microsensor to detect magnetic fields in two orthogonal directions. Microsystem Technologies, 2013, 19, 1897-1912.	2.0	10
35	Nonlinearities Distribution Homotopy Perturbation Method Applied to Solve Nonlinear Problems: Thomas-Fermi Equation as a Case Study. Journal of Applied Mathematics, 2015, 2015, 1-9.	0.9	10
36	Transforming the canonical piecewise-linear model into a smooth-piecewise representation. SpringerPlus, 2016, 5, 1612.	1.2	10

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37	New handy and accurate approximation for the Gaussian integrals with applications to science and engineering. Open Mathematics, 2019, 17, 1774-1793.	1.0	10
38	Application of series method with Padé and Laplace-Padé resummation methods to solve a model for the evolution of smoking habit in Spain. Computational and Applied Mathematics, 2014, 33, 181-192.	1.3	9
39	Analytical Solution of a Nonlinear Index-Three DAEs System Modelling a Slider-Crank Mechanism. Discrete Dynamics in Nature and Society, 2015, 2015, 1-14.	0.9	9
40	A comparison of HPM, NDHPM, Picard and Picard–Padé methods for solving Michaelis–Menten equation. Journal of King Saud University - Science, 2015, 27, 7-14.	3.5	9
41	Approximation of Fresnel Integrals with Applications to Diffraction Problems. Mathematical Problems in Engineering, 2018, 2018, 1-13.	1.1	9
42	Multiple-Target Homotopic Quasi-Complete Path Planning Method for Mobile Robot Using a Piecewise Linear Approach. Sensors, 2020, 20, 3265.	3.8	9
43	The study of heat transfer phenomena by using modified homotopy perturbation method coupled by Laplace transform. Thermal Science, 2020, 24, 1105-1115.	1.1	9
44	Approximations for Large Deflection of a Cantilever Beam under a Terminal Follower Force and Nonlinear Pendulum. Mathematical Problems in Engineering, 2013, 2013, 1-12.	1.1	8
45	Laplace transform homotopy perturbation method for the approximation of variational problems. SpringerPlus, 2016, 5, 276.	1.2	8
46	Fixed-Term Homotopy. Journal of Applied Mathematics, 2013, 2013, 1-11.	0.9	7
47	Modified Taylor series method for solving nonlinear differential equations with mixed boundary conditions defined on finite intervals. SpringerPlus, 2014, 3, 160.	1.2	7
48	A handy approximation for a mediated bioelectrocatalysis process, related to Michaelis-Menten equation. SpringerPlus, 2014, 3, 162.	1.2	7
49	Spherical Continuation Algorithm with Spheres of Variable Radius to Trace Homotopy Curves. International Journal of Applied and Computational Mathematics, 2016, 2, 421-433.	1.6	7
50	Modified Taylor solution of equation of oxygen diffusion in a spherical cell with Michaelis-Menten uptake kinetics. International Journal of Applied Mathematical Research, 2015, 4, 253.	0.2	7
51	Approximation for Transient of Nonlinear Circuits Using RHPM and BPES Methods. Journal of Electrical and Computer Engineering, 2013, 2013, 1-6.	0.9	5
52	FPGA Implementation of Homotopic Path Planning Method with Automatic Assignment of Repulsion Parameter. Energies, 2020, 13, 2623.	3.1	5
53	Fully Differential Miller Op-Amp with Enhanced Large- and Small-Signal Figures of Merit. Journal of Low Power Electronics and Applications, 2022, 12, 9.	2.0	5
54	A MAPLE-based homotopic circuit simulation package. , 0, , .		4

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55	GHM method for obtaining rationalsolutions of nonlinear differential equations. SpringerPlus, 2015, 4, 241.	1.2	4
56	A Novel Collision-Free Path Planning Modeling and Simulation Methodology for Robotical Arms Using Resistive Grids. Robotica, 2020, 38, 1176-1190.	1.9	4
57	Homogenization method for one-dimensional photonic crystals with magnetic and chiral inclusions. European Physical Journal B, 2020, 93, 1.	1.5	4
58	On a Practical Methodology for Solving BVP Problems by Using a Modified Version of Picard Method. Applied Mathematics and Information Sciences, 2016, 10, 1355-1367.	0.5	4
59	A Novel Collision-Free Homotopy Path Planning for Planar Robotic Arms. Sensors, 2022, 22, 4022.	3.8	4
60	Â±0.3V Bulk-Driven Fully Differential Buffer with High Figures of Merit. Journal of Low Power Electronics and Applications, 2022, 12, 35.	2.0	4
61	A generalization of the Bernoulliâ€™s method applied to brachistochrone-like problems. Applied Mathematics and Computation, 2013, 219, 6707-6718.	2.2	3
62	Piece-wise-polynomial method. Computational and Applied Mathematics, 2014, 33, 289-299.	1.3	3
63	A fully symbolic homotopy-based memristor model for applications to circuit simulation. , 2014, , .		3
64	Analytical Solutions for Systems of Singular Partial Differential-Algebraic Equations. Discrete Dynamics in Nature and Society, 2015, 2015, 1-9.	0.9	3
65	Speed-up hyperspheres homotopic path tracking algorithm for PWL circuits simulations. SpringerPlus, 2016, 5, 890.	1.2	3
66	Extension of Laplace transformâ€"homotopy perturbation method to solve nonlinear differential equations with variable coefficients defined with Robin boundary conditions. Neural Computing and Applications, 2017, 28, 585-595.	5.6	3
67	Machining Parameters and Toolpath Productivity Optimization Using a Factorial Design and Fit Regression Model in Face Milling and Drilling Operations. Mathematical Problems in Engineering, 2020, 2020, 1-13.	1.1	3
68	Statistical Assessment of Discrimination Capabilities of a Fractional Calculus Based Image Watermarking System for Gaussian Watermarks. Entropy, 2021, 23, 255.	2.2	3
69	Design and Implementation of Composed Position/Force Controllers for Object Manipulation. Applied Sciences (Switzerland), 2021, 11, 9827.	2.5	3
70	A topological approach for determining the uniqueness of the DC solutions in MOS-transistor circuits. , 0, , .		2
71	Low Voltage Lazzaro's WTA with enhanced loop gain. IEICE Electronics Express, 2012, 9, 648-653.	0.8	2
72	Modified Hyperspheres Algorithm to Trace Homotopy Curves of Nonlinear Circuits Composed by Piecewise Linear Modelled Devices. Scientific World Journal, The, 2014, 2014, 1-11.	2.1	2

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73	Optimized Direct PadÃ© and HPM for Solving Equation of Oxygen Diffusion in a Spherical Cell. Discrete Dynamics in Nature and Society, 2018, 2018, 1-9.	0.9	2
74	The novel Leal-polynomials for the multi-expansive approximation of nonlinear differential equations. Heliyon, 2020, 6, e03695.	3.2	2
75	A practical proposal to obtain solutions of certain variational problems avoiding Euler formalism. Heliyon, 2020, 6, e03703.	3.2	2
76	The novel family of transcendental Leal-functions with applications to science and engineering. Heliyon, 2020, 6, e05418.	3.2	2
77	Effective Parameters for 1D Photonic Crystals with Isotropic and Anisotropic Magnetic Inclusions: Coherent Wave Homogenization Theory. Materials, 2020, 13, 1475.	2.9	2
78	Exploring a Novel Electrical-Modeling-Based Route Planning for Vehicle Guidance. Mathematical Problems in Engineering, 2020, 2020, 1-20.	1.1	2
79	A Novel Distribution and Optimization Procedure of Boundary Conditions to Enhance the Classical Perturbation Method Applied to Solve Some Relevant Heat Problems. Discrete Dynamics in Nature and Society, 2020, 2020, 1-12.	0.9	2
80	The Novel Integral Homotopy Expansive Method. Mathematics, 2021, 9, 1204.	2.2	2
81	Implementation of Power-Efficient Class AB Miller Amplifiers Using Resistive Local Common-Mode Feedback. Journal of Low Power Electronics and Applications, 2021, 11, 31.	2.0	2
82	A Novel Version of HPM Coupled with the PSEM Method for Solving the Blasius Problem. Discrete Dynamics in Nature and Society, 2021, 2021, 1-12.	0.9	2
83	Smoothing the High Level Canonical Piecewise-Linear Model by an Exponential Approximation of its Basis-Function. Computacion Y Sistemas, 2016, 20, .	0.3	2
84	Comparative Study on the Quality of Microcrystalline and Epitaxial Silicon Films Produced by PECVD Using Identical SiF4 Based Process Conditions. Materials, 2021, 14, 6947.	2.9	2
85	An optimal reordering schema of homotopy equations for the analysis of nonlinear resistive circuits. , 0, , .		1
86	Matrix-oriented methods for searching the topological conditions for the analysis of nonlinear resistive circuits. , 0, , .		1
87	Existence of multiple operating points in memristive circuits. , 2012, , .		1
88	A family of memristive transfer functions of negative feedback nullor-based amplifiers. , 2013, , .		1
89	Improved spherical continuation algorithm by nonlinear circuit. , 2013, , .		1
90	Theoretical Design and Simulation of a Novel 2D Magnetic Field Sensor with Linear Response and Low Power Consumption. Micro and Nanosystems, 2013, 5, 70-79.	0.6	1

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91	Exploring a piece-wise-nonlinear method. Computational and Applied Mathematics, 2014, 33, 507-516.	1.3	1
92	An Analytical Approximate Solution for the Quasi-Steady State Michaelis-Menten Problem. Discrete Dynamics in Nature and Society, 2019, 2019, 1-9.	0.9	1
93	Exploring the Novel Continuum-Cancellation Leal-Method for the Approximate Solution of Nonlinear Differential Equations. Discrete Dynamics in Nature and Society, 2020, 2020, 1-19.	0.9	1
94	Measurements of the Magnetic Field Variations Related with the Size of V-Shaped Notches in Steel Pipes. Applied Sciences (Switzerland), 2021, 11, 3940.	2.5	1
95	Exploring a Novel Multiple-Query Resistive Grid-Based Planning Method Applied to High-DOF Robotic Manipulators. Sensors, 2021, 21, 3274.	3.8	1
96	HPM Method Applied to Solve the Model of Calcium Stimulated, Calcium Release Mechanism. American Journal of Applied Mathematics, 2014, 2, 29.	0.2	1
97	A handy, accurate, invertible and integrable expression for Dawsonâ€™s function. Acta Universitaria, 0, 29, 1-18.	0.2	1
98	AnÃ¡lisis aerodinÃ¡mico de un vehÃculo aÃ©reo no tripulado con forma de halcÃ³n para monitoreo de fugas de hidrocarburos. Revista UIS IngenierÃas, 2021, 20, .	0.2	1
99	Consequence of coupled variables in the homotopic simulation of BJT circuits. , 0, , .		0
100	A CAD tool for automated bandwidth design of negative feedback amplifiers. , 2005, , .		0
101	Approximate Solutions for Flow with a Stretching Boundary due to Partial Slip. International Scholarly Research Notices, 2014, 2014, 1-10.	0.9	0
102	A Tool to Solve Nonlinear Algebraic Equations Systems. , 2019, , .		0
103	Homotopy-continuation Picard method. Applied Mathematical Sciences, 0, 7, 6429-6439.	0.1	0
104	Symbolic analysis and reordering of nonlinear circuit's equations in order to accelerate homotopy simulation. Applied Mathematical Sciences, 0, 7, 6441-6464.	0.1	0
105	Homotopic Approach for the Simulation of DC-DC Power Electronic Converters. ANZIAM Journal, 0, 60, 25.	0.0	0
106	Aerodynamic analysis of an unmanned aerial vehicle with infrared camera for monitoring oil leakage in pipeline networks. Acta Universitaria, 0, 30, 1-15.	0.2	0
107	Implementation of a technique for obstacle detection applied to Resistive Grid Path Planning Methodology. , 2021, , .		0
108	Collision-Free Path Planning Applied Robotic Arms Using Homotopy Continuation Methods for Embedded Systems. , 2021, , .		0

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109	Modified Integral Homotopy Expansive Method to Find Power Series Solutions of Linear Ordinary Differential Equations about Ordinary Points. Discrete Dynamics in Nature and Society, 2022, 2022, 1-17.	0.9	0