Higinio Ramos

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8517808/publications.pdf

Version: 2024-02-01

121 papers	2,188 citations	257357 24 h-index	276775 41 g-index
123 all docs	123 docs citations	123 times ranked	566 citing authors

#	Article	IF	Citations
1	An optimized two-step hybrid block method for solving general second order initial-value problems. Numerical Algorithms, 2016, 72, 1089-1102.	1.1	140
2	A new approach on the construction of trigonometrically fitted two step hybrid methods. Journal of Computational and Applied Mathematics, 2016, 303, 146-155.	1.1	111
3	Numerical treatment of twoâ€parameter singularly perturbed parabolic convection diffusion problems with nonâ€smooth data. Mathematical Methods in the Applied Sciences, 2018, 41, 5359-5387.	1.2	95
4	Dissipative Chebyshev exponential-fitted methods for numerical solution of second-order differential equations. Journal of Computational and Applied Mathematics, 2003, 158, 187-211.	1.1	93
5	Modified twoâ€step hybrid methods for the numerical integration of oscillatory problems. Mathematical Methods in the Applied Sciences, 2017, 40, 5286-5294.	1.2	76
6	Integrated neuro-evolution-based computing solver for dynamics of nonlinear corneal shape model numerically. Neural Computing and Applications, 2021, 33, 5753-5769.	3.2	74
7	Variable stepsize implementation of multistep methods for <mml:math altimg="si47.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/co	1.1	73
8	On the frequency choice in trigonometrically fitted methods. Applied Mathematics Letters, 2010, 23, 1378-1381.	1.5	73
9	Exponential fitting BDFâ€“Rungeâ€“Kutta algorithms. Computer Physics Communications, 2008, 178, 15-34.	3.0	72
10	A perturbation-based approach for solving fractional-order Volterraâ€“Fredholm integro differential equations and its convergence analysis. International Journal of Computer Mathematics, 2020, 97, 1994-2014.	1.0	61
11	Homotopy perturbation method for solving Caputoâ€type fractionalâ€order Volterraâ€Fredholm integroâ€differential equations. Computational and Mathematical Methods, 2019, 1, e1047.	0.3	50
12	On the approximate solutions of a class of fractional order nonlinear Volterra integro-differential initial value problems and boundary value problems of first kind and their convergence analysis. Journal of Computational and Applied Mathematics, 2022, 404, 113116.	1.1	50
13	A family of A-stable Runge Kutta collocation methods of higher order for initial-value problems. IMA Journal of Numerical Analysis, 2007, 27, 798-817.	1.5	46
14	A graded mesh refinement approach for boundary layer originated singularly perturbed timeâ€delayed parabolic convection diffusion problems. Mathematical Methods in the Applied Sciences, 2021, 44, 12332-12350.	1.2	45
15	A new approach based on the Newtonâ€™s method to solve systems of nonlinear equations. Journal of Computational and Applied Mathematics, 2017, 318, 3-13.	1.1	44
16	On the choice of the frequency in trigonometrically-fitted methods for periodic problems. Journal of Computational and Applied Mathematics, 2015, 277, 94-105.	1.1	42
17	A non-standard explicit integration scheme for initial-value problems. Applied Mathematics and Computation, 2007, 189, 710-718.	1.4	40
18	<i>L</i>-stable Explicit Nonlinear Method with Constant and Variable Step-size Formulation for Solving Initial Value Problems. International Journal of Nonlinear Sciences and Numerical Simulation, 2018, 19, 741-751.	0.4	38

#	Article	IF	Citations
19	Numerical solution of nonlinear singularly perturbed problems on nonuniform meshes by using a non-standard algorithm. Journal of Mathematical Chemistry, 2010, 48, 38-54.	0.7	35
20	A unified approach for the development of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si36.gif" display="inline" overflow="scroll"><mml:mi>k</mml:mi></mml:math>-step block Falkner-type methods for solving general second-order initial-value problems in ODEs. Journal of Computational and Applied Mathematics, 2017, 318, 550-564.	1.1	33
21	On the asymptotic and oscillatory behavior of the solutions of a class of higher-order differential equations with middle term. Applied Mathematics Letters, 2020, 107, 106431.	1.5	33
22	A fourth-order Rungeâ€“Kutta method based on BDF-type Chebyshev approximations. Journal of Computational and Applied Mathematics, 2007, 204, 124-136.	1.1	32
23	A new algorithm appropriate for solving singular and singularly perturbed autonomous initial-value problems. International Journal of Computer Mathematics, 2008, 85, 603-611.	1.0	30
24	A third-derivative two-step block Falkner-type method for solving general second-order boundary-value systems. Mathematics and Computers in Simulation, 2019, 165, 139-155.	2.4	26
25	Third derivative modification of k-step block Falkner methods for the numerical solution of second order initial-value problems. Applied Mathematics and Computation, 2018, 333, 231-245.	1.4	25
26	A positive and elementary stable nonstandard explicit scheme for a mathematical model of the influenza disease. Mathematics and Computers in Simulation, 2021, 182, 397-410.	2.4	25
27	A variable-step Numerov method for the numerical solution of the Schrï¿½dinger equation. Journal of Mathematical Chemistry, 2005, 37, 255-262.	0.7	24
28	Review of explicit Falkner methods and its modifications for solving special second-order I.V.P.s. Computer Physics Communications, 2010, 181, 1833-1841.	3.0	23
29	Second-order Emdenâ€“Fowler neutral differential equations: A new precise criterion for oscillation. Applied Mathematics Letters, 2021, 118, 107172.	1.5	23
30	Variable stepsize stÃ¶rmer-cowell methods. Mathematical and Computer Modelling, 2005, 42, 837-846.	2.0	22
31	Numerical solution of second-order singular problems arising in astrophysics by combining a pair of one-step hybrid block NystrÃ¶m methods. Astrophysics and Space Science, 2020, 365, 1.	0.5	19
32	Variable-stepsize Chebyshev-type methods for the integration of second-order I.V.P.'s. Journal of Computational and Applied Mathematics, 2007, 204, 102-113.	1.1	18
33	An efficient variable step-size rational Falkner-type method for solving the special second-order IVP. Applied Mathematics and Computation, 2016, 291, 39-51.	1.4	18
34	Development of a new Rungeâ€Kutta method and its economical implementation. Computational and Mathematical Methods, 2019, 1, e1016.	0.3	18
35	The application of Newtonâ€™s method in vector form for solving nonlinear scalar equations where the classical Newton method fails. Journal of Computational and Applied Mathematics, 2015, 275, 228-237.	1.1	17
36	A tenth order<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si131.gif" overflow="scroll"><mml:mi mathvariant="script">A</mml:mi></mml:math>-stable two-step hybrid block method for solving initial value problems of ODEs. Applied Mathematics and Computation, 2017, 310, 75-88.	1.4	17

#	Article	IF	Citations
37	A note on variable step-size formulation of a Simpsonâ€™s-type second derivative block method for solving stiff systems. Applied Mathematics Letters, 2017, 64, 101-107.	1.5	17
38	An efficient optimized adaptive step-size hybrid block method for integrating differential systems. Applied Mathematics and Computation, 2019, 362, 124567.	1.4	17
39	Numerical integration of third-order singular boundary-value problems of Emdenâ€“Fowler type using hybrid block techniques. Communications in Nonlinear Science and Numerical Simulation, 2022, 105, 106069.	1.7	17
40	A New Eighth-order A-stable Method for Solving Differential Systems Arising in Chemical Reactions. Journal of Mathematical Chemistry, 2006, 40, 71-83.	0.7	16
41	Numerical solution of boundary value problems by using an optimized two-step block method. Numerical Algorithms, 2020, 84, 229-251.	1.1	15
42	An Optimized Two-Step Hybrid Block Method Formulated in Variable Step-Size Mode for Integrating $y''=f(x,y,y')$ Numerically. Numerical Mathematics, 2019, 12, 640-660.	0.6	15
43	A numerical ODE solver that preserves the fixed points and their stability. Journal of Computational and Applied Mathematics, 2011, 235, 1856-1867.	1.1	14
44	A trigonometrically-fitted method with two frequencies, one for the solution and another one for the derivative. Computer Physics Communications, 2014, 185, 1230-1236.	3.0	14
45	Adaptive step-size approach for Simpsonâ€™s-type block methods with time efficiency and order stars. Computational and Applied Mathematics, 2021, 40, 1.	1.0	14
46	An embedded 3(2) pair of nonlinear methods for solving first order initial-value ordinary differential systems. Numerical Algorithms, 2017, 75, 509-529.	1.1	13
47	The generalized finite difference method with third- and fourth-order approximations and treatment of ill-conditioned stars. Engineering Analysis With Boundary Elements, 2021, 127, 29-39.	2.0	13
48	An adaptive one-point second-derivative Lobatto-type hybrid method for solving efficiently differential systems. International Journal of Computer Mathematics, 2022, 99, 1687-1705.	1.0	13
49	A first approach in solving initial-value problems in ODEs by elliptic fitting methods. Journal of Computational and Applied Mathematics, 2017, 318, 599-603.	1.1	12
50	How many k-step linear block methods exist and which of them is the most efficient and simplest one?. Applied Mathematics and Computation, 2018, 316, 296-309.	1.4	12
51	Solving initial and boundary value problems of fractional ordinary differential equations by using collocation and fractional powers. Journal of Computational and Applied Mathematics, 2019, 354, 348-359.	1.1	12
52	Discrete approximation for a two-parameter singularly perturbed boundary value problem having discontinuity in convection coefficient and source term. Journal of Computational and Applied Mathematics, 2019, 359, 102-118.	1.1	12
53	A two-step hybrid block method with fourth derivatives for solving third-order boundary value problems. Journal of Computational and Applied Mathematics, 2022, 404, 113419.	1.1	12
54	More Effective Results for Testing Oscillation of Non-Canonical Neutral Delay Differential Equations. Mathematics, 2021, 9, 1114.	1.1	12

#	Article	IF	Citations
55	Numerical solution of Bratuâ€™s and related problems using a third derivative hybrid block method. Computational and Applied Mathematics, 2020, 39, 1.	1.0	11
56	An almost L-stable BDF-type method for the numerical solution of stiff ODEs arising from the method of lines. Numerical Methods for Partial Differential Equations, 2007, 23, 1110-1121.	2.0	10
57	Some new implicit two-step multiderivative methods for solving special second-order IVPâ€™s. Applied Mathematics and Computation, 2014, 239, 227-241.	1.4	10
58	A non-uniform difference scheme for solving singularly perturbed 1D-parabolic reactionâ€“convectionâ€“diffusion systems with two small parameters and discontinuous source terms. Journal of Mathematical Chemistry, 2020, 58, 663-685.	0.7	10
59	Numerical Solution for Singular Boundary Value Problems Using a Pair of Hybrid NystrÃ¶m Techniques. Axioms, 2021, 10, 202.	0.9	10
60	A block hybrid integrator for numerically solving fourth-order Initial Value Problems. Applied Mathematics and Computation, 2019, 346, 680-694.	1.4	9
61	Some variants of Halleyâ€™s method with memory and their applications for solving several chemical problems. Journal of Mathematical Chemistry, 2020, 58, 751-774.	0.7	9
62	A variable step-size fourth-derivative hybrid block strategy for integrating third-order IVPs, with applications. International Journal of Computer Mathematics, 2022, 99, 292-308.	1.0	9
63	An adaptive pair of one-step hybrid block NystrÃ¶m methods for singular initial-value problems of Laneâ€“Emdenâ€“Fowler type. Mathematics and Computers in Simulation, 2022, 193, 497-508.	2.4	9
64	Block Hybrid Method for the Numerical solution of Fourth order Boundary Value Problems. Journal of Computational and Applied Mathematics, 2020, 377, 112876.	1.1	8
65	Parameter-uniform approximation on equidistributed meshes for singularly perturbed parabolic reaction-diffusion problems with Robin boundary conditions. Applied Mathematics and Computation, 2021, 392, 125677.	1.4	8
66	A Family of Functionally-Fitted Third Derivative Block Falkner Methods for Solving Second-Order Initial-Value Problems with Oscillating Solutions. Mathematics, 2021, 9, 713.	1.1	8
67	One-Step Hybrid Block Method Containing Third Derivatives and Improving Strategies for Solving Bratuâ€™s and Troeschâ€™s Problems. Numerical Mathematics, 2020, 13, 946-972.	0.6	8
68	A uniformly convergent quadratic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e4120" altimg="si2.svg"><mml:mi>B</mml:mi></mml:math>-spline based scheme for singularly perturbed degenerate parabolic problems. Mathematics and Computers in Simulation, 2022, 195, 88-106.	2.4	8
69	Using a cubic B-spline method in conjunction with a one-step optimized hybrid block approach to solve nonlinear partial differential equations. Computational and Applied Mathematics, 2022, 41, 1.	1.0	8
70	Contributions to the development of differential systems exactly solved by multistep finite-difference schemes. Applied Mathematics and Computation, 2010, 217, 639-649.	1.4	7
71	A stable finite difference scheme and error estimates for parabolic singularly perturbed PDEs with shift parameters. Journal of Computational and Applied Mathematics, 2022, 405, 113050.	1.1	7
72	A finite-difference scheme for a coupled system of singularly perturbed time-dependent reactionâ€“diffusion equations with discontinuous source terms. International Journal of Computer Mathematics, 2021, 98, 120-135.	1.0	7

#	Article	IF	Citations
73	Quadratic Bâ€spline collocation method for time dependentÂsingularly perturbed differentialâ€difference equation arising in the modeling of neuronalactivity. Numerical Methods for Partial Differential Equations, 0, , .	2.0	7
74	A New Nonlinear Ninth-Order Root-Finding Method with Error Analysis and Basins of Attraction. Mathematics, 2021, 9, 1996.	1.1	7
75	A strategy for selecting the frequency in trigonometrically-fitted methods based on the minimization of the local truncation errors and the total energy error. Journal of Mathematical Chemistry, 2014, 52, 1050-1058.	0.7	6
76	Solving first-order initial-value problems by using an explicit non-standard A -stable one-step method in variable step-size formulation. Applied Mathematics and Computation, 2015, 268, 796-805.	1.4	6
77	Efficient k-Step Linear Block Methods to Solve Second Order Initial Value Problems Directly. Mathematics, 2020, 8, 1752.	1.1	6
78	Analysis of a Chebyshev-based backward differentiation formulae and relation with Rungeâ€“Kutta collocation methods. International Journal of Computer Mathematics, 2011, 88, 555-577.	1.0	5
79	Topics of contemporary computational mathematics. International Journal of Computer Mathematics, 2012, 89, 265-267.	1.0	5
80	A High-Order Efficient Optimised Global Hybrid Method for Singular Two-Point Boundary Value Problems. East Asian Journal on Applied Mathematics, 2021, 11, 515-539.	0.4	5
81	New Monotonic Properties of the Class of Positive Solutions of Even-Order Neutral Differential Equations. Mathematics, 2022, 10, 1470.	1.1	5
82	Extrapolating for attaining high precision solutions for fractional partial differential equations. Fractional Calculus and Applied Analysis, 2018, 21, 1506-1523.	1.2	4
83	Formulation and Analysis of a Class of Direct Implicit Integration Methods for Special Second-Order I.V.P.s in Predictor-Corrector Modes. SEMA SIMAI Springer Series, 2019, , 33-61.	0.4	4
84	Efficient adaptive step-size formulation of an optimized two-step hybrid block method for directly solving general second-order initial-value problems. Computational and Applied Mathematics, 2021, 40, 1.	1.0	4
85	A Nonstandard Finite Difference Method for a Generalized Blackâ€“Scholes Equation. Symmetry, 2022, 14, 141.	1.1	4
86	A note on step-size selection in the StÃ¶rmerâ€“Cowell methods. Journal of Computational and Applied Mathematics, 2005, 175, 149-159.	1.1	3
87	Numerical solution of nonlinear singularly perturbed problems by using a non-standard algorithm on variable stepsize implementation (CMMSEâ€“2009). Journal of Mathematical Chemistry, 2010, 48, 98-108.	0.7	3
88	A trigonometrically fitted optimized two-step hybrid block method for solving initial-value problems of the form yâ€³ = f (x, y, yâ€²) with oscillatory solutions. AIP Conference Proceedings, 2015, , .	0.3	3
89	An optimized two-step hybrid block method for solving general second order initial-value problems of the form yâ€³ = f (x, y, yâ€²). AIP Conference Proceedings, 2015, , .	0.3	3
90	Some new discretizations of the Eulerâ€“Lagrange equation. Communications in Nonlinear Science and Numerical Simulation, 2021, 103, 106002.	1.7	3

#	Article	IF	Citations
91	A Functionally-Fitted Block Numerov Method for Solving Second-Order Initial-Value Problems with Oscillatory Solutions. Mediterranean Journal of Mathematics, 2021, 18, 1.	0.4	3
92	A Family of <math xmlns="http://www.w3.org/1998/Math/MathML" id="M1"> <mi mathvariant="script">A</mi> </math>-Stable Optimized Hybrid Block Methods for Integrating Stiff Differential Systems. Mathematical Problems in Engineering, 2022, 2022, 1-18.	0.6	3
93	A technique for generating adapted discretizations to solve partial differential equations with the generalized finite difference method. Mathematical Methods in the Applied Sciences, 2022, 45, 10598-10613.	1.2	3
94	A virtual tool to improve the mathematical knowledge of engineering students. , 2013, , .		2
95	Some efficient one-point variants of Halleyâ€™s method, with memory, for solving nonlinear equations. AIP Conference Proceedings, 2015, , .	0.3	2
96	A strategy to avoid illâ€conditioned stars in the generalized finite difference method for solving oneâ€dimensional problems. Computational and Mathematical Methods, 0, , e1149.	0.3	2
97	DEVELOPMENT AND IMPLEMENTATION OF A TENTH-ORDER HYBRID BLOCK METHOD FOR SOLVING FIFTH-ORDER BOUNDARY VALUE PROBLEMS. Mathematical Modelling and Analysis, 2021, 26, 267-286.	0.7	2
98	Numerical solution of thirdâ€order boundary value problems by using a twoâ€step hybrid block method with a fourth derivative. Computational and Mathematical Methods, 0, , e1166.	0.3	2
99	Solving second order two-point boundary value problems accurately by a third derivative hybrid block integrator. Applied Mathematics and Computation, 2022, 421, 126960.	1.4	2
100	Numerical solution of a fourthâ€order singularly perturbed boundary value problem with discontinuities via Haar wavelets. Mathematical Methods in the Applied Sciences, 0, , .	1.2	2
101	A Positivity-Preserving Improved Nonstandard Finite Difference Method to Solve the Black-Scholes Equation. Mathematics, 2022, 10, 1846.	1.1	2
102	A Nonlinear Explicit One-Step Integration Scheme for Singular Autonomous Initial Value Problems. AIP Conference Proceedings, 2007, , .	0.3	1
103	Mathematical and computational tools in chemistry: CMMSEâ€”2014. Journal of Mathematical Chemistry, 2015, 53, 791-793.	0.7	1
104	Use of a Symbolic Computation Program to Reinforce the Spatial Abilities of Engineering Students. Revista Iberoamericana De Tecnologias Del Aprendizaje, 2017, 12, 37-44.	0.7	1
105	Recent mathematicalâ€“computational techniques and models in chemistry. Journal of Mathematical Chemistry, 2017, 55, 1367-1369.	0.7	1
106	A philosâ€type criterion to determine the oscillatory character of a class of neutral delay differential equations. Mathematical Methods in the Applied Sciences, 2021, 44, 9966-9975.	1.2	1
107	A second-derivative functionally fitted method of maximal order for oscillatory initial value problems. Computational and Applied Mathematics, 2021, 40, 1.	1.0	1
108	A Phase-Fitted and Amplification-Fitted Explicit Rungeâ€“Kuttaâ€“NystrÃ¶m Pair for Oscillating Systems. Mathematical and Computational Applications, 2021, 26, 59.	0.7	1

#	Article	IF	Citations
109	VARIABLE STEP-SIZE STÃ–RMER METHODS. , 2003, , .		1
110	A global approach to improve the mathematical level of engineering students. , 2014, , .		1
111	General versus specific recipients for online training courses. , 2019, , .		1
112	A trigonometrically adapted 6(4) explicit Rungeâ€“Kuttaâ€“NystrÃ¶m pair to solve oscillating systems. Mathematical Methods in the Applied Sciences, 2023, 46, 560-578.	1.2	1
113	Visualization of functions of two variables using Mathematica: (Exploring the pedagogical) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5		0
114	Materials for a course in Calculus on several variables: An example of inter-university collaboration. , 2014, , .		0
115	Trigonometrically fitted two step hybrid methods for the numerical solution of the SchrÃ¶dinger equation. AIP Conference Proceedings, 2015, , .	0.3	0
116	A new approach on the construction of trigonometrically fitted two step hybrid methods. AIP Conference Proceedings, 2015, , .	0.3	0
117	Dynamic visualization of the relative position of straight lines on the plane using Mathematica. , 2016, , .		0
118	A strategy to reduce the blank answers on math tests at first engineering courses. , 2016, , .		0
119	Constructing extended Boolean functions from truth tables using the Mathematica system. , 2016, , .		0
120	Improving Mathematical Competencies of Students Accessing to Higher Education from Vocational Training Modules. Journal of Cases on Information Technology, 2014, 16, 51-64.	0.7	0
121	Comments on the use of block methods for solving singular boundary value problems. ITM Web of Conferences, 2020, 34, 01005.	0.4	0