Higinio Ramos

List of Publications by Year
in descending order

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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	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
2	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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	A Nonstandard Finite Difference Method for a Generalized Blackâ€“Scholes Equation. Symmetry, 2022, 14, 141.	1.1	4
11	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
12	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
13	New Monotonic Properties of the Class of Positive Solutions of Even-Order Neutral Differential Equations. Mathematics, 2022, 10, 1470.	1.1	5
14	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
15	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
16	A Positivity-Preserving Improved Nonstandard Finite Difference Method to Solve the Black-Scholes Equation. Mathematics, 2022, 10, 1846.	1.1	2
17	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
18	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

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19	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
20	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
21	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
22	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
23	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
24	More Effective Results for Testing Oscillation of Non-Canonical Neutral Delay Differential Equations. Mathematics, 2021, 9, 1114.	1.1	12
25	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
26	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
27	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
28	A second-derivative functionally fitted method of maximal order for oscillatory initial value problems. Computational and Applied Mathematics, 2021, 40, 1.	1.0	1
29	Second-order Emdenâ€“Fowler neutral differential equations: A new precise criterion for oscillation. Applied Mathematics Letters, 2021, 118, 107172.	1.5	23
30	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
31	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
32	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
33	A New Nonlinear Ninth-Order Root-Finding Method with Error Analysis and Basins of Attraction. Mathematics, 2021, 9, 1996.	1.1	7
34	Numerical Solution for Singular Boundary Value Problems Using a Pair of Hybrid NystrÃ¶m Techniques. Axioms, 2021, 10, 202.	0.9	10
35	Some new discretizations of the Eulerâ€“Lagrange equation. Communications in Nonlinear Science and Numerical Simulation, 2021, 103, 106002.	1.7	3
36	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

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37	Numerical solution of boundary value problems by using an optimized two-step block method. Numerical Algorithms, 2020, 84, 229-251.	1.1	15
38	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
39	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
40	Efficient k-Step Linear Block Methods to Solve Second Order Initial Value Problems Directly. Mathematics, 2020, 8, 1752.	1.1	6
41	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
42	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
43	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
44	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
45	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
46	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
47	Comments on the use of block methods for solving singular boundary value problems. ITM Web of Conferences, 2020, 34, 01005.	0.4	0
48	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
49	An efficient optimized adaptive step-size hybrid block method for integrating differential systems. Applied Mathematics and Computation, 2019, 362, 124567.	1.4	17
50	Homotopy perturbation method for solving Caputoâ€type fractionalâ€order Volterraâ€Fredholm integroâ€differential equations. Computational and Mathematical Methods, 2019, 1, e1047.	0.3	50
51	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
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	Development of a new Rungeâ€Kutta method and its economical implementation. Computational and Mathematical Methods, 2019, 1, e1016.	0.3	18
54	A block hybrid integrator for numerically solving fourth-order Initial Value Problems. Applied Mathematics and Computation, 2019, 346, 680-694.	1.4	9

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55	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
56	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
57	General versus specific recipients for online training courses. , 2019, , .		1
58	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
59	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
60	Extrapolating for attaining high precision solutions for fractional partial differential equations. Fractional Calculus and Applied Analysis, 2018, 21, 1506-1523.	1.2	4
61	L-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
62	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
63	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
64	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
65	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
66	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
67	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
68	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
69	Recent mathematicalâ€“computational techniques and models in chemistry. Journal of Mathematical Chemistry, 2017, 55, 1367-1369.	0.7	1
70	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
71	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
72	Dynamic visualization of the relative position of straight lines on the plane using Mathematica. , 2016, , .		0

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73	A strategy to reduce the blank answers on math tests at first engineering courses. , 2016, , .		0
74	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
75	Constructing extended Boolean functions from truth tables using the Mathematica system. , 2016, , .		0
76	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
77	An optimized two-step hybrid block method for solving general second order initial-value problems. Numerical Algorithms, 2016, 72, 1089-1102.	1.1	140
78	Mathematical and computational tools in chemistry: CMMSEâ€”2014. Journal of Mathematical Chemistry, 2015, 53, 791-793.	0.7	1
79	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
80	Some efficient one-point variants of Halleyâ€™s method, with memory, for solving nonlinear equations. AIP Conference Proceedings, 2015, , .	0.3	2
81	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
82	Trigonometrically fitted two step hybrid methods for the numerical solution of the SchrÃ¶dinger equation. AIP Conference Proceedings, 2015, , .	0.3	0
83	A new approach on the construction of trigonometrically fitted two step hybrid methods. AIP Conference Proceedings, 2015, , .	0.3	0
84	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
85	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
86	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
87	Visualization of functions of two variables using Mathematica: (Exploring the pedagogical) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5		0
88	Materials for a course in Calculus on several variables: An example of inter-university collaboration. , 2014, , .		0
89	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
90	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

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91	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
92	A global approach to improve the mathematical level of engineering students. , 2014, , .		1
93	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
94	A virtual tool to improve the mathematical knowledge of engineering students. , 2013, , .		2
95	Topics of contemporary computational mathematics. International Journal of Computer Mathematics, 2012, 89, 265-267.	1.0	5
96	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
97	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
98	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
99	On the frequency choice in trigonometrically fitted methods. Applied Mathematics Letters, 2010, 23, 1378-1381.	1.5	73
100	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
101	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
102	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
103	Exponential fitting BDFâ€“Rungeâ€“Kutta algorithms. Computer Physics Communications, 2008, 178, 15-34.	3.0	72
104	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
105	A Nonlinear Explicit One-Step Integration Scheme for Singular Autonomous Initial Value Problems. AIP Conference Proceedings, 2007, , .	0.3	1
106	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
107	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
108	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

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109	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
110	A non-standard explicit integration scheme for initial-value problems. Applied Mathematics and Computation, 2007, 189, 710-718.	1.4	40
111	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/common/struct-bib/dtd"	1.1	73
112	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
113	Variable stepsize stÃ¶rmer-cowell methods. Mathematical and Computer Modelling, 2005, 42, 837-846.	2.0	22
114	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
115	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
116	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
117	VARIABLE STEP-SIZE STÃ–RMER METHODS. , 2003, , .		1
118	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
119	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
120	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
121	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