Charalampos Tsitouras

List of Publications by Year
in descending order

123 papers	2,203 citations	172457 29 h-index	254184 43 g-index
123 all docs	123 docs citations	123 times ranked	425 citing authors

#	Article	IF	Citations
1	On modified Rungeâ€“Kutta trees and methods. Computers and Mathematics With Applications, 2011, 62, 2101-2111.	2.7	129
2	Rungeâ€“Kutta pairs of order 5(4) satisfying only the first column simplifying assumption. Computers and Mathematics With Applications, 2011, 62, 770-775.	2.7	108
3	Optimized Rungeâ€“Kutta pairs for problems with oscillating solutions. Journal of Computational and Applied Mathematics, 2002, 147, 397-409.	2.0	87
4	Phase-fitted Rungeâ€“Kutta pairs of orders 8(7). Journal of Computational and Applied Mathematics, 2017, 321, 226-231.	2.0	84
5	Evolutionary generation of highâ€order, explicit, twoâ€step methods for secondâ€order linear IVPs. Mathematical Methods in the Applied Sciences, 2017, 40, 6276-6284.	2.3	82
6	High Phase-Lag-Order Runge--Kutta and NystrÃ¶m Pairs. SIAM Journal of Scientific Computing, 1999, 21, 747-763.	2.8	79
7	A new family of 7 stages, eighthâ€order explicit Numerovâ€type methods. Mathematical Methods in the Applied Sciences, 2017, 40, 7867-7878.	2.3	67
8	Cheap Error Estimation for Runge--Kutta Methods. SIAM Journal of Scientific Computing, 1999, 20, 2067-2088.	2.8	64
9	Trigonometric fitted, eighthâ€order explicit Numerovâ€type methods. Mathematical Methods in the Applied Sciences, 2018, 41, 1845-1854.	2.3	57
10	On Ninth Order, Explicit Numerov-Type Methods with Constant Coefficients. Mediterranean Journal of Mathematics, 2018, 15, 1.	0.8	54
11	Explicit Numerov type methods with reduced number of stages. Computers and Mathematics With Applications, 2003, 45, 37-42.	2.7	53
12	Trigonometric-Fitted Explicit Numerov-Type Method with Vanishing Phase-Lag and Its First and Second Derivatives. Mediterranean Journal of Mathematics, 2018, 15, 1.	0.8	49
13	Fitted modifications of classical Rungeâ€Kutta pairs of orders 5(4). Mathematical Methods in the Applied Sciences, 2018, 41, 4549-4559.	2.3	48
14	Runge-Kutta pairs for periodic initial value problems. Computing (Vienna/New York), 1993, 51, 151-163.	4.8	38
15	A Tenth Order Symplectic Rungeâ€“Kuttaâ€“NystrÃ¶m Method. Celestial Mechanics and Dynamical Astronomy, 1999, 74, 223-230.	1.4	38
16	Symbolic derivation of Rungeâ€“Kuttaâ€“NystrÃ¶m order conditions. Journal of Mathematical Chemistry, 2009, 46, 896-912.	1.5	38
17	A parameter study of explicit Runge-Kutta pairs of orders 6(5). Applied Mathematics Letters, 1998, 11, 65-69.	2.7	37
18	Explicit two-step methods for second-order linear IVPs. Computers and Mathematics With Applications, 2002, 43, 943-949.	2.7	36

#	ARTICLE	IF	CITATIONS
19	Symbolic derivation of Rungeâ€“Kutta order conditions. Journal of Symbolic Computation, 2004, 37, 311-327.	0.8	36
20	EXPLICIT EIGHTH ORDER TWO-STEP METHODS WITH NINE STAGES FOR INTEGRATING OSCILLATORY PROBLEMS. International Journal of Modern Physics C, 2006, 17, 861-876.	1.7	36
21	Explicit high order methods for the numerical integration of periodic initial-value problems. Applied Mathematics and Computation, 1998, 95, 15-26.	2.2	35
22	Explicit, twoâ€stage, sixthâ€order, hybrid fourâ€step methods for solving. Mathematical Methods in the Applied Sciences, 2018, 41, 6997-7006.	2.3	35
23	Trigonometricâ€“fitted hybrid fourâ€“step methods of sixth order for solving. Mathematical Methods in the Applied Sciences, 2019, 42, 710-716.	2.3	35
24	A General Family of Explicit Rungeâ€“Kutta Pairs of Orders $6(5)$. SIAM Journal on Numerical Analysis, 1996, 33, 917-936.	2.3	34
25	Optimized explicit Rungeâ€“Kutta pair of orders 9(8). Applied Numerical Mathematics, 2001, 38, 123-134.	2.1	33
26	A P-Stable Eighth-Order Method for the Numerical Integration of Periodic Initial-Value Problems. Journal of Computational Physics, 1997, 130, 123-128.	3.8	32
27	High algebraic, high phase-lag order embedded Numerov-type methods for oscillatory problems. Applied Mathematics and Computation, 2002, 131, 201-211.	2.2	32
28	Runge-Kutta interpolants based on values from two successive integration steps. Computing (Vienna/New York), 1990, 43, 255-266.	4.8	31
29	Linearized numerical schemes for the Boussinesq equation. Applied Numerical Analysis and Computational Mathematics, 2005, 2, 34-53.	0.6	30
30	Symbolic derivation of order conditions for hybrid Numerov-type methods solving <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si47.gif" overflow="scroll"><mml:msup><mml:mrow><mml:mi>y</mml:mi></mml:mrow><mml:mrow><mml:mo>â€³</mml:mo></mml:mrow>< stretchy="false">(</mml:mo><mml:mi>x</mml:mi><mml:mo>,</mml:mo><mml:mi>y</mml:mi><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 218, 543-555.	2.0	29
31	EXPLICIT NUMEROV TYPE METHODS FOR SECOND ORDER IVPs WITH OSCILLATING SOLUTIONS. International Journal of Modern Physics C, 2001, 12, 657-666.	1.7	28
32	Fitted modifications of Rungeâ€Kutta pairs of orders 6(5). Mathematical Methods in the Applied Sciences, 2018, 41, 6184-6194.	2.3	26
33	A P-stable singly diagonally implicit Rungeâ€“Kuttaâ€“NystrÃ¶m method. Numerical Algorithms, 1998, 17, 345-353.	1.9	24
34	Hybrid Numerov-Type Methods with Coefficients Trained to Perform Better on Classical Orbits. Bulletin of the Malaysian Mathematical Sciences Society, 2019, 42, 2119-2134.	0.9	24
35	Hybrid, phaseâ€“fitted, fourâ€“step methods of seventh order for solving <i>x</i><i>â€³</i>(<i>t</i>)â€‰=â€‰<i>f</i>(<i>t</i>,<i>x</i>). Mathematical Methods in the Applied Sciences, 2019, 42, 2025-2032.	2.3	23
36	Explicit, ninth order, two step methods for solving inhomogeneous linear problems xâ€³(t)=Î›x(t)+f(t). Applied Numerical Mathematics, 2020, 153, 344-351.	2.1	21

#	Article	IF	Citations
37	Evolutionary Derivation of Sixth-Order P-stable SDIRKN Methods for the Solution of PDEs with the Method of Lines. Mediterranean Journal of Mathematics, 2019, 16, 1.	0.8	20
38	Explicit hybrid sixâ€"step, sixth order, fully symmetric methods for solving â€‰ y â€‰â€³â€‰=â€‰ f â€‰(x , y). Mathematical Methods in the Applied Sciences, 2019, 42, 3305-3314.	2.3	18
39	Variable stepâ€size implementation of sixthâ€order Numerovâ€type methods. Mathematical Methods in the Applied Sciences, 2020, 43, 1204-1215.	2.3	18
40	Direct estimation of SIR model parameters through secondâ€order finite differences. Mathematical Methods in the Applied Sciences, 2021, 44, 3819-3826.	2.3	17
41	Exponential integrators for linear inhomogeneous problems. Mathematical Methods in the Applied Sciences, 2021, 44, 937-944.	2.3	17
42	A highly accurate differential evolutionâ€"particle swarm optimization algorithm for the construction of initial value problem solvers. Engineering Optimization, 2018, 50, 1364-1379.	2.6	15
43	Phaseâ€fitted, sixâ€step methods for solving x â€² â€² â€‰ = â€‰ f (t , x). Mathematical Methods in the Applied Sciences, 2019, 42, 3942-3949.	2.3	15
44	Highly Continuous Interpolants for One-Step ODE Solvers and their Application to Runge--Kutta Methods. SIAM Journal on Numerical Analysis, 1997, 34, 22-47.	2.3	14
45	Evolutionary derivation of Rungeâ€"Kutta pairs for addressing inhomogeneous linear problems. Numerical Algorithms, 2021, 87, 511-525.	1.9	14
46	Sixthâ€order, Pâ€stable, Numerovâ€type methods for use at moderate accuracies. Mathematical Methods in the Applied Sciences, 2021, 44, 6923-6930.	2.3	14
47	Scaled runge-kutta-nystrÃ¶m methods for the second order differential equationÃ¿=f(x,y). International Journal of Computer Mathematics, 1989, 28, 139-150.	1.8	13
48	Real-Time Estimation of R0 for COVID-19 Spread. Mathematics, 2021, 9, 664.	2.2	13
49	Rungeâ€"Kutta pairs suited for SIRâ€type epidemic models. Mathematical Methods in the Applied Sciences, 2021, 44, 5210-5216.	2.3	13
50	High-order zero-dissipative Runge-Kutta-NystrÃ¶m methods. Journal of Computational and Applied Mathematics, 1998, 95, 157-161.	2.0	12
51	Dissipative high phase-lag order methods. Applied Mathematics and Computation, 2001, 117, 35-43.	2.2	12
52	Ninthâ€order, explicit, twoâ€step methods for secondâ€order inhomogeneous linear IVPs. Mathematical Methods in the Applied Sciences, 2020, 43, 4918.	2.3	12
53	On enumeration of hypergroups of order 3. Computers and Mathematics With Applications, 2010, 59, 519-523.	2.7	10
54	Evolutionary Derivation of Rungeâ€"Kutta Pairs of Orders 5(4) Specially Tuned for Problems with Periodic Solutions. Mathematics, 2021, 9, 2306.	2.2	10

#	Article	IF	Citations
55	New family for Rungeâ€Kuttaâ€NystrÃ¶m pairs of orders 6(4) with coefficients trained to address oscillatory problems. Mathematical Methods in the Applied Sciences, 0, , .	2.3	10
56	Stage reduction on P-stable Numerov type methods of eighth order. Journal of Computational and Applied Mathematics, 2006, 191, 297-305.	2.0	9
57	Explicit, Eighth-Order, Four-Step Methods for Solving $$y^{prime prime }=f(x,y)$$. Bulletin of the Malaysian Mathematical Sciences Society, 2020, 43, 3791-3807.	0.9	9
58	Fitted modifications of Rungeâ€“Kuttaâ€“NystrÃ¶m pairs of orders 7(5) for addressing oscillatory problems. Mathematical Methods in the Applied Sciences, 0, , .	2.3	9
59	Using neural networks for the derivation of Rungeâ€“Kuttaâ€“NystrÃ¶m pairs for integration of orbits. New Astronomy, 2012, 17, 469-473.	1.8	8
60	Interpolants for sixthâ€order Numerovâ€type methods. Mathematical Methods in the Applied Sciences, 2019, 42, 7349-7358.	2.3	8
61	Explicit Rungeâ€“Kutta methods for starting integration of Laneâ€“Emden problem. Applied Mathematics and Computation, 2019, 354, 353-364.	2.2	8
62	A Neural Network Technique for the Derivation of Rungeâ€“Kutta Pairs Adjusted for Scalar Autonomous Problems. Mathematics, 2021, 9, 1842.	2.2	8
63	On high order Rungeâ€“Kuttaâ€“NystrÃ¶m pairs. Journal of Computational and Applied Mathematics, 2022, 400, 113753.	2.0	8
64	On a New Family of Rungeâ€“Kuttaâ€“NystrÃ¶m Pairs of Orders 6(4). Mathematics, 2022, 10, 875.	2.2	8
65	Enumeration of Rosenberg-type hypercompositional structures defined by binary relations. European Journal of Combinatorics, 2012, 33, 1777-1786.	0.8	7
66	Bounds for variable degree rational <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si16.gif" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mi>L</mml:mi></mml:mrow><mml:mrow><mml:mi>â^ž</mml:mi></mml:mrow></m approximations to the matrix cosine. Computer Physics Communications, 2014, 185, 2834-2840.	7.5	7
67	Local interpolants for Numerovâ€type methods and their implementation in variable step schemes. Mathematical Methods in the Applied Sciences, 2019, 42, 7047-7058.	2.3	7
68	Lowâ€order, Pâ€stable, twoâ€step methods for use with lax accuracies. Mathematical Methods in the Applied Sciences, 2019, 42, 6301-6314.	2.3	7
69	Rungeâ€“Kutta Pairs of Orders 6(5) with Coefficients Trained to Perform Best on Classical Orbits. Mathematics, 2021, 9, 1342.	2.2	7
70	Rungeâ€“Kutta Pairs of Orders 5(4) Trained to Best Address Keplerian Type Orbits. Mathematics, 2021, 9, 2400.	2.2	7
71	Phase-fitted Numerov type methods. Applied Mathematics and Computation, 2007, 184, 23-29.	2.2	6
72	On fitted modifications of Rungeâ€“Kuttaâ€“NystrÃ¶m pairs. Applied Mathematics and Computation, 2014, 232, 416-423.	2.2	6

#	Article	IF	Citations
73	Evolutionary generation of explicit two step methods for second order linear IVPs. AIP Conference Proceedings, 2016, , .	0.4	6
74	Eighth Order Two-Step Methods Trained to Perform Better on Keplerian-Type Orbits. Mathematics, 2021, 9, 3071.	2.2	6
75	Some new Runge-Kutta methods with interpolation properties and their application to the Magnetic-Binary Problem. Celestial Mechanics, 1988, 44, 167-177.	0.1	5
76	Rungeâ€"Kutta interpolants for high precision computations. Numerical Algorithms, 2007, 44, 291-307.	1.9	5
77	Differential evolution for the derivation of Runge Kutta pairs. AIP Conference Proceedings, 2015, , .	0.4	5
78	On modifications of Rungeâ€"Kuttaâ€"NystrÃ¶m methods for solving <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si60.gif" overflow="scroll"><mml:mrow><mml:msup><mml:mi>y</mml:mi><mml:mrow><mml:mo>(</mml:mo><mml:mn>4</mml:mn><mml:mo Applied Mathematics and Computation, 2016, 273, 726-734.	2.2	5
79	Efficiently inaccurate approximation of hyperbolic tangent used as transfer function in artificial neural networks. Neural Computing and Applications, 2021, 33, 10227-10233.	5.6	5
80	Sixth Order Numerov-Type Methods with Coefficients Trained to Perform Best on Problems with Oscillating Solutions. Mathematics, 2021, 9, 2756.	2.2	5
81	Interpolating runge-kutta-nystrÃ¶m methods of high order. International Journal of Computer Mathematics, 1993, 47, 209-217.	1.8	4
82	Quadratic StÃ¶rmerâ€type methods for the solution of the Boussinesq equation by the method of lines. Numerical Methods for Partial Differential Equations, 2008, 24, 1321-1328.	3.6	4
83	Evolutionary generation of 7th order Runge â€" Kutta â€" NystrÃ¶m type methods for solving y(4) = f(x,y). AIP Conference Proceedings, 2015, , .	0.4	4
84	A new eighth order exponentially fitted explicit Numerov-type method for solving oscillatory problems. Journal of Mathematical Chemistry, 2018, 56, 1456-1466.	1.5	4
85	Trigonometric fitted modification of RADAU5. Mathematical Methods in the Applied Sciences, 2020, 43, 1582-1589.	2.3	4
86	New interpolants for runge-kutta algorithms using second derivatives. International Journal of Computer Mathematics, 1989, 31, 105-113.	1.8	3
87	Explicit Rungeâ€"Kutta pairs appropriate for engineering applications. Applied Mathematical Modelling, 2002, 26, 77-88.	4.2	3
88	Numerical approximation of the boundary of numerical range of matrix polynomials. Applied Numerical Analysis and Computational Mathematics, 2005, 2, 126-133.	0.6	3
89	Square Roots of Total Boolean Matrices: Enumeration Issues. , 2009, , .		3
90	Symbolic derivation of Rungeâ€"Kuttaâ€"NystrÃ¶m type order conditions and methods for solving <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si72.gif" overflow="scroll"><mml:mrow><mml:msup><mml:mi>y</mml:mi><mml:mrow><mml:mo>â€²</mml:mo><mml:mo>â€²</mml:mo><mr Applied Mathematics and Computation, 2017, 297, 50-60.	2.2	3

#	Article	IF	Citations
91	A Neural Network Type Approach for Constructing Rungeâ€“Kutta Pairs of Orders Six and Five That Perform Best on Problems with Oscillatory Solutions. Mathematics, 2022, 10, 827.	2.2	3
92	Continuous extensions to high order runge-kutta methods. International Journal of Computer Mathematics, 1997, 65, 273-291.	1.8	2
93	Runge-Kutta Pairs For Scalar Autonomous Initial Value Problems. International Journal of Computer Mathematics, 2003, 80, 201-209.	1.8	2
94	Symplectic Runge-Kutta-Nystroÿ̀m Methods with Phase-Lag Order Six and Infinity. , 2010, , .		2
95	Greatest remainder bi-proportional rounding and the Greek parliamentary elections of 2007. Applied Mathematics and Computation, 2011, 217, 9254-9260.	2.2	2
96	Minimax vs Pade approximation of matrix exponential for normal and nonnegative matrices. AIP Conference Proceedings, 2015, , .	0.4	2
97	Evolutionary construction of Rungeâ€“Kuttaâ€“NystrÃ¶m pairs of orders 5(4). MATEC Web of Conferences, 2016, 41, 05002.	0.2	2
98	On the modification of Differential Evolution strategy for the construction of Runge Kutta pairs. MATEC Web of Conferences, 2016, 41, 05001.	0.2	2
99	Evolutionary generation of high order Runge â€“ Kutta â€“ NystrÃ¶m type pairs for solving y(4) = f (x,y). AIP Conference Proceedings, 2016, , .	0.4	2
100	Bounds for variable degree rational Lâˆž approximations to the matrix exponential. Applied Mathematics and Computation, 2018, 338, 376-386.	2.2	2
101	Eighthâ€order, phaseâ€fitted, fourâ€step methods for solving yâ€²â€²=f(x,y). Mathematical Methods in the Applied Sciences, 2019, 43, 4016.	2.3	2
102	Cubic spline approximation of transfer functions for speeding neural networks performances. AIP Conference Proceedings, 2020, , .	0.4	2
103	Runge-Kutta-NystrÃ¶m Pairs of Orders 8(6) with Coefficients Trained to Perform Best on Classical Orbits. Mathematics, 2022, 10, 654.	2.2	2
104	On the efficiency of Runge-Kutta-Nystrom methods with interpolants for solving equations of the form Y? = F(T, Y, Y?) over short timespans. Celestial Mechanics and Dynamical Astronomy, 1992, 53, 329-346.	1.4	1
105	Continuous Runge-Kutta(-NystrÃ¶m) methods with reduced phase-errors. Journal of Computational and Applied Mathematics, 1996, 69, 1-11.	2.0	1
106	Families of explicit two-step methods for integration of problems with oscillating solutions. Applied Mathematics and Computation, 2003, 135, 169-178.	2.2	1
107	Creep sagging analysis of pressure pipes. Computational Materials Science, 2006, 36, 303-309.	3.0	1
108	Greek Electoral System: Optimal Distribution of the Seats. AIP Conference Proceedings, 2007, , .	0.4	1

#	Article	IF	Citations
109	Runge-Kutta Pairs of Orders 5(4) using the Minimal Set of Simplifying Assumptions. , 2009, , .		1
110	Stress concentration analysis of interfacial micro-structural cracks under internal singular loading sources. Journal of Computational Methods in Sciences and Engineering, 2010, 10, 3-12.	0.2	1
111	Hybrid Hamiltonâ€"Webster and the Greek apportionment. Applied Mathematics and Computation, 2011, 218, 3957-3961.	2.2	1
112	High phase-lag order Runge Kutta pairs of orders 8(7). AIP Conference Proceedings, 2017, , .	0.4	1
113	Eighth order, phase-fitted, six-step methods for solving $$y^{prime prime }=f(x,y)$$. Journal of Mathematical Chemistry, 2020, 58, 114-125.	1.5	1
114	R 0 estimation for COVIDâ€19 pandemic through exponential fit. Mathematical Methods in the Applied Sciences, 2021, , .	2.3	1
115	Mathematical Formulation of 3D Non-Reflecting Boundary Conditions for Hyperbolic Equations for Internal Flows in Thermal Engines. AIP Conference Proceedings, 2007, , .	0.4	0
116	Using Neural Networks for the Derivation of Rungeâ€"Kuttaâ€"NystrÃ¶m Pairs. , 2008, , .		0
117	Trigonometric fitted Runge-Kutta-NystroÌˆm pair of orders 6(4). , 2013, , .		0
118	Solving undamped unforced free oscillators by Lâˆž approximations to cos. , 2014, , .		0
119	Quadratic RK shooting solution for a environmental parameter prediction boundary value problem. , 2014, , .		0
120	Evolutionary derivation of quadratic symplectic Rungeâ€"Kuttaâ€"NystrÃ¶m methods. AIP Conference Proceedings, 2015, , .	0.4	0
121	New phase-fitted Runge-Kutta pairs of orders 8(7). AIP Conference Proceedings, 2018, , .	0.4	0
122	Extended precision rational Lâˆž approximations to the matrix exponential. AIP Conference Proceedings, 2019, , .	0.4	0
123	FOUR-STEP, TWO-STAGE, SIXTH-ORDER, P-STABLE METHODS. , 2003, , .		0