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 high order Rungeâ€“Kuttaâ€“NystrÃ¶m pairs. Journal of Computational and Applied Mathematics, 2022, 400, 113753.	2.0	8
2	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
3	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
4	On a New Family of Rungeâ€“Kuttaâ€“NystrÃ¶m Pairs of Orders 6(4). Mathematics, 2022, 10, 875.	2.2	8
5	Evolutionary derivation of Rungeâ€“Kutta pairs for addressing inhomogeneous linear problems. Numerical Algorithms, 2021, 87, 511-525.	1.9	14
6	Direct estimation of SIR model parameters through secondâ€order finite differences. Mathematical Methods in the Applied Sciences, 2021, 44, 3819-3826.	2.3	17
7	Exponential integrators for linear inhomogeneous problems. Mathematical Methods in the Applied Sciences, 2021, 44, 937-944.	2.3	17
8	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
9	Real-Time Estimation of R0 for COVID-19 Spread. Mathematics, 2021, 9, 664.	2.2	13
10	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
11	Rungeâ€“Kutta Pairs of Orders 6(5) with Coefficients Trained to Perform Best on Classical Orbits. Mathematics, 2021, 9, 1342.	2.2	7
12	A Neural Network Technique for the Derivation of Rungeâ€“Kutta Pairs Adjusted for Scalar Autonomous Problems. Mathematics, 2021, 9, 1842.	2.2	8
13	Rungeâ€“Kutta Pairs of Orders 5(4) Trained to Best Address Keplerian Type Orbits. Mathematics, 2021, 9, 2400.	2.2	7
14	Evolutionary Derivation of Rungeâ€“Kutta Pairs of Orders 5(4) Specially Tuned for Problems with Periodic Solutions. Mathematics, 2021, 9, 2306.	2.2	10
15	Rungeâ€“Kutta pairs suited for SIRâ€type epidemic models. Mathematical Methods in the Applied Sciences, 2021, 44, 5210-5216.	2.3	13
16	R 0 estimation for COVIDâ€19 pandemic through exponential fit. Mathematical Methods in the Applied Sciences, 2021, , .	2.3	1
17	Sixth Order Numerov-Type Methods with Coefficients Trained to Perform Best on Problems with Oscillating Solutions. Mathematics, 2021, 9, 2756.	2.2	5
18	Eighth Order Two-Step Methods Trained to Perform Better on Keplerian-Type Orbits. Mathematics, 2021, 9, 3071.	2.2	6

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19	Variable stepâ€size implementation of sixthâ€order Numerovâ€type methods. Mathematical Methods in the Applied Sciences, 2020, 43, 1204-1215.	2.3	18
20	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
21	Trigonometric fitted modification of RADAU5. Mathematical Methods in the Applied Sciences, 2020, 43, 1582-1589.	2.3	4
22	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
23	Ninthâ€order, explicit, twoâ€step methods for secondâ€order inhomogeneous linear IVPs. Mathematical Methods in the Applied Sciences, 2020, 43, 4918.	2.3	12
24	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
25	Cubic spline approximation of transfer functions for speeding neural networks performances. AIP Conference Proceedings, 2020, , .	0.4	2
26	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
27	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
28	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
29	Interpolants for sixthâ€order Numerovâ€type methods. Mathematical Methods in the Applied Sciences, 2019, 42, 7349-7358.	2.3	8
30	Extended precision rational Lâˆž approximations to the matrix exponential. AIP Conference Proceedings, 2019, , .	0.4	0
31	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
32	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
33	Explicit Rungeâ€“Kutta methods for starting integration of Laneâ€“Emden problem. Applied Mathematics and Computation, 2019, 354, 353-364.	2.2	8
34	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
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	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

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37	Trigonometricâ€“fitted hybrid fourâ€“step methods of sixth order for solving. Mathematical Methods in the Applied Sciences, 2019, 42, 710-716.	2.3	35
38	On Ninth Order, Explicit Numerov-Type Methods with Constant Coefficients. Mediterranean Journal of Mathematics, 2018, 15, 1.	0.8	54
39	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
40	Fitted modifications of classical Rungeâ€Kutta pairs of orders 5(4). Mathematical Methods in the Applied Sciences, 2018, 41, 4549-4559.	2.3	48
41	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
42	Trigonometric fitted, eighthâ€order explicit Numerovâ€type methods. Mathematical Methods in the Applied Sciences, 2018, 41, 1845-1854.	2.3	57
43	New phase-fitted Runge-Kutta pairs of orders 8(7). AIP Conference Proceedings, 2018, , .	0.4	0
44	Explicit, twoâ€stage, sixthâ€order, hybrid fourâ€step methods for solving. Mathematical Methods in the Applied Sciences, 2018, 41, 6997-7006.	2.3	35
45	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
46	Bounds for variable degree rational Lâˆž approximations to the matrix exponential. Applied Mathematics and Computation, 2018, 338, 376-386.	2.2	2
47	Fitted modifications of Rungeâ€Kutta pairs of orders 6(5). Mathematical Methods in the Applied Sciences, 2018, 41, 6184-6194.	2.3	26
48	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
49	Phase-fitted Rungeâ€“Kutta pairs of orders 8(7). Journal of Computational and Applied Mathematics, 2017, 321, 226-231.	2.0	84
50	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
51	High phase-lag order Runge Kutta pairs of orders 8(7). AIP Conference Proceedings, 2017, , .	0.4	1
52	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><m Applied Mathematics and Computation, 2017, 297, 50-60.	2.2	3
53	Evolutionary construction of Rungeâ€“Kuttaâ€“NystrÃ¶m pairs of orders 5(4). MATEC Web of Conferences, 2016, 41, 05002.	0.2	2
54	On the modification of Differential Evolution strategy for the construction of Runge Kutta pairs. MATEC Web of Conferences, 2016, 41, 05001.	0.2	2

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55	Evolutionary generation of explicit two step methods for second order linear IVPs. AIP Conference Proceedings, 2016, , .	0.4	6
56	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
57	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: Applied Mathematics and Computation, 2016, 273, 726-734.	2.2	5
58	Minimax vs Pade approximation of matrix exponential for normal and nonnegative matrices. AIP Conference Proceedings, 2015, , .	0.4	2
59	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
60	Evolutionary derivation of quadratic symplectic Rungeâ€“Kuttaâ€“NystrÃ¶m methods. AIP Conference Proceedings, 2015, , .	0.4	0
61	Differential evolution for the derivation of Runge Kutta pairs. AIP Conference Proceedings, 2015, , .	0.4	5
62	Solving undamped unforced free oscillators by Lâˆž approximations to cos. , 2014, , .		0
63	Quadratic RK shooting solution for a environmental parameter prediction boundary value problem. , 2014, , .		0
64	On fitted modifications of Rungeâ€“Kuttaâ€“NystrÃ¶m pairs. Applied Mathematics and Computation, 2014, 232, 416-423.	2.2	6
65	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>âˆž</mml:mi></mml:mrow>< approximations to the matrix cosine. Computer Physics Communications, 2014, 185, 2834-2840.	7.5	7
66	Trigonometric fitted Runge-Kutta-NystroÌˆm pair of orders 6(4). , 2013, , .		0
67	Enumeration of Rosenberg-type hypercompositional structures defined by binary relations. European Journal of Combinatorics, 2012, 33, 1777-1786.	0.8	7
68	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
69	Hybrid Hamiltonâ€“Webster and the Greek apportionment. Applied Mathematics and Computation, 2011, 218, 3957-3961.	2.2	1
70	Greatest remainder bi-proportional rounding and the Greek parliamentary elections of 2007. Applied Mathematics and Computation, 2011, 217, 9254-9260.	2.2	2
71	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
72	On modified Rungeâ€“Kutta trees and methods. Computers and Mathematics With Applications, 2011, 62, 2101-2111.	2.7	129

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73	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
74	On enumeration of hypergroups of order 3. Computers and Mathematics With Applications, 2010, 59, 519-523.	2.7	10
75	Symplectic Runge-Kutta-Nystroı̀m Methods with Phase-Lag Order Six and Infinity. , 2010, , .		2
76	Runge-Kutta Pairs of Orders 5(4) using the Minimal Set of Simplifying Assumptions. , 2009, , .		1
77	Symbolic derivation of Rungeâ€“Kuttaâ€“NystrÃ¶m order conditions. Journal of Mathematical Chemistry, 2009, 46, 896-912.	1.5	38
78	Square Roots of Total Boolean Matrices: Enumeration Issues. , 2009, , .		3
79	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
80	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
81	Using Neural Networks for the Derivation of Rungeâ€“Kuttaâ€“NystrÃ¶m Pairs. , 2008, , .		0
82	Greek Electoral System: Optimal Distribution of the Seats. AIP Conference Proceedings, 2007, , .	0.4	1
83	Mathematical Formulation of 3D Non-Reflecting Boundary Conditions for Hyperbolic Equations for Internal Flows in Thermal Engines. AIP Conference Proceedings, 2007, , .	0.4	0
84	Phase-fitted Numerov type methods. Applied Mathematics and Computation, 2007, 184, 23-29.	2.2	6
85	Rungeâ€“Kutta interpolants for high precision computations. Numerical Algorithms, 2007, 44, 291-307.	1.9	5
86	Creep sagging analysis of pressure pipes. Computational Materials Science, 2006, 36, 303-309.	3.0	1
87	Stage reduction on P-stable Numerov type methods of eighth order. Journal of Computational and Applied Mathematics, 2006, 191, 297-305.	2.0	9
88	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
89	Linearized numerical schemes for the Boussinesq equation. Applied Numerical Analysis and Computational Mathematics, 2005, 2, 34-53.	0.6	30
90	Numerical approximation of the boundary of numerical range of matrix polynomials. Applied Numerical Analysis and Computational Mathematics, 2005, 2, 126-133.	0.6	3

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91	Symbolic derivation of Rungeâ€“Kutta order conditions. Journal of Symbolic Computation, 2004, 37, 311-327.	0.8	36
92	Explicit Numerov type methods with reduced number of stages. Computers and Mathematics With Applications, 2003, 45, 37-42.	2.7	53
93	Families of explicit two-step methods for integration of problems with oscillating solutions. Applied Mathematics and Computation, 2003, 135, 169-178.	2.2	1
94	Runge-Kutta Pairs For Scalar Autonomous Initial Value Problems. International Journal of Computer Mathematics, 2003, 80, 201-209.	1.8	2
95	FOUR-STEP, TWO-STAGE, SIXTH-ORDER, P-STABLE METHODS. , 2003, , .		0
96	Explicit two-step methods for second-order linear IVPs. Computers and Mathematics With Applications, 2002, 43, 943-949.	2.7	36
97	Optimized Rungeâ€“Kutta pairs for problems with oscillating solutions. Journal of Computational and Applied Mathematics, 2002, 147, 397-409.	2.0	87
98	Explicit Rungeâ€“Kutta pairs appropriate for engineering applications. Applied Mathematical Modelling, 2002, 26, 77-88.	4.2	3
99	High algebraic, high phase-lag order embedded Numerov-type methods for oscillatory problems. Applied Mathematics and Computation, 2002, 131, 201-211.	2.2	32
100	Optimized explicit Rungeâ€“Kutta pair of orders 9(8). Applied Numerical Mathematics, 2001, 38, 123-134.	2.1	33
101	Dissipative high phase-lag order methods. Applied Mathematics and Computation, 2001, 117, 35-43.	2.2	12
102	EXPLICIT NUMEROV TYPE METHODS FOR SECOND ORDER IVPs WITH OSCILLATING SOLUTIONS. International Journal of Modern Physics C, 2001, 12, 657-666.	1.7	28
103	A Tenth Order Symplectic Rungeâ€“Kuttaâ€“NystrÃ¶m Method. Celestial Mechanics and Dynamical Astronomy, 1999, 74, 223-230.	1.4	38
104	High Phase-Lag-Order Runge--Kutta and NystrÃ¶m Pairs. SIAM Journal of Scientific Computing, 1999, 21, 747-763.	2.8	79
105	Cheap Error Estimation for Runge--Kutta Methods. SIAM Journal of Scientific Computing, 1999, 20, 2067-2088.	2.8	64
106	A P-stable singly diagonally implicit Rungeâ€“Kuttaâ€“NystrÃ¶m method. Numerical Algorithms, 1998, 17, 345-353.	1.9	24
107	Explicit high order methods for the numerical integration of periodic initial-value problems. Applied Mathematics and Computation, 1998, 95, 15-26.	2.2	35
108	High-order zero-dissipative Runge-Kutta-NystrÃ¶m methods. Journal of Computational and Applied Mathematics, 1998, 95, 157-161.	2.0	12

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109	A parameter study of explicit Runge-Kutta pairs of orders 6(5). Applied Mathematics Letters, 1998, 11, 65-69.	2.7	37
110	Continuous extensions to high order runge-kutta methods. International Journal of Computer Mathematics, 1997, 65, 273-291.	1.8	2
111	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
112	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
113	A General Family of Explicit Rungeâ€"Kutta Pairs of Orders $6(5)$. SIAM Journal on Numerical Analysis, 1996, 33, 917-936.	2.3	34
114	Continuous Runge-Kutta(-NystrÃ¶m) methods with reduced phase-errors. Journal of Computational and Applied Mathematics, 1996, 69, 1-11.	2.0	1
115	Runge-Kutta pairs for periodic initial value problems. Computing (Vienna/New York), 1993, 51, 151-163.	4.8	38
116	Interpolating runge-kutta-nystrÃ¶m methods of high order. International Journal of Computer Mathematics, 1993, 47, 209-217.	1.8	4
117	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
118	Runge-Kutta interpolants based on values from two successive integration steps. Computing (Vienna/New York), 1990, 43, 255-266.	4.8	31
119	New interpolants for runge-kutta algorithms using second derivatives. International Journal of Computer Mathematics, 1989, 31, 105-113.	1.8	3
120	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
121	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
122	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
123	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