Beatrice Paternoster

List of Publications by Year
in descending order

103 papers	1,620 citations	236925 25 h-index	361022 35 g-index
107 all docs	107 docs citations	107 times ranked	262 citing authors

#	Article	IF	Citations
1	Runge-Kutta(-NystrÃ¶m) methods for ODEs with periodic solutions based on trigonometric polynomials. Applied Numerical Mathematics, 1998, 28, 401-412.	2.1	127
2	Present state-of-the-art in exponential fitting. A contribution dedicated to Liviu Ixaru on his 70th birthday. Computer Physics Communications, 2012, 183, 2499-2512.	7.5	80
3	Multistep collocation methods for Volterra Integral Equations. Applied Numerical Mathematics, 2009, 59, 1721-1736.	2.1	74
4	Numerical solution of time fractional diffusion systems. Applied Numerical Mathematics, 2017, 116, 82-94.	2.1	44
5	Two-step almost collocation methods for Volterra integral equations. Applied Mathematics and Computation, 2008, 204, 839-853.	2.2	41
6	Exponentially fitted two-step hybrid methods for <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si14.gif" display="inline" overflow="scroll"><mml:msup><mml:mrow><mml:mi>y</mml:mi></mml:mrow><mml:mrow><mml:mo>â€³</mml:mo></mml:mrow></ Journal of Computational and Applied Mathematics, 2011, 235, 4888-4897.	2.0	38
7	A Gauss quadrature rule for oscillatory integrands. Computer Physics Communications, 2001, 133, 177-188.	7.5	37
8	Two-step hybrid collocation methods for <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" display="inline" overflow="scroll"><mml:msup><mml:mrow><mml:mi>y</mml:mi></mml:mrow><mml:mrow><mml:mo>â€³</mml:mo></mml:mrow></ Applied Mathematics Letters, 2009, 22, 1076-1080.	2.7	37
9	Two-step almost collocation methods for ordinary differential equations. Numerical Algorithms, 2010, 53, 195-217.	1.9	37
10	Adapted numerical methods for advectionâ€"reactionâ€"diffusion problems generating periodic wavefronts. Computers and Mathematics With Applications, 2017, 74, 1029-1042.	2.7	36
11	A phase-fitted collocation-based Rungeâ€"Kuttaâ€"NystrÃ¶m method. Applied Numerical Mathematics, 2000, 35, 339-355.	2.1	32
12	Trigonometrically fitted two-step hybrid methods for special second order ordinary differential equations. Mathematics and Computers in Simulation, 2011, 81, 1068-1084.	4.4	31
13	A spectral method for stochastic fractional differential equations. Applied Numerical Mathematics, 2019, 139, 115-119.	2.1	30
14	Construction of the ef-based Rungeâ€"Kutta methods revisited. Computer Physics Communications, 2011, 182, 322-329.	7.5	29
15	General linear methods for yâ€²â€²â€‰=â€‰fâ€‰(yâ€‰(t)). Numerical Algorithms, 2012, 61, 331-349.	1.9	29
16	Parameter estimation in exponentially fitted hybrid methods for second order differential problems. Journal of Mathematical Chemistry, 2012, 50, 155-168.	1.5	29
17	Exponential fitting Direct Quadrature methods for Volterra integral equations. Numerical Algorithms, 2010, 55, 467-480.	1.9	28
18	Exponentially fitted two-step Rungeâ€"Kutta methods: Construction and parameter selection. Applied Mathematics and Computation, 2012, 218, 7468-7480.	2.2	28

#	Article	IF	Citations
19	Numerical solution of a diffusion problem by exponentially fitted finite difference methods. SpringerPlus, 2014, 3, 425.	1.2	28
20	Revised exponentially fitted Rungeâ€“Kuttaâ€“NystrÃ¶m methods. Applied Mathematics Letters, 2014, 30, 56-60.	2.7	27
21	Numerical solution of reactionâ€“diffusion systems of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si16.gif" display="inline" overflow="scroll"><mml:mi>Î»</mml:mi></mml:math>â€“<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si17.gif" display="inline" overflow="scroll"><mml:mi>Ï‰</mml:mi></mml:math>type by trigonometrically fitted methods. Journal of Computational and Applied Mathematics, 2016, 294, 436-445.	2.0	27
22	Exponentially fitted IMEX methods for advectionâ€“diffusion problems. Journal of Computational and Applied Mathematics, 2017, 316, 100-108.	2.0	27
23	Numerical search for algebraically stable two-step almost collocation methods. Journal of Computational and Applied Mathematics, 2013, 239, 304-321.	2.0	26
24	Exponentially fitted singly diagonally implicit Rungeâ€“Kutta methods. Journal of Computational and Applied Mathematics, 2014, 263, 277-287.	2.0	26
25	Two-step modified collocation methods with structured coefficient matrices. Applied Numerical Mathematics, 2012, 62, 1325-1334.	2.1	25
26	Two-step diagonally-implicit collocation based methods for Volterra Integral Equations. Applied Numerical Mathematics, 2012, 62, 1312-1324.	2.1	24
27	Multivalue collocation methods free from order reduction. Journal of Computational and Applied Mathematics, 2021, 387, 112515.	2.0	24
28	GPU-acceleration of waveform relaxation methods for large differential systems. Numerical Algorithms, 2016, 71, 293-310.	1.9	21
29	High order exponentially fitted methods for Volterra integral equations with periodic solution. Applied Numerical Mathematics, 2017, 114, 18-29.	2.1	21
30	Exponentially-fitted Gaussâ€“Laguerre quadrature rule for integrals over an unbounded interval. Journal of Computational and Applied Mathematics, 2014, 255, 725-736.	2.0	20
31	Collocation Methods for Volterra Integral and Integro-Differential Equations: A Review. Axioms, 2018, 7, 45.	1.9	20
32	Adapted explicit two-step peer methods. Journal of Numerical Mathematics, 2019, 27, 69-83.	3.5	20
33	About stability of nonlinear stochastic difference equations. Applied Mathematics Letters, 2000, 13, 27-32.	2.7	19
34	Modified Gaussâ€“Laguerre Exponential Fitting Based Formulae. Journal of Scientific Computing, 2016, 69, 227-243.	2.3	19
35	Construction and implementation of two-step continuous methods for Volterra integral equations. Applied Numerical Mathematics, 2017, 119, 239-247.	2.1	19
36	Two Step Runge-Kutta-NystrÃ¶m Methods for yâ€³ = f(x,y) and P-Stability. Lecture Notes in Computer Science, 2002, , 459-466.	1.3	19

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37	Some new uses of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:msub><mml:mi>Î·</mml:mi><mml:mi>m</mml:mi></mml:msub><mml:mo stretchy="false">(</mml:mo><mml:mi>Z</mml:mi><mml:mo stretchy="false">)</mml:mo></mml:math> functions. Computer Physics Communications, 2010, 181, 128-137.	7.5	18
38	A family of Multistep Collocation Methods for Volterra Integro-Differential Equations. , 2009, , .		17
39	Ef-Gaussian direct quadrature methods for Volterra integral equations with periodic solution. Mathematics and Computers in Simulation, 2015, 110, 125-143.	4.4	17
40	Numerical integration of Hamiltonian problems by G-symplectic methods. Advances in Computational Mathematics, 2014, 40, 553.	1.6	15
41	Improved Ï‘-methods for stochastic Volterra integral equations. Communications in Nonlinear Science and Numerical Simulation, 2021, 93, 105528.	3.3	15
42	Stiffness Analysis to Predict the Spread Out of Fake Information. Future Internet, 2021, 13, 222.	3.8	14
43	Numerical preservation of long-term dynamics by stochastic two-step methods. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 2763-2773.	0.9	14
44	A PRACTICAL APPROACH FOR THE DERIVATION OF ALGEBRAICALLY STABLE TWO-STEP RUNGE-KUTTA METHODS. Mathematical Modelling and Analysis, 2012, 17, 65-77.	1.5	13
45	Order conditions for General Linear NystrÃ¶m methods. Numerical Algorithms, 2014, 65, 579-595.	1.9	13
46	Parallel methods for weakly singular Volterra integral equations on GPUs. Applied Numerical Mathematics, 2017, 114, 30-37.	2.1	13
47	Parameter estimation in IMEX-trigonometrically fitted methods for the numerical solution of reactionâ€“diffusion problems. Computer Physics Communications, 2018, 226, 55-66.	7.5	13
48	Exponentially fitted two-step peer methods for oscillatory problems. Computational and Applied Mathematics, 2020, 39, 1.	2.2	13
49	A Family of Multistep Collocation Methods for Volterra Integral Equations. AIP Conference Proceedings, 2007, , .	0.4	12
50	Stability Issues for Selected Stochastic Evolutionary Problems: A Review. Axioms, 2018, 7, 91.	1.9	11
51	A general framework for the numerical solution of second order ODEs. Mathematics and Computers in Simulation, 2015, 110, 113-124.	4.4	10
52	General NystrÃ¶m methods in Nordsieck form: Error analysis. Journal of Computational and Applied Mathematics, 2016, 292, 694-702.	2.0	10
53	Perturbative analysis of stochastic Hamiltonian problems under time discretizations. Applied Mathematics Letters, 2021, 120, 107223.	2.7	10
54	On the stability of <inline-formula><tex-math id="M1">egin{document}$vartheta$end{document}</tex-math></inline-formula>-methods for stochastic Volterra integral equations. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 2695-2708.	0.9	10

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55	Two-step collocation methods for fractional differential equations. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 2709-2725.	0.9	10
56	Computation of the Interval of Stability of Rungeâ€“Kuttaâ€“NystrÃ¶m Methods. Journal of Symbolic Computation, 1998, 25, 383-394.	0.8	9
57	Order bound for a family of parallel Runge-Kutta-NystrÃ¶m methods through computer algebra. Computers and Mathematics With Applications, 1998, 35, 107-119.	2.7	9
58	Stability regions of one step mixed collocation methods for. Applied Numerical Mathematics, 2005, 53, 201-212.	2.1	9
59	P-stable general NystrÃ¶m methods foryâ€³=f(y(t)). Journal of Computational and Applied Mathematics, 2014, 262, 271-280.	2.0	9
60	Adapted numerical modelling of the Belousovâ€“Zhabotinsky reaction. Journal of Mathematical Chemistry, 2018, 56, 2876-2897.	1.5	9
61	Stability of Equilibrium Points of Fractional Difference Equations with Stochastic Perturbations. Advances in Difference Equations, 2008, 2008, 1-22.	3.5	8
62	Synchronization scenarios induced by delayed communication in arrays of diffusively coupled autonomous chemical oscillators. Physical Chemistry Chemical Physics, 2021, 23, 17606-17615.	2.8	8
63	A Family of Exponential Fitting Direct Quadrature Methods for Volterra Integral Equations. , 2010, , .		7
64	Exponential fitting quadrature rule for functional equations. , 2012, , .		7
65	Fully parallel Runge-Kutta-NystrÃ¶m methods for ODEs with oscillating solutions. Applied Numerical Mathematics, 1993, 11, 143-158.	2.1	6
66	Multivalue mixed collocation methods. Applied Mathematics and Computation, 2021, 409, 126346.	2.2	6
67	Multivalue Collocation Methods for Ordinary and Fractional Differential Equations. Mathematics, 2022, 10, 185.	2.2	6
68	Two Step Runge-Kutta-NystrÃ¶m Methods for Oscillatory Problems Based on Mixed Polynomials. Lecture Notes in Computer Science, 2003, , 131-138.	1.3	5
69	An exponentially fitted quadrature rule over unbounded intervals. , 2012, , .		5
70	Vehicle-to-Everything (V2X) Communication Scenarios for Vehicular Ad-hoc Networking (VANET): AnÂOverview. Lecture Notes in Computer Science, 2021, , 15-30.	1.3	5
71	Optimal control of system governed by nonlinear volterra integral and fractional derivative equations. Computational and Applied Mathematics, 2021, 40, 1.	2.2	5
72	Application of the general method of Lyapunov functionals construction for difference Volterra equations. Computers and Mathematics With Applications, 2004, 47, 1165-1176.	2.7	4

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73	Jacobian-dependent vs Jacobian-free discretizations for nonlinear differential problems. Computational and Applied Mathematics, 2020, 39, 1.	2.2	4
74	Time-Delay Fractional Optimal Control Problems: A Survey Based on Methodology. Lecture Notes in Mechanical Engineering, 2021, , 325-337.	0.4	4
75	A MATLAB Implementation of Spline Collocation Methods for Fractional Differential Equations. Lecture Notes in Computer Science, 2021, , 387-401.	1.3	4
76	Two-step peer methods with equation-dependent coefficients. Computational and Applied Mathematics, 2022, 41, 1.	2.2	4
77	Highly stable multivalue collocation methods. Journal of Physics: Conference Series, 2020, 1564, 012012.	0.4	3
78	Regularized exponentially fitted methods for oscillatory problems. Journal of Physics: Conference Series, 2020, 1564, 012013.	0.4	3
79	Jacobian-Dependent Two-Stage Peer Method for Ordinary Differential Equations. Lecture Notes in Computer Science, 2021, , 309-324.	1.3	3
80	Numerical Treatment of Fractional Differential Models. Lecture Notes in Mechanical Engineering, 2021, , 289-302.	0.4	3
81	On the Employ of Time Series in the Numerical Treatment of Differential Equations Modeling Oscillatory Phenomena. Communications in Computer and Information Science, 2017, , 179-187.	0.5	3
82	Analysis of Stability of Rational Approximations through Computer Algebra. , 1999, , 25-36.		3
83	Vandermondeâ€“Type Matrices in Two Step Collocation Methods for Special Second Order Ordinary Differential Equations. Lecture Notes in Computer Science, 2004, , 418-425.	1.3	2
84	Stability analysis of frequency and step length dependent Rungeâ€“Kuttaâ€“NystrÃ¶m methods. Future Generation Computer Systems, 2006, 22, 395-402.	7.5	2
85	Some mathematical aspects to detect fake news: a short review. , 2020, , .		2
86	Comparison Between Protein-Protein Interaction Networks CD4$$^+$$T and CD8$$^+$$T and a Numerical Approach for Fractional HIV Infection of CD4$$^{+}$$T Cells. Lecture Notes in Computer Science, 2021, , 78-94.	1.3	2
87	Advances on Collocation Based Numerical Methods for Ordinary Differential Equations and Volterra Integral Equations. , 2011, , 41-66.		2
88	Mean Square Summability of Solution of Stochastic Difference Second-Kind Volterra Equation with Small Nonlinearity. Advances in Difference Equations, 2007, 2007, 1-14.	3.5	1
89	Modified Collocation Techniques for Volterra Integral Equations. , 2009, , .		1
90	On the numerical treatment of selected oscillatory evolutionary problems. AIP Conference Proceedings, 2017, , .	0.4	1

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91	Singly diagonally implicit multivalue collocation methods. , 2020, , .		1
92	Continuous Extension of Euler-Maruyama Method for Stochastic Differential Equations. Lecture Notes in Computer Science, 2021, , 135-145.	1.3	1
93	User-Friendly Expressions of the Coefficients of Some Exponentially Fitted Methods. Lecture Notes in Computer Science, 2020, , 47-62.	1.3	1
94	Practical Construction of Two-Step Collocation Runge-Kutta Methods for Ordinary Differential Equations. , 2009, , .		1
95	Stiffness ratio and the diffusion of fake news. AIP Conference Proceedings, 2022, , .	0.4	1
96	A Modified SEIR Model: Stiffness Analysis andÂApplication toÂtheÂDiffusion ofÂFake News. Lecture Notes in Computer Science, 2022, , 90-103.	1.3	1
97	Diagonally implicit exponentially fitted Runge-Kutta methods with equation dependent coefficients. , 2012, , .		0
98	Highly stable multivalue numerical methods. AIP Conference Proceedings, 2015, , .	0.4	0
99	Stochastic Numerical Models of Oscillatory Phenomena. Communications in Computer and Information Science, 2018, , 59-69.	0.5	0
100	Multivalue Almost Collocation Methods with Diagonal Coefficient Matrix. Lecture Notes in Computer Science, 2020, , 135-148.	1.3	0
101	Semi-implicit multivalue almost collocation methods. AIP Conference Proceedings, 2022, , .	0.4	0
102	Numerical conservation issues for stochastic Hamiltonian problems. AIP Conference Proceedings, 2022, , .	0.4	0
103	Adapted peer methods for oscillatory problems. AIP Conference Proceedings, 2022, , .	0.4	0