Felice Iavernaro

List of Publications by Year
in descending order

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81	1,323	331670	395702
papers	citations	21 h-index	33 g-index

82	82	82	307
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A simple framework for the derivation and analysis of effective one-step methods for ODEs. Applied Mathematics and Computation, 2012, 218, 8475-8485.	2.2	87
2	A note on the efficient implementation of Hamiltonian BVMs. Journal of Computational and Applied Mathematics, 2011, 236, 375-383.	2.0	72
3	Energy- and Quadratic Invariants–Preserving Integrators Based upon Gauss Collocation Formulae. SIAM Journal on Numerical Analysis, 2012, 50, 2897-2916.	2.3	69
4	Energy conservation issues in the numerical solution of the semilinear wave equation. Applied Mathematics and Computation, 2015, 270, 842-870.	2.2	63
5	s-stage Trapezoidal Methods for the Conservation of Hamiltonian Functions of Polynomial Type. AIP Conference Proceedings, 2007, , .	0.4	56
6	Solving ordinary differential equations by generalized Adams methods: properties and implementation techniques. Applied Numerical Mathematics, 1998, 28, 107-126.	2.1	55
7	Block-Boundary Value Methods for the Solution of Ordinary Differential Equations. SIAM Journal of Scientific Computing, 1999, 21, 323-339.	2.8	55
8	A generalized Taylor method of order three for the solution of initial value problems in standard and infinity floating-point arithmetic. Mathematics and Computers in Simulation, 2017, 141, 24-39.	4.4	55
9	Analysis of Hamiltonian Boundary Value Methods (HBVMs): A class of energy-preserving Rungeâ€“Kutta methods for the numerical solution of polynomial Hamiltonian systems. Communications in Nonlinear Science and Numerical Simulation, 2015, 20, 650-667.	3.3	51
10	Efficient implementation of Gauss collocation and Hamiltonian boundary value methods. Numerical Algorithms, 2014, 65, 633-650.	1.9	45
11	Hamiltonian BVMs (HBVMs): A Family of â€œDrift Freeâ€•Methods for Integrating polynomial Hamiltonian problems. , 2009, , .		42
12	Energy-conserving methods for the nonlinear SchrÃ¶dinger equation. Applied Mathematics and Computation, 2018, 318, 3-18.	2.2	42
13	Conservative Blockâ€Boundary Value Methods for the Solution of Polynomial Hamiltonian Systems. AIP Conference Proceedings, 2008, , .	0.4	40
14	Line integral methods which preserve all invariants of conservative problems. Journal of Computational and Applied Mathematics, 2012, 236, 3905-3919.	2.0	37
15	Line Integral Solution of Differential Problems. Axioms, 2018, 7, 36.	1.9	32
16	Spectrally accurate space-time solution of Hamiltonian PDEs. Numerical Algorithms, 2019, 81, 1183-1202.	1.9	28
17	Conjugate-symplecticity properties of Eulerâ€“Maclaurin methods and their implementation on the Infinity Computer. Applied Numerical Mathematics, 2020, 155, 58-72.	2.1	28
18	The lack of continuity and the role of infinite and infinitesimal in numerical methods for ODEs: The case of symplecticity. Applied Mathematics and Computation, 2012, 218, 8056-8063.	2.2	27

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19	A two-step, fourth-order method with energy preserving properties. Computer Physics Communications, 2012, 183, 1860-1868.	7.5	25
20	Convergence and Stability of Multistep Methods Solving Nonlinear Initial Value Problems. SIAM Journal of Scientific Computing, 1997, 18, 270-285.	2.8	23
21	Energy-conserving methods for Hamiltonian boundary value problems and applications in astrodynamics. Advances in Computational Mathematics, 2015, 41, 881-905.	1.6	23
22	Computation of higher order Lie derivatives on the Infinity Computer. Journal of Computational and Applied Mathematics, 2021, 383, 113135.	2.0	22
23	Symmetric Boundary Value Methods for Second Order Initial and Boundary Value Problems. Mediterranean Journal of Mathematics, 2006, 3, 383-398.	0.8	21
24	Analysis of Energy and QUadratic Invariant Preserving (EQUIP) methods. Journal of Computational and Applied Mathematics, 2018, 335, 51-73.	2.0	19
25	Boundary values methods for time-domain simulation of power system dynamic behavior. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1998, 45, 50-63.	0.1	17
26	Analysis of spectral Hamiltonian boundary value methods (SHBVMs) for the numerical solution of ODE problems. Numerical Algorithms, 2020, 83, 1489-1508.	1.9	17
27	Arbitrarily high-order energy-preserving methods for simulating the gyrocenter dynamics of charged particles. Journal of Computational and Applied Mathematics, 2020, 380, 112994.	2.0	16
28	Energy and Quadratic Invariants Preserving Integrators of Gaussian Type. , 2010, , .		13
29	Line Integral Solution of Hamiltonian PDEs. Mathematics, 2019, 7, 275.	2.2	12
30	Numerical methods for solving ODEs on the infinity computer. AIP Conference Proceedings, 2016, , .	0.4	11
31	Efficient implementation of Radau collocation methods. Applied Numerical Mathematics, 2015, 87, 100-113.	2.1	10
32	Hamiltonian BVMs (HBVMs): Implementation Details and Applications. , 2009, , .		9
33	On the use of the Infinity Computer architecture to set up a dynamic precision floating-point arithmetic. Soft Computing, 2020, 24, 17589-17600.	3.6	8
34	A multiregional extension of the SIR model, with application to the COVIDâ€19 spread in Italy. Mathematical Methods in the Applied Sciences, 2021, 44, 4414-4427.	2.3	8
35	Efficient implementation of geometric integrators for separable Hamiltonian problems. AIP Conference Proceedings, 2013, , .	0.4	7
36	A note on the continuous-stage Rungeâ€“Kutta(â€“NystrÃ¶m) formulation of Hamiltonian Boundary Value Methods (HBVMs). Applied Mathematics and Computation, 2019, 363, 124634.	2.2	7

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37	Line integral solution of Hamiltonian systems with holonomic constraints. Applied Numerical Mathematics, 2018, 127, 56-77.	2.1	6
38	A minimum-time obstacle-avoidance path planning algorithm for unmanned aerial vehicles. Numerical Algorithms, 2022, 89, 1639-1661.	1.9	6
39	Continuous-Stage Rungeâ€“Kutta Approximation to Differential Problems. Axioms, 2022, 11, 192.	1.9	6
40	Eigenvalues and Quasi-Eigenvalues of Banded Toeplitz Matrices: Some Properties and Applications. Numerical Algorithms, 2002, 31, 157-170.	1.9	5
41	Multistep Methods for Conservative Problems. Mediterranean Journal of Mathematics, 2005, 2, 53-69.	0.8	5
42	Line integral formulation of energy and QUadratic invariants preserving (EQUIP) methods for Hamiltonian systems. AIP Conference Proceedings, 2016, , .	0.4	5
43	Spectrally accurate solutions of nonlinear fractional initial value problems. AIP Conference Proceedings, 2019, , .	0.4	5
44	Generalization of Backward Differentiation Formulas for Parallel Computers. Numerical Algorithms, 2002, 31, 139-155.	1.9	4
45	Conservative perturbations of positive definite Hamiltonian matrices. Numerical Linear Algebra With Applications, 2005, 12, 117-125.	1.6	4
46	Geometric integration by playing with matrices. , 2012, , .		4
47	Recent advances in the numerical solution of conservative problems. , 2012, , .		4
48	Arbitrarily high-order energy-conserving methods for Poisson problems. Numerical Algorithms, 2022, 91, 861-894.	1.9	4
49	Numerical Comparisons among Some Methods for Hamiltonian Problems. , 2010, , .		3
50	Energy conservation issues in the numerical solution of Hamiltonian PDEs. AIP Conference Proceedings, 2015, , .	0.4	3
51	Fluid statics of a self-gravitating perfect-gas isothermal sphere. European Journal of Mechanics, B/Fluids, 2019, 78, 62-87.	2.5	3
52	A Fourth Order Symplectic and Conjugate-Symplectic Extension of the Midpoint and Trapezoidal Methods. Mathematics, 2021, 9, 1103.	2.2	3
53	A Dynamic Precision Floating-Point Arithmetic Based on the Infinity Computer Framework. Lecture Notes in Computer Science, 2020, , 289-297.	1.3	3
54	On the Discrete Nature of Physical Laws. , 2004, , 35-48.		3

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55	Symmetric schemes and Hamiltonian perturbations of linear Hamiltonian problems. Numerical Linear Algebra With Applications, 2005, 12, 171-179.	1.6	2
56	State-dependent symplecticity and area preserving numerical methods. Journal of Computational and Applied Mathematics, 2007, 205, 814-825.	2.0	2
57	Recent advances in the numerical solution of Hamiltonian PDEs. AIP Conference Proceedings, 2015, , .	0.4	2
58	Reprint of Analysis of Hamiltonian Boundary Value Methods (HBVMs): A class of energy-preserving Rungeâ€“Kutta methods for the numerical solution of polynomial Hamiltonian systems. Communications in Nonlinear Science and Numerical Simulation, 2015, 21, 34-51.	3.3	2
59	Recent advances in the numerical solution of Hamiltonian partial differential equations. AIP Conference Proceedings, 2016, , .	0.4	2
60	Maximalâ€entropy driven determination of weights in leastâ€square approximation. Mathematical Methods in the Applied Sciences, 2021, 44, 6448-6461.	2.3	2
61	State Dependent Symplecticity of Symmetric Methods. Lecture Notes in Computer Science, 2006, , 724-731.	1.3	2
62	Conservation Properties of Symmetric BVMs Applied to Linear Hamiltonian Problems. Lecture Notes in Computer Science, 2002, , 429-438.	1.3	2
63	On the Extension of the Code GAM for Parallel Computingâ‹†. Lecture Notes in Computer Science, 1999, , 1136-1143.	1.3	2
64	Arbitrary high-order methods for one-sided direct event location in discontinuous differential problems with nonlinear event function. Applied Numerical Mathematics, 2022, 179, 39-49.	2.1	2
65	A general framework for solving differential equations. Annali Dell'Universita Di Ferrara, 2022, 68, 243-258.	1.3	2
66	Parallel implicit predictor corrector methods. Applied Numerical Mathematics, 2002, 42, 235-250.	2.1	1
67	Continued fractions without fractions: Lagrange theorem and Pell equations. Nonlinear Analysis: Theory, Methods & Applications, 2009, 71, e2136-e2151.	1.1	1
68	Energy conservation in the numerical solution of Hamiltonian boundary value problems. , 2013, , .		1
69	Solving the nonlinear SchrÃ¶dinger equation using energy conserving Hamiltonian boundary value methods. AIP Conference Proceedings, 2017, , .	0.4	1
70	Predictor-corrector implementation of EQUIP methods. AIP Conference Proceedings, 2018, , .	0.4	1
71	Symplecticity properties of Eulerâ€“Maclaurin methods. AIP Conference Proceedings, 2018, , .	0.4	1
72	Space-time spectrally accurate HBVMs for Hamiltonian PDEs. AIP Conference Proceedings, 2019, , .	0.4	1

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73	Advanced Numerical Methods in Applied Sciences. Axioms, 2019, 8, 16.	1.9	1
74	Recent Advances on Preserving Methods for General Conservative Systems. , 2011, , .		0
75	Recent advances on the parallelization of Gauss methods. , 2012, , .		0
76	Continued fractions as dynamical systems. Applied Mathematics and Computation, 2012, 218, 8203-8216.	2.2	0
77	Modified line integral methods for conservative problems with multiple invariants. AIP Conference Proceedings, 2015, , .	0.4	0
78	On the use of the line integral in the numerical treatment of conservative problems. AIP Conference Proceedings, 2016, , .	0.4	0
79	Solvability of Runge-Kutta and Block-BVMs Systems Applied to Scalar ODEs. Lecture Notes in Computer Science, 2001, , 513-520.	1.3	0
80	Spectral solution of ODE-IVPs by using SHBVMs. AIP Conference Proceedings, 2020, , .	0.4	0
81	Spectral solution of delay differential equations with application to a model for the COVID-19 spread in Italy. AIP Conference Proceedings, 2022, , .	0.4	0