

Gustaf SÅnderlind

List of Publications by Year in descending order

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33
papers

1,415
citations

430843

18
h-index

414395

32
g-index

34
all docs

34
docs citations

34
times ranked

1024
citing authors

#	ARTICLE	IF	CITATIONS
1	Index Reduction in Differential-Algebraic Equations Using Dummy Derivatives. SIAM Journal of Scientific Computing, 1993, 14, 677-692.	2.8	229
2	API stepsize control for the numerical solution of ordinary differential equations. BIT Numerical Mathematics, 1988, 28, 270-287.	2.0	179
3	The logarithmic norm. History and modern theory. BIT Numerical Mathematics, 2006, 46, 631-652.	2.0	125
4	Automatic Control and Adaptive Time-Stepping. Numerical Algorithms, 2002, 31, 281-310.	1.9	121
5	Vortex Ring Formation in the Left Ventricle of the Heart: Analysis by 4D Flow MRI and Lagrangian Coherent Structures. Annals of Biomedical Engineering, 2012, 40, 2652-2662.	2.5	114
6	Digital filters in adaptive time-stepping. ACM Transactions on Mathematical Software, 2003, 29, 1-26.	2.9	107
7	Adaptive time-stepping and computational stability. Journal of Computational and Applied Mathematics, 2006, 185, 225-243.	2.0	100
8	Control Strategies for the Iterative Solution of Nonlinear Equations in ODE Solvers. SIAM Journal of Scientific Computing, 1997, 18, 23-40.	2.8	50
9	Explicit, Time Reversible, Adaptive Step Size Control. SIAM Journal of Scientific Computing, 2005, 26, 1838-1851.	2.8	45
10	Time-step selection algorithms: Adaptivity, control, and signal processing. Applied Numerical Mathematics, 2006, 56, 488-502.	2.1	43
11	On nonlinear difference and differential equations. BIT Numerical Mathematics, 1984, 24, 667-680.	2.0	35
12	Stability and Asymptotic Estimates in Nonautonomous Linear Differential Systems. SIAM Journal on Mathematical Analysis, 1985, 16, 69-92.	1.9	28
13	Stiffness 1952–2012: Sixty years in search of a definition. BIT Numerical Mathematics, 2015, 55, 531-558.	2.0	27
14	Adaptivity and computational complexity in the numerical solution of ODEs. Journal of Complexity, 2008, 24, 341-361.	1.3	25
15	Geometric integration of Hamiltonian systems perturbed by Rayleigh damping. BIT Numerical Mathematics, 2011, 51, 977-1007.	2.0	23
16	On the construction of error estimators for implicit Runge-Kutta methods. Journal of Computational and Applied Mathematics, 1997, 86, 347-358.	2.0	22
17	Stage Value Predictors and Efficient Newton Iterations in Implicit Runge-Kutta Methods. SIAM Journal of Scientific Computing, 1998, 20, 185-202.	2.8	21
18	Evaluating numerical ODE/DAE methods, algorithms and software. Journal of Computational and Applied Mathematics, 2006, 185, 244-260.	2.0	19

#	ARTICLE	IF	CITATIONS
19	Vortexâ€ring mixing as a measure of diastolic function of the human heart: Phantom validation and initial observations in healthy volunteers and patients with heart failure. <i>Journal of Magnetic Resonance Imaging</i> , 2016, 43, 1386-1397.	3.4	15
20	Automatic grid control in adaptive BVP solvers. <i>Numerical Algorithms</i> , 2011, 56, 61-92.	1.9	12
21	Logarithmic Norms and Nonlinear DAE Stability. <i>BIT Numerical Mathematics</i> , 2002, 42, 823-841.	2.0	11
22	Convergence of multistep discretizations of DAEs. <i>BIT Numerical Mathematics</i> , 1995, 35, 143-168.	2.0	9
23	On the zero-stability of multistep methods on smooth nonuniform grids. <i>BIT Numerical Mathematics</i> , 2018, 58, 1125-1143.	2.0	9
24	Global Bounds on Numerical Error for Ordinary Differential Equations. <i>Journal of Complexity</i> , 1993, 9, 97-112.	1.3	8
25	Regular and singular ϵ -blocking of difference corrected multistep methods for nonstiff index-2 DAEs. <i>Applied Numerical Mathematics</i> , 2000, 35, 293-305.	2.1	7
26	Local error estimation and step size control in adaptive linear multistep methods. <i>Numerical Algorithms</i> , 2021, 86, 537-563.	1.9	7
27	The impact of smooth W -grids in the numerical solution of singular perturbation two-point boundary value problems. <i>Applied Mathematics and Computation</i> , 2012, 218, 6045-6055.	2.2	6
28	An error bound for fixed-point iterations. <i>BIT Numerical Mathematics</i> , 1984, 24, 391-393.	2.0	5
29	Constant coefficient linear multistep methods with step density control. <i>Journal of Computational and Applied Mathematics</i> , 2007, 205, 891-900.	2.0	5
30	Protein Configuration Landscape Fluctuations Revealed by Exciton Transition Polarizations in Single Light Harvesting Complexes. <i>Journal of Physical Chemistry B</i> , 2016, 120, 724-732.	2.6	4
31	A multi-purpose system for the numerical integration of ODE's. <i>Applied Mathematics and Computation</i> , 1989, 31, 346-360.	2.2	3
32	A Software Platform for Adaptive High Order Multistep Methods. <i>ACM Transactions on Mathematical Software</i> , 2020, 46, 1-17.	2.9	1
33	Logarithmic Norms. , 2015, , 826-830.		0