Uri M Ascher

List of Publications by Year
in descending order

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56	5,444	236925 25	206112 48
papers	citations	h-index	g-index

60	60	60	3328
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Implicit-explicit Runge-Kutta methods for time-dependent partial differential equations. Applied Numerical Mathematics, 1997, 25, 151-167.	2.1	854
2	Implicit-Explicit Methods for Time-Dependent Partial Differential Equations. SIAM Journal on Numerical Analysis, 1995, 32, 797-823.	2.3	741
3	Inversion of 3D electromagnetic data in frequency and time domain using an inexact allâ€atâ€once approach. Geophysics, 2004, 69, 1216-1228.	2.6	142
4	Projected Implicit Rungeâ€“Kutta Methods for Differential-Algebraic Equations. SIAM Journal on Numerical Analysis, 1991, 28, 1097-1120.	2.3	133
5	Multisymplectic box schemes and the Kortewegâ€“de Vries equation. Applied Numerical Mathematics, 2004, 48, 255-269.	2.1	128
6	Stabilization of DAEs and invariant manifolds. Numerische Mathematik, 1994, 67, 131-149.	1.9	117
7	Stabilization of Constrained Mechanical Systems with DAEs and Invariant Manifolds. Mechanics Based Design of Structures and Machines, 1995, 23, 135-157.	0.6	103
8	Collocation Software for Boundary Value Differential-Algebraic Equations. SIAM Journal of Scientific Computing, 1994, 15, 938-952.	2.8	89
9	The Numerical Solution of Delay-Differential-Algebraic Equations of Retarded and Neutral Type. SIAM Journal on Numerical Analysis, 1995, 32, 1635-1657.	2.3	82
10	Stability of Computational Methods for Constrained Dynamics Systems. SIAM Journal of Scientific Computing, 1993, 14, 95-120.	2.8	75
11	On Symplectic and Multisymplectic Schemes for the KdV Equation. Journal of Scientific Computing, 2005, 25, 83-104.	2.3	75
12	On level set regularization for highly ill-posed distributed parameter estimation problems. Journal of Computational Physics, 2006, 216, 707-723.	3.8	67
13	Adaptive finite volume method for distributed non-smooth parameter identification. Inverse Problems, 2007, 23, 1659-1676.	2.0	60
14	Improved Bounds on Sample Size for Implicit Matrix Trace Estimators. Foundations of Computational Mathematics, 2015, 15, 1187-1212.	2.5	52
15	Forward Dynamics, Elimination Methods, and Formulation Stiffness in Robot Simulation. International Journal of Robotics Research, 1997, 16, 749-758.	8.5	46
16	Sequential Regularization Methods for Nonlinear Higher-Index DAEs. SIAM Journal of Scientific Computing, 1997, 18, 160-181.	2.8	44
17	Sequential Regularization Methods for Higher Index DAEs with Constraint Singularities: The Linear Index-2 Case. SIAM Journal on Numerical Analysis, 1996, 33, 1921-1940.	2.3	43
18	Stabilization of invariants of discretized differential systems. Numerical Algorithms, 1997, 14, 1-24.	1.9	42

#	Article	IF	Citations
19	Solving boundary-value problems with a spline-collocation code. Journal of Computational Physics, 1980, 34, 401-413.	3.8	37
20	On Symmetric Schemes and Differential-Algebraic Equations. SIAM Journal on Scientific and Statistical Computing, 1989, 10, 937-949.	1.5	37
21	Collocation for Two-Point Boundary Value Problems Revisited. SIAM Journal on Numerical Analysis, 1986, 23, 596-609.	2.3	32
22	On the modified conjugate gradient method in cloth simulation. Visual Computer, 2003, 19, 526-531.	3.5	30
23	Multiple Level Sets for Piecewise Constant Surface Reconstruction in Highly Ill-Posed Problems. Journal of Scientific Computing, 2010, 43, 44-66.	2.3	30
24	The Midpoint Scheme and Variants for Hamiltonian Systems: Advantages and Pitfalls. SIAM Journal of Scientific Computing, 1999, 21, 1045-1065.	2.8	28
25	The Chaotic Nature of Faster Gradient Descent Methods. Journal of Scientific Computing, 2012, 51, 560-581.	2.3	27
26	On Numerical Differential Algebraic Problems with Application to Semiconductor Device Simulation. SIAM Journal on Numerical Analysis, 1989, 26, 517-538.	2.3	25
27	Artificial time integration. BIT Numerical Mathematics, 2007, 47, 3-25.	2.0	23
28	Stochastic Algorithms for Inverse Problems Involving PDEs and many Measurements. SIAM Journal of Scientific Computing, 2014, 36, S3-S22.	2.8	23
29	Projected collocation for higher-order higher-index differential-algebraic equations. Journal of Computational and Applied Mathematics, 1992, 43, 243-259.	2.0	22
30	Gradient descent and fast artificial time integration. ESAIM: Mathematical Modelling and Numerical Analysis, 2009, 43, 689-708.	1.9	22
31	Adaptive and Stochastic Algorithms for Electrical Impedance Tomography and DC Resistivity Problems with Piecewise Constant Solutions and Many Measurements. SIAM Journal of Scientific Computing, 2012, 34, A185-A205.	2.8	18
32	Discrete Least Squares Approximations for Ordinary Differential Equations. SIAM Journal on Numerical Analysis, 1978, 15, 478-496.	2.3	17
33	On Some Difficulties in Integrating Highly Oscillatory Hamiltonian Systems. Lecture Notes in Computational Science and Engineering, 1999, , 281-296.	0.3	17
34	Exponential Rosenbrock-Euler Integrators for Elastodynamic Simulation. IEEE Transactions on Visualization and Computer Graphics, 2018, 24, 2702-2713.	4.4	14
35	The lost honor of â„“₂-based regularization. , 2013, , 181-203.		12
36	A Multigrid Method for Shape from Shading. SIAM Journal on Numerical Analysis, 1993, 30, 102-115.	2.3	11

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37	Assessing Stochastic Algorithms for Large Scale Nonlinear Least Squares Problems Using Extremal Probabilities of Linear Combinations of Gamma Random Variables. SIAM-ASA Journal on Uncertainty Quantification, 2015, 3, 61-90.	2.0	11
38	Faster Gradient Descent and the Efficient Recovery of Images. Vietnam Journal of Mathematics, 2014, 42, 115-131.	0.8	9
39	Sequential Regularization Methods for Simulating Mechanical Systems with Many Closed Loops. SIAM Journal of Scientific Computing, 1999, 21, 1244-1262.	2.8	8
40	EigenFit for consistent elastodynamic simulation across mesh resolution. , 2019, , .		7
41	Numerical Methods for Boundary Value Problems in Differential-Algebraic Equations. , 1992, , 125-135.		7
42	SIERE. ACM Transactions on Graphics, 2021, 40, 1-12.	7.2	6
43	Learning Elastic Constitutive Material and Damping Models. Computer Graphics Forum, 2020, 39, 81-91.	3.0	5
44	DAEs That Should Not Be Solved. The IMA Volumes in Mathematics and Its Applications, 2000, , 55-67.	0.5	4
45	Approximate Schur Complement Preconditioning of the Lowest-Order Nodal Discretizations. SIAM Journal of Scientific Computing, 1998, 19, 185-205.	2.8	3
46	Surprising computations. Applied Numerical Mathematics, 2012, 62, 1276-1288.	2.1	3
47	Simulating deformable objects for computer animation: A numerical perspective. Journal of Computational Dynamics, 2022, 9, 47.	1.1	3
48	Linear Programming Algorithms for the Chebyshev Solution to a System of Consistent Linear Equations. SIAM Journal on Numerical Analysis, 1977, 14, 519-526.	2.3	2
49	On the invariance of the interpolation points of the discrete l1-approximation. Journal of Approximation Theory, 1978, 24, 83-91.	0.8	2
50	Algorithms that Satisfy a Stopping Criterion, Probably. Vietnam Journal of Mathematics, 2016, 44, 49-69.	0.8	1
51	Numerical Analysis in Visual Computing What we can Learn from each Other. Vietnam Journal of Mathematics, 2018, 46, 745-759.	0.8	1
52	Fast Surface Mesh Denoising with Regularization and Edge Preservation. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 2010001-2010002.	0.2	0
53	Introduction to Bayesian Scientific Computing: Ten Lectures on Subjective Computing by Daniela Calvetti and Erkki Somersalo. Mathematical Intelligencer, 2009, 31, 73-74.	0.2	0
54	Fast but chaotic artificial time integration. , 2012, , .		0

#	ARTICLE	IF	CITATIONS
55	Fast Chaotic Artificial Time Integration. , 2013, , 147-155.		0
56	When [script-l]1-based regularization is great, and when it's not. , 2013, , .		0