

Mahadevan Ganesh

List of Publications by Year in descending order

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85
papers

1,174
citations

430442

18
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433756

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85
all docs

85
docs citations

85
times ranked

668
citing authors

#	ARTICLE	IF	CITATIONS
1	Approximation of radiating waves in the near-field: Error estimates and application to a class of inverse problems. <i>Journal of Computational and Applied Mathematics</i> , 2022, 401, 113769.	1.1	1
2	Analysis and application of an overlapped FEM-BEM for wave propagation in unbounded and heterogeneous media. <i>Applied Numerical Mathematics</i> , 2022, 171, 76-105.	1.2	2
3	An efficient multi-level high-order algorithm for simulation of a class of Allen-Cahn stochastic systems. <i>Journal of Computational and Applied Mathematics</i> , 2022, 401, 113765.	1.1	0
4	A surrogate Bayesian framework for a SARS-CoV-2 data driven stochastic model. <i>Computational and Mathematical Biophysics</i> , 2022, 10, 34-67.	0.6	0
5	A numerically stable T-matrix method for acoustic scattering by nonspherical particles with large aspect ratios and size parameters. <i>Journal of the Acoustical Society of America</i> , 2022, 151, 1978-1988.	0.5	1
6	Quasi-Monte Carlo Finite Element Analysis for Wave Propagation in Heterogeneous Random Media. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2021, 9, 106-134.	1.1	6
7	A coercive heterogeneous media Helmholtz model: formulation, wavenumber-explicit analysis, and preconditioned high-order FEM. <i>Numerical Algorithms</i> , 2020, 83, 1441-1487.	1.1	12
8	An overlapping decomposition framework for wave propagation in heterogeneous and unbounded media: Formulation, analysis, algorithm, and simulation. <i>Journal of Computational Physics</i> , 2020, 403, 109052.	1.9	9
9	A Reduced-Order-Model Bayesian Obstacle Detection Algorithm. <i>MATRIX Book Series</i> , 2020, , 17-27.	0.2	0
10	A well-posed surface currents and charges system for electromagnetism in dielectric media. <i>Journal of Integral Equations and Applications</i> , 2020, 32, .	0.2	1
11	An efficient algorithm for a class of stochastic forward and inverse Maxwell models in \mathbb{R}^3 . <i>Journal of Computational Physics</i> , 2019, 398, 108881.	1.9	6
12	A fast high order algorithm for multiple scattering from large sound-hard three dimensional configurations. <i>Journal of Computational and Applied Mathematics</i> , 2019, 362, 324-340.	1.1	4
13	An FEM-MLMC algorithm for a moving shutter diffraction in time stochastic model. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2019, 24, 257-272.	0.5	1
14	Algorithm 975. <i>ACM Transactions on Mathematical Software</i> , 2018, 44, 1-18.	1.6	43
15	A Spectrally Accurate Algorithm and Analysis for a Ginzburg-Landau Model on Superconducting Surfaces. <i>Multiscale Modeling and Simulation</i> , 2018, 16, 78-105.	0.6	5
16	High-order FEM domain decomposition models for high-frequency wave propagation in heterogeneous media. <i>Computers and Mathematics With Applications</i> , 2018, 75, 1961-1972.	1.4	9
17	Hyperinterpolation for Spectral Wave Propagation Models in Three Dimensions. , 2018, , 351-372.		0
18	An efficient multigrid algorithm for heterogeneous acoustic media indefinite high-order FEM models. <i>Numerical Linear Algebra With Applications</i> , 2017, 24, e2049.	0.9	7

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19	Computing spatial correlation of ground motion intensities for ShakeMap. Computers and Geosciences, 2017, 99, 145-154.	2.0	27
20	A Sign-Definite Preconditioned High-Order FEM, Part I: Formulation and Simulation for Bounded Homogeneous Media Wave Propagation. SIAM Journal of Scientific Computing, 2017, 39, S563-S586.	1.3	9
21	Sobolev estimates for constructive uniform-grid FFT interpolatory approximations of spherical functions. Advances in Computational Mathematics, 2016, 42, 843-887.	0.8	0
22	High-order FEM-BEM computer models for wave propagation in unbounded and heterogeneous media: Application to time-harmonic acoustic horn problem. Journal of Computational and Applied Mathematics, 2016, 307, 183-203.	1.1	19
23	An offline/online algorithm for a class of stochastic multiple obstacle scattering configurations in the half-plane. Journal of Computational and Applied Mathematics, 2016, 307, 52-64.	1.1	3
24	Parallel mixed FEM simulation of a class of single-phase models with non-local operators. Journal of Computational and Applied Mathematics, 2016, 307, 106-118.	1.1	0
25	An Efficient HPC Framework for Parallel Long-Time and Large-Scale Simulation of a Class of Anomalous Single-Phase Models. , 2015, , .		0
26	Schrödinger eigenbasis on a class of superconducting surfaces: Ansatz, analysis, FEM approximations and computations. Applied Numerical Mathematics, 2015, 89, 45-75.	1.2	2
27	A High Performance Computing and Sensitivity Analysis Algorithm for Stochastic Many-Particle Wave Scattering. SIAM Journal of Scientific Computing, 2015, 37, A1475-A1503.	1.3	12
28	An efficient $\mathcal{O}(N)$ algorithm for computing $\mathcal{O}(N^2)$ acoustic wave interactions in large N -obstacle three dimensional configurations. BIT Numerical Mathematics, 2015, 55, 117-139.	1.0	13
29	A Parallel-in-Time-and-Space HPC Framework for a Class of Fractional Evolution Equations. Lecture Notes in Computational Science and Engineering, 2015, , 127-135.	0.1	1
30	Spectral properties of Schrödinger operators on superconducting surfaces. Journal of Spectral Theory, 2014, 4, 569-612.	0.4	4
31	An all-frequency weakly-singular surface integral equation for electromagnetism in dielectric media: Reformulation and well-posedness analysis. Journal of Mathematical Analysis and Applications, 2014, 412, 277-300.	0.5	8
32	Interpolation and cubature approximations and analysis for a class of wideband integrals on the sphere. Advances in Computational Mathematics, 2013, 39, 547-584.	0.8	4
33	A stochastic pseudospectral and T-matrix algorithm for acoustic scattering by a class of multiple particle configurations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 123, 41-52.	1.1	11
34	Convergence analysis with parameter estimates for a reduced basis acoustic scattering T-matrix method. IMA Journal of Numerical Analysis, 2012, 32, 1348-1374.	1.5	23
35	A reduced basis method for electromagnetic scattering by multiple particles in three dimensions. Journal of Computational Physics, 2012, 231, 7756-7779.	1.9	32
36	A fully discrete Galerkin method for high frequency exterior acoustic scattering in three dimensions. Journal of Computational Physics, 2011, 230, 104-125.	1.9	27

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37	A pseudospectral quadrature method for Navier-Stokes equations on rotating spheres. <i>Mathematics of Computation</i> , 2010, 80, 1397-1430.	1.1	9
38	Three dimensional electromagnetic scattering T-matrix computations. <i>Journal of Computational and Applied Mathematics</i> , 2010, 234, 1702-1709.	1.1	22
39	Simulation of the interaction of electromagnetic fields with multiple rough scatterers in three dimensions. , 2010, , .		0
40	An ADI Petrov-Galerkin method with quadrature for parabolic problems. <i>Numerical Methods for Partial Differential Equations</i> , 2009, 25, 1129-1148.	2.0	4
41	A high-order algorithm for multiple electromagnetic scattering in three dimensions. <i>Numerical Algorithms</i> , 2009, 50, 469-510.	1.1	21
42	A high-order tangential basis algorithm for electromagnetic scattering by curved surfaces. <i>Journal of Computational Physics</i> , 2008, 227, 4543-4562.	1.9	35
43	A Hybrid High-Order Algorithm for Radar Cross Section Computations. <i>SIAM Journal of Scientific Computing</i> , 2007, 29, 1217-1243.	1.3	14
44	Efficient evaluation of highly oscillatory acoustic scattering surface integrals. <i>Journal of Computational and Applied Mathematics</i> , 2007, 204, 363-374.	1.1	13
45	Surface integral methods for high-frequency electromagnetic scattering. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2007, 7, 1022703-1022704.	0.2	0
46	Constructive approximations of spherical functions. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2007, 7, 1051101-1051102.	0.2	0
47	A fully discrete H ¹ -Galerkin method with quadrature for nonlinear advection-diffusion-reaction equations. <i>Numerical Algorithms</i> , 2007, 43, 355-383.	1.1	9
48	Matrix-free Interpolation on the Sphere. <i>SIAM Journal on Numerical Analysis</i> , 2006, 44, 1314-1331.	1.1	7
49	A spectrally accurate algorithm for electromagnetic scattering in three dimensions. <i>Numerical Algorithms</i> , 2006, 43, 25-60.	1.1	36
50	A Petrov-Galerkin method with quadrature for semi-linear second-order hyperbolic problems. <i>Numerical Methods for Partial Differential Equations</i> , 2006, 22, 1052-1069.	2.0	2
51	A Crank-Nicolson and ADI Galerkin method with quadrature for hyperbolic problems. <i>Numerical Methods for Partial Differential Equations</i> , 2005, 21, 57-79.	2.0	10
52	A Crank-Nicolson Petrov-Galerkin method with quadrature for semi-linear parabolic problems. <i>Numerical Methods for Partial Differential Equations</i> , 2005, 21, 918-937.	2.0	4
53	A Petrov-Galerkin method with quadrature for elliptic boundary value problems. <i>IMA Journal of Numerical Analysis</i> , 2004, 24, 157-177.	1.5	15
54	Fully discrete spectral methods for boundary integral equations on slender spheroids. <i>Journal of Computational and Applied Mathematics</i> , 2004, 164-165, 307-322.	1.1	0

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55	A high-order algorithm for obstacle scattering in three dimensions. Journal of Computational Physics, 2004, 198, 211-242.	1.9	113
56	Discrete petrov-galerkin scheme for boundary value differential and integral problems: Theory and applications. Mathematical and Computer Modelling, 2004, 40, 1323-1334.	2.0	2
57	Mathematical Modelling of Solid Tumour Growth: Applications of Pre-pattern Formation. , 2003, , 283-293.		0
58	Multilevel compact radial functions based computational schemes for some elliptic problems. Computers and Mathematics With Applications, 2002, 43, 359-378.	1.4	61
59	Spatio-temporal pattern formation on spherical surfaces: numerical simulation and application to solid tumour growth. Journal of Mathematical Biology, 2001, 42, 387-423.	0.8	169
60	The numerical solution of a nonlinear hypersingular boundary integral equation. Journal of Computational and Applied Mathematics, 2001, 131, 267-280.	1.1	7
61	A discrete Galerkin method for a catalytic combustion model. Computers and Mathematics With Applications, 2001, 41, 1545-1557.	1.4	0
62	Boundary element methods for potential problems with nonlinear boundary conditions. Mathematics of Computation, 2000, 70, 1031-1043.	1.1	8
63	Particular solutions of 3D Helmholtz-type equations using compactly supported radial basis functions. Engineering Analysis With Boundary Elements, 2000, 24, 539-547.	2.0	49
64	Optimal order spline methods for nonlinear differential and integro-differential equations. Applied Numerical Mathematics, 1999, 29, 445-478.	1.2	24
65	Nonlinear Boundary Integral Equations for Harmonic Problems. Journal of Integral Equations and Applications, 1999, 11, .	0.2	8
66	A New Spectral Boundary Integral Collocation Method for Three-Dimensional Potential Problems. SIAM Journal on Numerical Analysis, 1998, 35, 778-805.	1.1	29
67	Orthogonal collocation for a nonlinear integro-differential equation. IMA Journal of Numerical Analysis, 1998, 18, 191-206.	1.5	9
68	A general convergence theory for nonlinear equations with application to integro-differential equations. Applied Numerical Mathematics, 1996, 22, 435-449.	1.2	2
69	A Pseudospectral Three-Dimensional Boundary Integral Method Applied to a Nonlinear Model Problem from Finite Elasticity. SIAM Journal on Numerical Analysis, 1994, 31, 1378-1414.	1.1	30
70	A BIE method for a nonlinear BVP. Journal of Computational and Applied Mathematics, 1993, 45, 299-308.	1.1	6
71	Numerical Solvability of Hammerstein Integral Equations of Mixed Type. IMA Journal of Numerical Analysis, 1991, 11, 21-31.	1.5	80
72	Optimality of nonlinear control systems. Nonlinear Analysis: Theory, Methods & Applications, 1991, 16, 553-566.	0.6	4

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73	Numerical solutions of nonlinear integral equations on the half line. Numerical Functional Analysis and Optimization, 1989, 10, 1115-1138.	0.6	6
74	Discrete numerical solvability of Hammerstein integral equations of mixed type. Journal of Integral Equations and Applications, 1989, 2, .	0.2	8
75	Approximate solvability of hammerstein equation. Numerical Functional Analysis and Optimization, 1987, 9, 1039-1058.	0.6	2
76	An efficient surface integral equation method for the time-harmonic Maxwell equations. ANZIAM Journal, 0, 48, 17.	0.0	14
77	Sparse preconditioners for dense complex linear systems arising in some radar cross section computations. ANZIAM Journal, 0, 49, 233.	0.0	1
78	A far field based T-matrix method for three dimensional acoustic scattering. ANZIAM Journal, 0, 49, 121.	0.0	8
79	Simulation of acoustic scattering by multiple obstacles in three dimensions. ANZIAM Journal, 0, 49, 31.	0.0	13
80	A far-field based T-matrix method for two dimensional obstacle scattering. ANZIAM Journal, 0, 51, 215.	0.0	6
81	An efficient algorithm for simulating scattering by a large number of two dimensional particles. ANZIAM Journal, 0, 51, 139.	0.0	9
82	Scattering by stochastic boundaries: hybrid low- and high-order quantification algorithms. ANZIAM Journal, 0, 56, 312.	0.0	3
83	Post-processing of solutions of incompressible Navier-Stokes equations on rotating spheres. ANZIAM Journal, 0, 49, 90.	0.0	0
84	A radial basis Galerkin method for spherical surface Stokes equations. ANZIAM Journal, 0, 51, 56.	0.0	0
85	An efficient algorithm for simulation of stochastic scattering cross-sections. ANZIAM Journal, 0, 54, 119.	0.0	0