

Euan A Spence

List of Publications by Year in descending order

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42
papers

984
citations

394421

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42
all docs

42
docs citations

42
times ranked

329
citing authors

#	ARTICLE	IF	CITATIONS
1	A sharp relative-error bound for the Helmholtz h-FEM at high frequency. <i>Numerische Mathematik</i> , 2022, 150, 137-178.	1.9	10
2	Wavenumber-explicit convergence of the hp-FEM for the full-space heterogeneous Helmholtz equation with smooth coefficients. <i>Computers and Mathematics With Applications</i> , 2022, 113, 59-69.	2.7	11
3	Coercivity, essential norms, and the Galerkin method for second-kind integral equations on polyhedral and Lipschitz domains. <i>Numerische Mathematik</i> , 2022, 150, 299-371.	1.9	3
4	Applying GMRES to the Helmholtz equation with strong trapping: how does the number of iterations depend on the frequency?. <i>Advances in Computational Mathematics</i> , 2022, 48, .	1.6	3
5	For Most Frequencies, Strong Trapping Has a Weak Effect in Frequency- ϵ Domain Scattering. <i>Communications on Pure and Applied Mathematics</i> , 2021, 74, 2025-2063.	3.1	15
6	Analysis of a Helmholtz preconditioning problem motivated by uncertainty quantification. <i>Advances in Computational Mathematics</i> , 2021, 47, 1.	1.6	1
7	Domain decomposition preconditioners for high-order discretizations of the heterogeneous Helmholtz equation. <i>IMA Journal of Numerical Analysis</i> , 2021, 41, 2139-2185.	2.9	16
8	Eigenvalues of the Truncated Helmholtz Solution Operator under Strong Trapping. <i>SIAM Journal on Mathematical Analysis</i> , 2021, 53, 6724-6770.	1.9	5
9	High-frequency Bounds for the Helmholtz Equation Under Parabolic Trapping and Applications in Numerical Analysis. <i>SIAM Journal on Mathematical Analysis</i> , 2020, 52, 845-893.	1.9	12
10	Optimal constants in nontrapping resolvent estimates and applications in numerical analysis. <i>Pure and Applied Analysis</i> , 2020, 2, 157-202.	1.1	21
11	The Helmholtz Equation in Random Media: Well-Posedness and A Priori Bounds. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2020, 8, 58-87.	2.0	5
12	Domain Decomposition with Local Impedance Conditions for the Helmholtz Equation with Absorption. <i>SIAM Journal on Numerical Analysis</i> , 2020, 58, 2515-2543.	2.3	24
13	Domain decomposition preconditioning for the high-frequency time-harmonic Maxwell equations with absorption. <i>Mathematics of Computation</i> , 2019, 88, 2559-2604.	2.1	23
14	The Helmholtz equation in heterogeneous media: A priori bounds, well-posedness, and resonances. <i>Journal of Differential Equations</i> , 2019, 266, 2869-2923.	2.2	35
15	Wavenumber-explicit analysis for the Helmholtz h-BEM: error estimates and iteration counts for the Dirichlet problem. <i>Numerische Mathematik</i> , 2019, 142, 329-357.	1.9	17
16	Wavenumber-Explicit Regularity Estimates on the Acoustic Single- and Double-Layer Operators. <i>Integral Equations and Operator Theory</i> , 2019, 91, 1.	0.8	6
17	Can coercive formulations lead to fast and accurate solution of the Helmholtz equation?. <i>Journal of Computational and Applied Mathematics</i> , 2019, 352, 110-131.	2.0	8
18	Acoustic transmission problems: Wavenumber-explicit bounds and resonance-free regions. <i>Mathematical Models and Methods in Applied Sciences</i> , 2019, 29, 317-354.	3.3	29

#	ARTICLE	IF	CITATIONS
19	A Two-Level Domain-Decomposition Preconditioner for the Time-Harmonic Maxwell's Equations. Lecture Notes in Computational Science and Engineering, 2018, , 149-157.	0.3	3
20	Two-Level Preconditioners for the Helmholtz Equation. Lecture Notes in Computational Science and Engineering, 2018, , 139-147.	0.3	5
21	Domain decomposition preconditioning for high-frequency Helmholtz problems with absorption. Mathematics of Computation, 2017, 86, 2089-2127.	2.1	35
22	Recent Results on Domain Decomposition Preconditioning for the High-Frequency Helmholtz Equation Using Absorption. Geosystems Mathematics, 2017, , 3-26.	0.0	8
23	Sharp High-Frequency Estimates for the Helmholtz Equation and Applications to Boundary Integral Equations. SIAM Journal on Mathematical Analysis, 2016, 48, 229-267.	1.9	40
24	Coercivity of Combined Boundary Integral Equations in High-Frequency Scattering. Communications on Pure and Applied Mathematics, 2015, 68, 1587-1639.	3.1	22
25	Applying GMRES to the Helmholtz equation with shifted Laplacian preconditioning: what is the largest shift for which wavenumber-independent convergence is guaranteed?. Numerische Mathematik, 2015, 131, 567-614.	1.9	79
26	When is the error in the h -BEM for solving the Helmholtz equation bounded independently of k ? BIT Numerical Mathematics, 2015, 55, 171-214.	2.0	25
27	Bounding acoustic layer potentials via oscillatory integral techniques. BIT Numerical Mathematics, 2015, 55, 279-318.	2.0	3
28	Transform Methods for Linear PDEs. , 2015, , 1496-1500.		0
29	Spectral decompositions and nonnormality of boundary integral operators in acoustic scattering. IMA Journal of Numerical Analysis, 2014, 34, 700-731.	2.9	9
30	Chapter 6: Overview of Variational Formulations for Linear Elliptic PDEs. , 2014, , 93-159.		4
31	Wavenumber-Explicit Bounds in Time-Harmonic Acoustic Scattering. SIAM Journal on Mathematical Analysis, 2014, 46, 2987-3024.	1.9	41
32	Is the Helmholtz Equation Really Sign-Indefinite?. SIAM Review, 2014, 56, 274-312.	9.5	55
33	Synthesis, as Opposed to Separation, of Variables. SIAM Review, 2012, 54, 291-324.	9.5	69
34	Numerical-asymptotic boundary integral methods in high-frequency acoustic scattering. Acta Numerica, 2012, 21, 89-305.	10.7	165
35	Numerical Estimation of Coercivity Constants for Boundary Integral Operators in Acoustic Scattering. SIAM Journal on Numerical Analysis, 2011, 49, 1572-1601.	2.3	22
36	A new frequency-uniform coercive boundary integral equation for acoustic scattering. Communications on Pure and Applied Mathematics, 2011, 64, 1384-1415.	3.1	37

#	ARTICLE	IF	CITATIONS
37	A new transform method I: domain-dependent fundamental solutions and integral representations. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 2259-2281.	2.1	21
38	A new transform method II: the global relation and boundary-value problems in polar coordinates. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 2283-2307.	2.1	20
39	A spectral collocation method for the Laplace and modified Helmholtz equations in a convex polygon. IMA Journal of Numerical Analysis, 2010, 30, 1184-1205.	2.9	43
40	Novel analytical and numerical methods for elliptic boundary value problems. , 2009, , 194-239.		6
41	A semi-analytical numerical method for solving evolution and elliptic partial differential equations. Journal of Computational and Applied Mathematics, 2009, 227, 59-74.	2.0	28
42	A NEW METHOD FOR BOUNDARY VALUE PROBLEMS AND ITS NUMERICAL IMPLEMENTATION. , 2008, , .		0