

Dan Givoli

List of Publications by Year in descending order

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135
papers

4,485
citations

147566

31
h-index

110170

64
g-index

137
all docs

137
docs citations

137
times ranked

1491
citing authors

#	ARTICLE	IF	CITATIONS
1	Non-reflecting boundary conditions. <i>Journal of Computational Physics</i> , 1991, 94, 1-29.	1.9	610
2	Exact non-reflecting boundary conditions. <i>Journal of Computational Physics</i> , 1989, 82, 172-192.	1.9	562
3	High-order local non-reflecting boundary conditions: a review. <i>Wave Motion</i> , 2004, 39, 319-326.	1.0	384
4	High-order non-reflecting boundary scheme for time-dependent waves. <i>Journal of Computational Physics</i> , 2003, 186, 24-46.	1.9	180
5	Non-reflecting boundary conditions for elastic waves. <i>Wave Motion</i> , 1990, 12, 261-279.	1.0	178
6	A finite element method for large domains. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1989, 76, 41-66.	3.4	177
7	High-order local absorbing conditions for the wave equation: Extensions and improvements. <i>Journal of Computational Physics</i> , 2008, 227, 3322-3357.	1.9	121
8	Exact Representations on Artificial Interfaces and Applications in Mechanics. <i>Applied Mechanics Reviews</i> , 1999, 52, 333-349.	4.5	92
9	XFEM-based crack detection scheme using a genetic algorithm. <i>International Journal for Numerical Methods in Engineering</i> , 2007, 71, 1051-1080.	1.5	83
10	Nonreflecting Boundary Conditions Based on Kirchhoff-Type Formulae. <i>Journal of Computational Physics</i> , 1995, 117, 102-113.	1.9	82
11	Comparison of high-order absorbing boundary conditions and perfectly matched layers in the frequency domain. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2010, 26, 1351-1369.	1.0	76
12	Finite element formulation with high-order absorbing boundary conditions for time-dependent waves. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 3666-3690.	3.4	69
13	High-order Absorbing Boundary Conditions for anisotropic and convective wave equations. <i>Journal of Computational Physics</i> , 2010, 229, 1099-1129.	1.9	69
14	Dirichlet-to-Neumann Maps for Unbounded Wave Guides. <i>Journal of Computational Physics</i> , 1998, 143, 200-223.	1.9	60
15	High-order boundary conditions and finite elements for infinite domains. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1997, 143, 13-39.	3.4	59
16	Crack identification by arrival time™ using XFEM and a genetic algorithm. <i>International Journal for Numerical Methods in Engineering</i> , 2009, 77, 337-359.	1.5	56
17	High-order non-reflecting boundary conditions for dispersive waves. <i>Wave Motion</i> , 2003, 37, 257-271.	1.0	54
18	High-Order Nonreflecting Boundary Conditions without High-Order Derivatives. <i>Journal of Computational Physics</i> , 2001, 170, 849-870.	1.9	53

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19	The Double Absorbing Boundary method. <i>Journal of Computational Physics</i> , 2014, 259, 220-241.	1.9	47
20	Neural network time series forecasting of finite-element mesh adaptation. <i>Neurocomputing</i> , 2005, 63, 447-463.	3.5	45
21	A spatially exact non-reflecting boundary condition for time dependent problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1992, 95, 97-113.	3.4	42
22	LOCAL HIGH-ORDER ABSORBING BOUNDARY CONDITIONS FOR TIME-DEPENDENT WAVES IN GUIDES. <i>Journal of Computational Acoustics</i> , 2007, 15, 1-22.	1.0	42
23	Radiation boundary conditions for time-dependent waves based on complete plane wave expansions. <i>Journal of Computational and Applied Mathematics</i> , 2010, 234, 1988-1995.	1.1	41
24	Stress Concentration at a Nearly Circular Hole With Uncertain Irregularities. <i>Journal of Applied Mechanics, Transactions ASME</i> , 1992, 59, S65-S71.	1.1	39
25	Long-time stable high-order absorbing boundary conditions for elastodynamics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2012, 241-244, 20-37.	3.4	39
26	Finite element analysis of time-dependent semi-infinite wave-guides with high-order boundary treatment. <i>International Journal for Numerical Methods in Engineering</i> , 2003, 58, 1955-1983.	1.5	38
27	A finite element method for domains with corners. <i>International Journal for Numerical Methods in Engineering</i> , 1992, 35, 1329-1345.	1.5	37
28	Special finite elements for use with high-order boundary conditions. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1994, 119, 199-213.	3.4	37
29	A finite element scheme with a high order absorbing boundary condition for elastodynamics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 2048-2066.	3.4	36
30	Optimal modal reduction of vibrating substructures. <i>International Journal for Numerical Methods in Engineering</i> , 2003, 57, 341-369.	1.5	34
31	Time reversal with partial information for wave refocusing and scatterer identification. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2012, 213-216, 223-242.	3.4	33
32	Which are the important modes of a subsystem?. <i>International Journal for Numerical Methods in Engineering</i> , 2004, 59, 1657-1678.	1.5	31
33	Time Reversal as a Computational Tool in Acoustics and Elastodynamics. <i>Journal of Computational Acoustics</i> , 2014, 22, 1430001.	1.0	31
34	High-order nonreflecting boundary conditions for the dispersive shallow water equations. <i>Journal of Computational and Applied Mathematics</i> , 2003, 158, 49-60.	1.1	30
35	High-order Higdon-like boundary conditions for exterior transient wave problems. <i>International Journal for Numerical Methods in Engineering</i> , 2005, 63, 1041-1068.	1.5	30
36	Artificial boundary conditions for 2D problems in geophysics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1993, 110, 87-101.	3.4	29

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37	A tutorial on the adjoint method for inverse problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 380, 113810.	3.4	28
38	Finite-Element Mesh Generation Using Self-Organizing Neural Networks. <i>Computer-Aided Civil and Infrastructure Engineering</i> , 1997, 12, 233-250.	6.3	26
39	Discrete Dirichlet-to-Neumann maps for unbounded domains. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1998, 164, 173-185.	3.4	25
40	Optimal local non-reflecting boundary conditions. <i>Applied Numerical Mathematics</i> , 1998, 27, 367-384.	1.2	25
41	Time-stepping schemes for systems of Volterra integro-differential equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2001, 190, 5691-5718.	3.4	22
42	Towards automating the finite element method: a test-bed for soft computing. <i>Applied Soft Computing Journal</i> , 2003, 3, 37-51.	4.1	22
43	Solution of unbounded domain problems using elliptic artificial boundaries. <i>Communications in Numerical Methods in Engineering</i> , 1995, 11, 735-741.	1.3	20
44	Time reversal for crack identification. <i>Computational Mechanics</i> , 2014, 54, 443-459.	2.2	20
45	Time Reversal for Elastic Wave Refocusing and Scatterer Location Recovery. <i>Journal of Computational Acoustics</i> , 2015, 23, 1450013.	1.0	20
46	The Double Absorbing Boundary method for a class of anisotropic elastic media. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 315, 190-221.	3.4	20
47	An optimal high-order non-reflecting finite element scheme for wave scattering problems. <i>International Journal for Numerical Methods in Engineering</i> , 2002, 53, 2389-2411.	1.5	19
48	Obstacle segmentation based on the wave equation and deep learning. <i>Journal of Computational Physics</i> , 2020, 413, 109458.	1.9	19
49	Finite element analysis of wave scattering from singularities. <i>Wave Motion</i> , 1994, 20, 165-176.	1.0	18
50	Complete Radiation Boundary Conditions for Convective Waves. <i>Communications in Computational Physics</i> , 2012, 11, 610-628.	0.7	18
51	Dynamic thermoelastic coupling effects in a rod. <i>AIAA Journal</i> , 1995, 33, 776-778.	1.5	16
52	Non-Reflecting Finite Element Schemes for Three-Dimensional Acoustic Waves. <i>Journal of Computational Acoustics</i> , 1997, 05, 95-115.	1.0	16
53	Optimal modal reduction of dynamic subsystems: Extensions and improvements. <i>International Journal for Numerical Methods in Engineering</i> , 2011, 85, 1-30.	1.5	16
54	Combined arrival-time imaging and time reversal for scatterer identification. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 313, 279-302.	3.4	16

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55	Minimization of thermoelastic deformation in space structures undergoing periodic motion. <i>Journal of Spacecraft and Rockets</i> , 1995, 32, 662-669.	1.3	15
56	The double absorbing boundary method for elastodynamics in homogeneous and layered media. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2015, 2, .	0.7	15
57	Application of high-order Higdon non-reflecting boundary conditions to linear shallow water models. <i>Communications in Numerical Methods in Engineering</i> , 2008, 24, 1459-1466.	1.3	14
58	Double Absorbing Boundary Formulations for Acoustics and Elastodynamics. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, A1277-A1312.	1.3	14
59	Dirichlet-to-Neumann boundary condition for time-dependent dispersive waves in three-dimensional guides. <i>Journal of Computational Physics</i> , 2004, 199, 339-354.	1.9	13
60	Combined asymptotic finite-element modeling of thin layers for scalar elliptic problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 3255-3269.	3.4	13
61	On the stability of the high-order Higdon Absorbing Boundary Conditions. <i>Applied Numerical Mathematics</i> , 2011, 61, 768-784.	1.2	13
62	Thermoelastic analysis of space structures in periodic motion. <i>Journal of Spacecraft and Rockets</i> , 1991, 28, 457-464.	1.3	12
63	HARMONIC FINITE-ELEMENT THERMOELASTIC ANALYSIS OF SPACE FRAMES AND TRUSSES. <i>Journal of Thermal Stresses</i> , 1993, 16, 233-248.	1.1	12
64	Finite-Element Solution of Nonlinear Time-Dependent Exterior Wave Problems. <i>Journal of Computational Physics</i> , 1998, 143, 241-258.	1.9	12
65	High-order absorbing boundary conditions incorporated in a spectral element formulation. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2010, 26, 1130-1143.	1.0	12
66	Mixed-Dimensional Modeling of Time-Dependent Wave Problems Using the Panasenko Construction. <i>Journal of Theoretical and Computational Acoustics</i> , 2018, 26, 1850034.	0.5	12
67	Finite element schemes for non-linear problems in infinite domains. <i>International Journal for Numerical Methods in Engineering</i> , 1998, 42, 341-360.	1.5	11
68	A boundary-perturbation finite element approach for shape optimization. <i>International Journal for Numerical Methods in Engineering</i> , 2000, 47, 801-819.	1.5	11
69	High-order Non-reflecting Boundary Conditions for Dispersive Waves in Cartesian, Cylindrical and Spherical Coordinate Systems. <i>International Journal of Computational Fluid Dynamics</i> , 2003, 17, 263-274.	0.5	11
70	Non-local and local artificial boundary conditions for two-dimensional flow in an infinite channel. <i>International Journal of Numerical Methods for Heat and Fluid Flow</i> , 1996, 6, 47-62.	1.6	10
71	Obstacle identification using the TRAC algorithm with a second-order ABC. <i>International Journal for Numerical Methods in Engineering</i> , 2019, 118, 61-92.	1.5	10
72	A combined analytic-finite element method for elastic shells. <i>International Journal of Solids and Structures</i> , 1990, 26, 185-198.	1.3	9

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73	STRESS-VELOCITY COMPLETE RADIATION BOUNDARY CONDITIONS. <i>Journal of Computational Acoustics</i> , 2013, 21, 1350003.	1.0	9
74	The Nitsche method applied to a class of mixed-dimensional coupling problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 274, 125-147.	3.4	9
75	Non-local and semi-local optimal weighting functions for symmetric problems involving a small parameter. <i>International Journal for Numerical Methods in Engineering</i> , 1988, 26, 1281-1298.	1.5	8
76	A finite element spectral method with application to the thermoelastic analysis of space structures. <i>International Journal for Numerical Methods in Engineering</i> , 1990, 30, 291-306.	1.5	8
77	A simple time-step control scheme. <i>Communications in Numerical Methods in Engineering</i> , 1993, 9, 873-881.	1.3	8
78	Simulation of Czochralski melt flows using parallel adaptive finite element procedures. <i>Modelling and Simulation in Materials Science and Engineering</i> , 1996, 4, 623-639.	0.8	8
79	Analysis of InP LEC melt flows using a parallel adaptive finite element scheme. <i>Journal of Crystal Growth</i> , 1997, 180, 510-516.	0.7	8
80	A numerical method for problems in infinite strips with irregularities extending to infinity. <i>Numerical Methods for Partial Differential Equations</i> , 1998, 14, 233-249.	2.0	8
81	High-order global-regional model interaction: Extension of Carpenter's scheme. <i>International Journal for Numerical Methods in Engineering</i> , 2009, 77, 50-74.	1.5	8
82	Computational Time Reversal for NDT Applications Using Experimental Data. <i>Journal of Nondestructive Evaluation</i> , 2017, 36, 1.	1.1	8
83	Parallel adaptive 3D finite element analysis of CZ melt flows. <i>Journal of Crystal Growth</i> , 1997, 174, 1-6.	0.7	7
84	Thermoelastic stresses in a cylinder or disk with cubic anisotropy. <i>International Journal of Solids and Structures</i> , 1999, 36, 2109-2125.	1.3	7
85	A direct approach to the finite element solution of elliptic optimal control problems. <i>Numerical Methods for Partial Differential Equations</i> , 1999, 15, 371-388.	2.0	7
86	Analysis of pulled axisymmetric membranes with wrinkling. <i>International Journal of Solids and Structures</i> , 2002, 39, 1259-1274.	1.3	7
87	High-order boundary conditions for linearized shallow water equations with stratification, dispersion and advection. <i>International Journal for Numerical Methods in Fluids</i> , 2004, 46, 361-381.	0.9	7
88	A stratified dispersive wave model with high-order nonreflecting boundary conditions. <i>Computers and Mathematics With Applications</i> , 2004, 48, 1167-1180.	1.4	7
89	COMPARISON OF TWO-DIMENSIONAL-ONE-DIMENSIONAL COUPLING METHODS FOR TIME-HARMONIC ELASTICITY. <i>International Journal for Multiscale Computational Engineering</i> , 2014, 12, 485-506.	0.8	7
90	Incremental stresses in loaded orthotropic circular membrane tubes II. Numerical solution. <i>International Journal of Solids and Structures</i> , 1995, 32, 1927-1947.	1.3	6

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91	Quadratic programming algorithms for obstacle problems. Communications in Numerical Methods in Engineering, 1996, 12, 249-256.	1.3	6
92	An adaptive finite element procedure for the image segmentation problem. Communications in Numerical Methods in Engineering, 1998, 14, 621-632.	1.3	6
93	An adaptive finite element framework for fatigue crack propagation. International Journal for Numerical Methods in Engineering, 2002, 54, 111-135.	1.5	6
94	An augmented time reversal method for source and scatterer identification. Journal of Computational Physics, 2018, 375, 99-119.	1.9	6
95	Shape identification of scatterers Using a time-dependent adjoint method. Computer Methods in Applied Mechanics and Engineering, 2022, 394, 114923.	3.4	6
96	A boundary-perturbation finite element method for plane elasticity problems. Computer Methods in Applied Mechanics and Engineering, 1992, 96, 45-63.	3.4	5
97	Heuristic finite element node numbering. Computing Systems in Engineering: an International Journal, 1993, 4, 159-167.	0.5	5
98	Computation of open Willmore-type surfaces. Applied Numerical Mathematics, 2001, 37, 257-269.	1.2	5
99	DtN-based mixed-dimensional coupling using a Boundary Stress Recovery technique. Computer Methods in Applied Mechanics and Engineering, 2015, 287, 31-53.	3.4	5
100	Optimized first-order absorbing boundary conditions for anisotropic elastodynamics. Computer Methods in Applied Mechanics and Engineering, 2019, 350, 719-749.	3.4	5
101	MIXED-DIMENSIONAL COUPLING VIA AN EXTENDED DIRICHLET-TO-NEUMANN METHOD. International Journal for Multiscale Computational Engineering, 2016, 14, 489-513.	0.8	5
102	Finite element analysis of long cylindrical shells. AIAA Journal, 1990, 28, 1331-1333.	1.5	4
103	Scattering matrix of a nearly circular cylinder. Wave Motion, 1999, 30, 239-251.	1.0	4
104	Thermoelastic stresses in a crystal with weak anisotropy. Journal of Crystal Growth, 1999, 198-199, 125-128.	0.7	4
105	Mixed-dimensional coupling for time-dependent wave problems using the Nitsche method. Computer Methods in Applied Mechanics and Engineering, 2019, 349, 213-250.	3.4	4
106	Scatterer identification in a 2D geophysical medium using an augmented computational time reversal method. International Journal for Numerical and Analytical Methods in Geomechanics, 2021, 45, 867-892.	1.7	4
107	Incremental stresses in loaded orthotropic circular membrane tubes. I. Theory. International Journal of Solids and Structures, 1995, 32, 1907-1925.	1.3	3
108	Stability and accuracy of optimal local non-reflecting boundary conditions. Applied Numerical Mathematics, 2000, 33, 327-340.	1.2	3

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109	OPTIMAL LOCAL NONREFLECTING BOUNDARY CONDITIONS FOR TIME-DEPENDENT WAVES. Journal of Computational Acoustics, 2000, 08, 157-170.	1.0	3
110	A FINITE ELEMENT STRUCTURAL-ACOUSTIC MODEL OF COUPLED MEMBRANES. Journal of Computational Acoustics, 2004, 12, 605-618.	1.0	3
111	Optimal shape of a grain or a fibre cross-section in a two-phase composite. Communications in Numerical Methods in Engineering, 2004, 21, 49-60.	1.3	3
112	On the number of reliable finite-element eigenmodes. Communications in Numerical Methods in Engineering, 2008, 24, 1967-1977.	1.3	3
113	STRESSES IN AN ABLATING CYLINDER. Journal of Thermal Stresses, 1990, 13, 263-279.	1.1	2
114	A finite element scheme based on the simplified Reissner equations for shells of revolution. Computer Methods in Applied Mechanics and Engineering, 1991, 93, 111-124.	3.4	2
115	Generalized Finite Element-Harmonic Analysis for Nonlinear Heat Transfer. Journal of Thermophysics and Heat Transfer, 1999, 13, 100-109.	0.9	2
116	Boundary transfer operators in one-way nesting schemes for heat flow problems. International Journal of Numerical Methods for Heat and Fluid Flow, 2009, 19, 352-373.	1.6	2
117	High-order one-way model nesting in dispersive non-uniform media. Journal of Computational and Applied Mathematics, 2010, 234, 1663-1669.	1.1	2
118	Hybrid asymptotic-numerical modeling of thin layers for dynamic thermal analysis of structures. International Journal of Numerical Methods for Heat and Fluid Flow, 2016, 26, 818-853.	1.6	2
119	Asymptotic Analysis for Plane Stress Problems. Journal of Elasticity, 2021, 144, 1-14.	0.9	2
120	The double absorbing boundary method for the Helmholtz equation. Applied Numerical Mathematics, 2021, 168, 182-200.	1.2	2
121	Finite-Element Mesh Adaptation via Time Series Prediction Using Neural Networks. , 2002, , 769-782.		2
122	Solution of static optimal control problems in non-linear elasticity via quadratic programming. Communications in Numerical Methods in Engineering, 2000, 16, 877-890.	1.3	1
123	Solution of non-linear dispersive wave problems using a moving finite element method. Communications in Numerical Methods in Engineering, 2006, 23, 253-262.	1.3	1
124	An axisymmetric parachute model with wrinkling. Journal of Mechanics of Materials and Structures, 2011, 6, 417-442.	0.4	1
125	COMPUTATIONAL METHODS FOR ANALYZING AIRCRAFT NOISE ABOVE GROUND WITH GENERAL TOPOGRAPHY AND IMPEDANCE. Journal of Computational Acoustics, 2012, 20, 1240001.	1.0	1
126	Simple Procedure for Multifrequency Analysis. AIAA Journal, 2012, 50, 238-242.	1.5	1

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127	LATIN: A new view and an extension to wave propagation in nonlinear media. International Journal for Numerical Methods in Engineering, 2017, 112, 125-156.	1.5	1
128	The Double Absorbing Boundary Method Incorporated in a High-Order Spectral Element Formulation. Journal of Theoretical and Computational Acoustics, 2020, 28, 2050007.	0.5	1
129	Elastodynamic 2D-1D coupling using the DtN method. Journal of Computational Physics, 2022, 448, 110722.	1.9	1
130	Optimal control of radiating panels via sequential quadratic programming. International Journal of Numerical Methods for Heat and Fluid Flow, 2002, 12, 47-64.	1.6	0
131	Framework for Flaw Detection: Application to Dynamic Crack Detection in Flat Membranes. , 2008, , .		0
132	Convective Wave Equation and Time Reversal Process for Source Refocusing. Journal of Theoretical and Computational Acoustics, 2018, 26, 1850016.	0.5	0
133	Harmonic finite element analysis for anisotropic viscoelasticity. AIAA Journal, 2001, 39, 349-352.	1.5	0
134	Exact and High-Order Non-Reflecting Computational Boundaries. , 2003, , 26-31.		0
135	Flaw Identification in Structures via Computationally Assisted NDT. Solid Mechanics and Its Applications, 2009, , 223-235.	0.1	0