

Elena Cherkaev

List of Publications by Year in descending order

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47
papers

855
citations

516710

16
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501196

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48
all docs

48
docs citations

48
times ranked

608
citing authors

#	ARTICLE	IF	CITATIONS
1	Geometric series expansion of the Neumann–Poincaré operator: Application to composite materials. European Journal of Applied Mathematics, 2022, 33, 560-585.	2.9	3
2	Order to disorder in quasiperiodic composites. Communications Physics, 2022, 5, .	5.3	3
3	Wave-Driven Assembly of Quasiperiodic Patterns of Particles. Physical Review Letters, 2021, 126, 145501.	7.8	7
4	Internal resonances and relaxation memory kernels in composites. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190106.	3.4	1
5	Modeling Sea Ice. Notices of the American Mathematical Society, 2020, 67, 1.	0.2	13
6	Modeling the Kinetics of Lipid-Nanoparticle-Mediated Delivery of Multiple siRNAs to Evaluate the Effect on Competition for Ago2. Molecular Therapy - Nucleic Acids, 2019, 16, 367-377.	5.1	9
7	Internal friction and the Stieltjes analytic representation of the effective properties of two-dimensional viscoelastic composites. Archive of Applied Mechanics, 2019, 89, 591-607.	2.2	2
8	Forward and inverse homogenization of the electromagnetic properties of a quasiperiodic composite. , 2019, , .		0
9	Two-scale cut-and-project convergence; homogenization of quasiperiodic structures. Mathematical Methods in the Applied Sciences, 2018, 41, 1101-1106.	2.3	14
10	Anderson Transition for Classical Transport in Composite Materials. Physical Review Letters, 2017, 118, 036401.	7.8	9
11	Mathematical Modeling: A Tool for Optimization of Lipid Nanoparticle-Mediated Delivery of siRNA. Molecular Therapy - Nucleic Acids, 2017, 7, 246-255.	5.1	15
12	On the Definition of Marginal Ice Zone Width. Journal of Atmospheric and Oceanic Technology, 2017, 34, 1565-1584.	1.3	24
13	Null space correction and adaptive model order reduction in multi-frequency Maxwell's problem. Advances in Computational Mathematics, 2017, 43, 171-193.	1.6	6
14	Spectral analysis and computation of effective diffusivities in space-time periodic incompressible flows. Annals of Mathematical Sciences and Applications, 2017, 2, 3-66.	0.4	4
15	3-D magnetotelluric inversion including topography using deformed hexahedral edge finite elements and direct solvers parallelized on SMP computers – Part I: forward problem and parameter Jacobians. Geophysical Journal International, 2016, 204, 74-93.	2.4	65
16	3-dimensional magnetotelluric inversion including topography using deformed hexahedral edge finite elements and direct solvers parallelized on symmetric multiprocessor computers – Part II: direct data-space inverse solution. Geophysical Journal International, 2016, 204, 94-110.	2.4	46
17	Spectral measure computations for composite materials. Communications in Mathematical Sciences, 2015, 13, 825-862.	1.0	12
18	An isoperimetric inequality for an integral operator on flat tori. Illinois Journal of Mathematics, 2015, 59, .	0.1	0

#	ARTICLE	IF	CITATIONS
19	Effective medium approximations for anisotropic composites with arbitrary component orientation. Journal of Applied Physics, 2013, 114, 164102.	2.5	19
20	Recovery of inclusion separations in strongly heterogeneous composites from effective property measurements. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 784-809.	2.1	8
21	Principles of Optimization of Structures Against an Impact. Journal of Physics: Conference Series, 2011, 319, 012021.	0.4	1
22	Rational approximation for estimation of quality Q factor and phase velocity in linear, viscoelastic, isotropic media. Computational Geosciences, 2011, 15, 117-133.	2.4	10
23	Stieltjes representation of the 3D Bruggeman effective medium and Padé approximation. Applied Mathematics and Computation, 2011, 217, 7092-7107.	2.2	20
24	Spectral analysis and connectivity of porous microstructures in bone. Journal of Biomechanics, 2011, 44, 337-344.	2.1	13
25	Characterization of structure and properties of bone by spectral measure method. Journal of Biomechanics, 2011, 44, 345-351.	2.1	9
26	Padé approximations in inverse homogenization and numerical simulation of electromagnetic fields in composites. , 2010, , .		0
27	Analytical Approach to Recovering Bone Porosity From Effective Complex Shear Modulus. Journal of Biomechanical Engineering, 2009, 131, 121003.	1.3	9
28	Reconstruction of spectral function from effective permittivity of a composite material using rational function approximations. Journal of Computational Physics, 2009, 228, 5390-5409.	3.8	30
29	Minimax optimization problem of structural design. Computers and Structures, 2008, 86, 1426-1435.	4.4	50
30	Analytical relations between effective material properties and microporosity: Application to bone mechanics. International Journal of Engineering Science, 2008, 46, 1239-1252.	5.0	16
31	Dehomogenization: reconstruction of moments of the spectral measure of the composite. Inverse Problems, 2008, 24, 065008.	2.0	21
32	Padé approximations for identification of air bubble volume from temperature- or frequency-dependent permittivity of a two-component mixture. Inverse Problems in Science and Engineering, 2008, 16, 425-445.	1.2	21
33	Inverse homogenization with diagonal Padé approximants. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1042001-1042002.	0.2	2
34	On the integral representation formula for a two-component elastic composite. Mathematical Methods in the Applied Sciences, 2006, 29, 655-664.	2.3	10
35	IDENTIFICATION OF BONE MICROSTRUCTURE FROM EFFECTIVE COMPLEX MODULUS. , 2006, , 91-96.		6
36	DYNAMICS OF STRUCTURES WITH BISTABLE LINKS. , 2006, , 111-122.		2

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37	Optimal design for the worst case scenario. , 2006, , 380-380.		0
38	Identification of bone structure from effective measurements. , 2006, , 551-551.		0
39	Transition waves in bistable structures. II. Analytical solution: wave speed and energy dissipation. Journal of the Mechanics and Physics of Solids, 2005, 53, 407-436.	4.8	80
40	Transition waves in bistable structures. I. Delocalization of damage. Journal of the Mechanics and Physics of Solids, 2005, 53, 383-405.	4.8	57
41	Principal Compliance and Robust Optimal Design. , 2004, , 169-196.		7
42	Principal Compliance and Robust Optimal Design. Journal of Elasticity, 2003, 72, 71-98.	1.9	37
43	Coupling of the effective properties of a random mixture through the reconstructed spectral representation. Physica B: Condensed Matter, 2003, 338, 16-23.	2.7	19
44	Spectral Coupling of Effective Properties of a Random Mixture. , 2003, , 331-340.		4
45	Non-smooth gravity problem with total variation penalization functional. Geophysical Journal International, 2002, 149, 499-507.	2.4	90
46	Cross-borehole delineation of a conductive ore deposit in a resistive host experimental design. Geophysics, 2001, 66, 824-835.	2.6	9
47	Inverse homogenization for evaluation of effective properties of a mixture. Inverse Problems, 2001, 17, 1203-1218.	2.0	72