

Assyr Abdulle

List of Publications by Year in descending order

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Version: 2024-02-01

61
papers

1,821
citations

331670

21
h-index

265206

42
g-index

64
all docs

64
docs citations

64
times ranked

771
citing authors

#	ARTICLE	IF	CITATIONS
1	The heterogeneous multiscale method. <i>Acta Numerica</i> , 2012, 21, 1-87.	10.7	334
2	Fourth Order Chebyshev Methods with Recurrence Relation. <i>SIAM Journal of Scientific Computing</i> , 2002, 23, 2041-2054.	2.8	125
3	Second order Chebyshev methods based on orthogonal polynomials. <i>Numerische Mathematik</i> , 2001, 90, 1-18.	1.9	109
4	Finite difference heterogeneous multi-scale method for homogenization problems. <i>Journal of Computational Physics</i> , 2003, 191, 18-39.	3.8	98
5	On A Priori Error Analysis of Fully Discrete Heterogeneous Multiscale FEM. <i>Multiscale Modeling and Simulation</i> , 2005, 4, 447-459.	1.6	95
6	Finite Element Heterogeneous Multiscale Method for the Wave Equation. <i>Multiscale Modeling and Simulation</i> , 2011, 9, 766-792.	1.6	94
7	Heterogeneous Multiscale FEM for Diffusion Problems on Rough Surfaces. <i>Multiscale Modeling and Simulation</i> , 2005, 3, 195-220.	1.6	87
8	S-ROCK: Chebyshev Methods for Stiff Stochastic Differential Equations. <i>SIAM Journal of Scientific Computing</i> , 2008, 30, 997-1014.	2.8	60
9	Reduced basis finite element heterogeneous multiscale method for high-order discretizations of elliptic homogenization problems. <i>Journal of Computational Physics</i> , 2012, 231, 7014-7036.	3.8	50
10	Adaptive reduced basis finite element heterogeneous multiscale method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2013, 257, 203-220.	6.6	49
11	A short and versatile finite element multiscale code for homogenization problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 2839-2859.	6.6	47
12	ANALYSIS OF A HETEROGENEOUS MULTISCALE FEM FOR PROBLEMS IN ELASTICITY. <i>Mathematical Models and Methods in Applied Sciences</i> , 2006, 16, 615-635.	3.3	45
13	Finite Element Heterogeneous Multiscale Methods with Near Optimal Computational Complexity. <i>Multiscale Modeling and Simulation</i> , 2008, 6, 1059-1084.	1.6	35
14	Localized orthogonal decomposition method for the wave equation with a continuum of scales. <i>Mathematics of Computation</i> , 2016, 86, 549-587.	2.1	34
15	A Priori and a Posteriori Error Analysis for Numerical Homogenization: A Unified Framework. <i>Series in Contemporary Applied Mathematics</i> , 2011, , 280-305.	0.8	33
16	Finite Element Heterogeneous Multiscale Method for the Wave Equation: Long-Time Effects. <i>Multiscale Modeling and Simulation</i> , 2014, 12, 1230-1257.	1.6	32
17	Weak Second Order Explicit Stabilized Methods for Stiff Stochastic Differential Equations. <i>SIAM Journal of Scientific Computing</i> , 2013, 35, A1792-A1814.	2.8	31
18	Discontinuous Galerkin finite element heterogeneous multiscale method for elliptic problems with multiple scales. <i>Mathematics of Computation</i> , 2011, 81, 687-713.	2.1	29

#	ARTICLE	IF	CITATIONS
19	On Roots and Error Constants of Optimal Stability Polynomials. BIT Numerical Mathematics, 2000, 40, 177-182.	2.0	25
20	Stabilized multilevel Monte Carlo method for stiff stochastic differential equations. Journal of Computational Physics, 2013, 251, 445-460.	3.8	25
21	A priori error estimates for finite element methods with numerical quadrature for nonmonotone nonlinear elliptic problems. Numerische Mathematik, 2012, 121, 397-431.	1.9	24
22	Multilevel Monte Carlo Methods for Stochastic Elliptic Multiscale PDEs. Multiscale Modeling and Simulation, 2013, 11, 1033-1070.	1.6	24
23	Analysis of the finite element heterogeneous multiscale method for quasilinear elliptic homogenization problems. Mathematics of Computation, 2013, 83, 513-536.	2.1	22
24	COUPLING HETEROGENEOUS MULTISCALE FEM WITH RUNGE-KUTTA METHODS FOR PARABOLIC HOMOGENIZATION PROBLEMS: A FULLY DISCRETE SPACETIME ANALYSIS. Mathematical Models and Methods in Applied Sciences, 2012, 22, 1250002.	3.3	21
25	PIROCK: A swiss-knife partitioned implicit-explicit orthogonal Runge-Kutta Chebyshev integrator for stiff diffusion-advection-reaction problems with or without noise. Journal of Computational Physics, 2013, 242, 869-888.	3.8	20
26	A reduced basis localized orthogonal decomposition. Journal of Computational Physics, 2015, 295, 379-401.	3.8	20
27	Stabilized methods for stiff stochastic systems. Comptes Rendus Mathematique, 2007, 345, 593-598.	0.3	18
28	A posteriori error analysis of the heterogeneous multiscale method for homogenization problems. Comptes Rendus Mathematique, 2009, 347, 1081-1086.	0.3	18
29	Optimal Explicit Stabilized Integrator of Weak Order 1 for Stiff and Ergodic Stochastic Differential Equations. SIAM-ASA Journal on Uncertainty Quantification, 2018, 6, 937-964.	2.0	18
30	A Priori Error Analysis of the Finite Element Heterogeneous Multiscale Method for the Wave Equation over Long Time. SIAM Journal on Numerical Analysis, 2016, 54, 1507-1534.	2.3	15
31	Random time step probabilistic methods for uncertainty quantification in chaotic and geometric numerical integration. Statistics and Computing, 2020, 30, 907-932.	1.5	14
32	A posteriori error estimates in quantities of interest for the finite element heterogeneous multiscale method. Numerical Methods for Partial Differential Equations, 2013, 29, 1629-1656.	3.6	12
33	Effective models for the multidimensional wave equation in heterogeneous media over long time and numerical homogenization. Mathematical Models and Methods in Applied Sciences, 2016, 26, 2651-2684.	3.3	12
34	Reduced basis finite element heterogeneous multiscale method for quasilinear elliptic homogenization problems. Discrete and Continuous Dynamical Systems - Series S, 2015, 8, 91-118.	1.1	12
35	Multiscale method based on discontinuous Galerkin methods for homogenization problems. Comptes Rendus Mathematique, 2008, 346, 97-102.	0.3	11
36	Fully discrete analysis of the heterogeneous multiscale method for elliptic problems with multiple scales. IMA Journal of Numerical Analysis, 2015, 35, 133-160.	2.9	10

#	ARTICLE	IF	CITATIONS
37	A reduced basis finite element heterogeneous multiscale method for Stokes flow in porous media. Computer Methods in Applied Mechanics and Engineering, 2016, 307, 1-31.	6.6	9
38	The effect of numerical integration in the finite element method for nonmonotone nonlinear elliptic problems with application to numerical homogenization methods. Comptes Rendus Mathematique, 2011, 349, 1041-1046.	0.3	8
39	Heterogeneous Multiscale Methods with Quadrilateral Finite Elements. , 2006, , 743-751.		7
40	Error estimates for finite element approximations of nonlinear monotone elliptic problems with application to numerical homogenization. Numerical Methods for Partial Differential Equations, 2016, 32, 955-969.	3.6	7
41	Numerical Homogenization and Model Order Reduction for Multiscale Inverse Problems. Multiscale Modeling and Simulation, 2019, 17, 399-433.	1.6	7
42	A Bayesian Numerical Homogenization Method for Elliptic Multiscale Inverse Problems. SIAM-ASA Journal on Uncertainty Quantification, 2020, 8, 414-450.	2.0	7
43	Ensemble Kalman Filter for Multiscale Inverse Problems. Multiscale Modeling and Simulation, 2020, 18, 1565-1594.	1.6	6
44	Effective Models and Numerical Homogenization for Wave Propagation in Heterogeneous Media on Arbitrary Timescales. Foundations of Computational Mathematics, 2020, 20, 1505-1547.	2.5	6
45	Effective Models for Long Time Wave Propagation in Locally Periodic Media. SIAM Journal on Numerical Analysis, 2018, 56, 2701-2730.	2.3	5
46	A probabilistic finite element method based on random meshes: A posteriori error estimators and Bayesian inverse problems. Computer Methods in Applied Mechanics and Engineering, 2021, 384, 113961.	6.6	5
47	An optimization-based, heterogeneous to homogeneous coupling method. Communications in Mathematical Sciences, 2015, 13, 1639-1648.	1.0	5
48	Boosted Hybrid Method for Solving Chemical Reaction Systems with Multiple Scales in Time and Population Size. Communications in Computational Physics, 2012, 12, 981-1005.	1.7	4
49	On heterogeneous coupling of multiscale methods for problems with and without scale separation. Research in Mathematical Sciences, 2017, 4, 1.	1.0	4
50	Finite element heterogeneous multiscale method for elastic waves in heterogeneous media. Computer Methods in Applied Mechanics and Engineering, 2018, 335, 1-23.	6.6	4
51	Drift Estimation of Multiscale Diffusions Based on Filtered Data. Foundations of Computational Mathematics, 0, , 1.	2.5	4
52	A parabolic local problem with exponential decay of the resonance error for numerical homogenization. Mathematical Models and Methods in Applied Sciences, 0, , 1-40.	3.3	4
53	Eigenfunction martingale estimating functions and filtered data for drift estimation of discretely observed multiscale diffusions. Statistics and Computing, 2022, 32, 34.	1.5	4
54	The role of numerical integration in numerical homogenization. ESAIM Proceedings and Surveys, 2015, 50, 1-20.	0.4	3

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55	An Optimization Based Coupling Method for Multiscale Problems. Multiscale Modeling and Simulation, 2016, 14, 1377-1416.	1.6	3
56	A Discontinuous Galerkin Reduced Basis Numerical Homogenization Method for Fluid Flow in Porous Media. SIAM Journal of Scientific Computing, 2017, 39, A83-A113.	2.8	3
57	Convergence analysis of explicit stabilized integrators for parabolic semilinear stochastic PDEs. IMA Journal of Numerical Analysis, 2023, 43, 258-292.	2.9	2
58	A three-scale offline-online numerical method for fluid flow in porous media. Journal of Computational Physics, 2017, 337, 175-202.	3.8	1
59	Explicit stabilized integration of stiff deterministic or stochastic problems. , 2012, , .		0
60	Multiscale Adaptive Method for Stokes Flow in Heterogeneous Media. Lecture Notes in Computational Science and Engineering, 2015, , 367-375.	0.3	0
61	Multiscale Model Reduction Methods for Flow in Heterogeneous Porous Media. Lecture Notes in Computational Science and Engineering, 2016, , 333-349.	0.3	0