Maciej Paszynski

List of Publications by Year
in descending order

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125	1,350	331538	434063
papers	citations	21 h-index	31 g-index

137	137	137	445
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Supermodeling, a convergent data assimilation meta-procedure used in simulation of tumor progression. Computers and Mathematics With Applications, 2022, 113, 214-224.	1.4	1
2	Tunning three-dimensional tumor progression simulations on a cluster of GPGPUs. Journal of Computational and Applied Mathematics, 2022, , 114308.	1.1	0
3	Isogeometric residual minimization (iGRM) for non-stationary Stokes and Navierâ€“Stokes problems. Computers and Mathematics With Applications, 2021, 95, 200-214.	1.4	5
4	Isogeometric Residual Minimization Method (iGRM) with direction splitting preconditioner for stationary advection-dominated diffusion problems. Computer Methods in Applied Mechanics and Engineering, 2021, 373, 113214.	3.4	8
5	DGIRM: Discontinuous Galerkin based isogeometric residual minimization for the Stokes problem. Journal of Computational Science, 2021, 50, 101306.	1.5	8
6	Higher order and continuity L2 projections with piece-wise constant test functions. Journal of Computational Science, 2021, 55, 101442.	1.5	0
7	Graph-Grammar Based Longest-Edge Refinement Algorithm for Three-Dimensional Optimally p Refined Meshes with Tetrahedral Elements. Lecture Notes in Computer Science, 2021, , 200-213.	1.0	0
8	Parallel graph-grammar-based algorithm for the longest-edge refinement of triangular meshes and the pollution simulations in Lesser Poland area. Engineering With Computers, 2021, 37, 3857-3880.	3.5	3
9	Isogeometric Residual Minimization Method (iGRM) with direction splitting for non-stationary advectionâ€“diffusion problems. Computers and Mathematics With Applications, 2020, 79, 213-229.	1.4	15
10	Computational Costs of Multi-Frontal Direct Solvers with Analysis-Suitable T-Splines. Symmetry, 2020, 12, 2070.	1.1	0
11	Fast isogeometric solvers for hyperbolic wave propagation problems. Computers and Mathematics With Applications, 2020, 80, 109-120.	1.4	4
12	A Stable Discontinuous Galerkin Based Isogeometric Residual Minimization for the Stokes Problem. Lecture Notes in Computer Science, 2020, , 197-211.	1.0	4
13	Parallel Shared-Memory Isogeometric Residual Minimization (iGRM) for Three-Dimensional Advection-Diffusion Problems. Lecture Notes in Computer Science, 2020, , 133-148.	1.0	0
14	Linear computational cost implicit solver for elliptic problems. Computer Science, 2020, 21, .	0.4	2
15	Parallel splitting solvers for the isogeometric analysis of the Cahn-Hilliard equation. Computer Methods in Biomechanics and Biomedical Engineering, 2019, 22, 1269-1281.	0.9	8
16	Fast and green parallel isogeometric analysis computations for multi-objective optimization of liquid fossil fuel reserve exploitation with minimal groundwater contamination. Journal of Parallel and Distributed Computing, 2019, 134, 89-103.	2.7	0
17	Object-oriented implementation of the alternating directions implicit solver for isogeometric analysis. Advances in Engineering Software, 2019, 128, 187-220.	1.8	4
18	Parallel Refined Isogeometric Analysis in 3D. IEEE Transactions on Parallel and Distributed Systems, 2019, 30, 1134-1142.	4.0	4

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19	Parallel fast isogeometric L2 projection solver with GALOIS system for 3D tumor growth simulations. Computer Methods in Applied Mechanics and Engineering, 2019, 343, 1-22.	3.4	12
20	Efficient model of tumor dynamics simulated in multi-GPU environment. International Journal of High Performance Computing Applications, 2019, 33, 489-506.	2.4	10
21	HYPERGRAPH GRAMMAR BASED MULTI-THREAD MULTI-FRONTAL DIRECT SOLVER WITH GALOIS SCHEDULER. Computer Science, 2019, 20, .	0.4	0
22	Parallel spaceâ€“time hp adaptive discretization scheme for parabolic problems. Journal of Computational and Applied Mathematics, 2018, 344, 819-835.	1.1	1
23	Comparison of solvers for two formulations of Cahn-Hilliard equations. Procedia Manufacturing, 2018, 15, 1900-1907.	1.9	0
24	Concurrency of three-dimensional refined isogeometric analysis. Parallel Computing, 2018, 80, 1-22.	1.3	2
25	Computational cost of two alternative formulations of Cahn-Hilliard equations. , 2018, , .		0
26	Bisections-Weighted-by-Element-Size-and-Order Algorithm to Optimize Direct Solver Performance on 3D hp-adaptive Grids. Lecture Notes in Computer Science, 2018, , 760-772.	1.0	1
27	Application of fast isogeometric L2 projection solver for tumor growth simulations. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 1257-1269.	3.4	37
28	IGA-ADS: Isogeometric analysis FEM using ADS solver. Computer Physics Communications, 2017, 217, 99-116.	3.0	25
29	Agent-based simulations, adaptive algorithms and solvers. Journal of Computational Science, 2017, 18, 57-58.	1.5	0
30	Element Partition Trees For H-Refined Meshes to Optimize Direct Solver Performance. Part I: Dynamic Programming. International Journal of Applied Mathematics and Computer Science, 2017, 27, 351-365.	1.5	5
31	Algorithms for construction of Element Partition Trees for Direct Solver executed over h refined grids with B-splines and C0 separators. Procedia Computer Science, 2017, 108, 857-866.	1.2	1
32	ICCS 2017 Workshop on Agent-Based Simulations, Adaptive Algorithms and Solvers. Procedia Computer Science, 2017, 108, 796-797.	1.2	0
33	A concept of a prognostic system for personalized anti-tumor therapy based on supermodeling. Procedia Computer Science, 2017, 108, 1832-1841.	1.2	8
34	Algorithm for simultaneous adaptation and time step iterations for the electromagnetic waves propagation and heating of the human head induced by cell phone. Procedia Computer Science, 2017, 108, 2448-2452.	1.2	1
35	A wrapper around parallel MUMPS solver to reduce its memory usage and execution time for finite element method computations. Procedia Computer Science, 2017, 108, 838-847.	1.2	3
36	Mesh-based multi-frontal solver with reuse of partial LU factorizations for antenna array. Journal of Computational Science, 2017, 18, 132-142.	1.5	4

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37	The value of continuity: Refined isogeometric analysis and fast direct solvers. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 586-605.	3.4	26
38	Parallel Fast Isogeometric Solvers for Explicit Dynamics. Computing and Informatics, 2017, 36, 423-448.	0.4	16
39	Fast Parallel Integration for three Dimensional Discontinuous Petrov Galerkin Method. Procedia Computer Science, 2016, 101, 8-17.	1.2	2
40	Hybrid Direct and Iterative Solver with Library of Multi-criteria Optimal Orderings for h Adaptive Finite Element Method Computations. Procedia Computer Science, 2016, 80, 865-874.	1.2	3
41	Scalability of Direct Solver for Non-stationary Cahn-Hilliard Simulations with Linearized time Integration Scheme. Procedia Computer Science, 2016, 80, 834-844.	1.2	4
42	ALGORITHM FOR FAST SIMULATIONS OF SPACE-TIME FINITE ELEMENT METHOD. , 2016, , .		0
43	Dynamics with Matrices Possessing Kronecker Product Structure. Procedia Computer Science, 2015, 51, 286-295.	1.2	29
44	An agent-oriented hierarchic strategy for solving inverse problems. International Journal of Applied Mathematics and Computer Science, 2015, 25, 483-498.	1.5	19
45	Towards Green Multi-frontal Solver for Adaptive Finite Element Method. Procedia Computer Science, 2015, 51, 984-993.	1.2	2
46	Quasi-linear computational cost adaptive solvers for three dimensional modeling of heating of a human head induced by cell phone. Journal of Computational Science, 2015, 11, 163-174.	1.5	8
47	Telescopic Hybrid Fast Solver for 3D Elliptic Problems with Point Singularities. Procedia Computer Science, 2015, 51, 2744-2748.	1.2	2
48	Graph Transformation Systems for Modeling Three Dimensional Finite Element Method. Part I. Fundamenta Informaticae, 2015, 140, 129-172.	0.3	3
49	Graph Transformation Systems for Modeling Three Dimensional Finite Element Method. Part II. Fundamenta Informaticae, 2015, 140, 173-203.	0.3	5
50	Quasi-Optimal Elimination Trees for 2D Grids with Singularities. Scientific Programming, 2015, 2015, 1-18.	0.5	10
51	Impact of element-level static condensation on iterative solver performance. Computers and Mathematics With Applications, 2015, 70, 2331-2341.	1.4	11
52	Computational cost of isogeometric multi-frontal solvers on parallel distributed memory machines. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 971-987.	3.4	16
53	A New Time Integration Scheme for Cahn-hilliard Equations. Procedia Computer Science, 2015, 51, 1003-1012.	1.2	3
54	Direct solvers performance on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si9.gif" display="inline" overflow="scroll"><mml:mi>h</mml:mi></mml:math>-adapted grids. Computers and Mathematics With Applications, 2015, 70, 282-295.	1.4	7

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55	A hybrid method for inversion of 3D AC resistivity logging measurements. Applied Soft Computing Journal, 2015, 36, 442-456.	4.1	13
56	Fully Automatic 2D hp -adaptive Finite Element Method for Non-stationary Heat Transfer. Procedia Computer Science, 2015, 51, 2883-2887.	1.2	7
57	Comparison of the Structure of Equation Systems and the GPU Multifrontal Solver for Finite Difference, Collocation and Finite Element Method. Procedia Computer Science, 2015, 51, 1072-1081.	1.2	0
58	A hybrid method for inversion of 3D DC resistivity logging measurements. Natural Computing, 2015, 14, 355-374.	1.8	22
59	Subtree Reuse in Multi-Frontal Solvers for Regular Grids in Step-and-Flash Imprint Nanolithography Modeling. Advanced Engineering Materials, 2014, 16, 231-240.	1.6	4
60	Computational cost estimates for parallel shared memory isogeometric multi-frontal solvers. Computers and Mathematics With Applications, 2014, 67, 1864-1883.	1.4	28
61	Adaptive Projectionâ€Based Interpolation as a Preâ€Processing Tool in the Finite Element Workflow for Elasticity Simulations of the Dual Phase Microstructures. Steel Research International, 2014, 85, 1109-1119.	1.0	3
62	Graph Grammar based Multi-thread Multi-frontal Direct Solver with Galois Scheduler. Procedia Computer Science, 2014, 29, 960-969.	1.2	21
63	Dynamic Programming Algorithm for Generation of Optimal Elimination Trees for Multi-frontal Direct Solver Over H-refined Grids. Procedia Computer Science, 2014, 29, 947-959.	1.2	15
64	Hypergraph Grammar based Linear Computational Cost Solver for Three Dimensional Grids with Point Singularities. Procedia Computer Science, 2014, 29, 1078-1089.	1.2	0
65	Hypergraph Grammar based Adaptive Linear Computational Cost Projection Solvers for Two and Three Dimensional Modeling of Brain. Procedia Computer Science, 2014, 29, 1002-1013.	1.2	1
66	A hybrid algorithm for solving inverse problems in elasticity. International Journal of Applied Mathematics and Computer Science, 2014, 24, 865-886.	1.5	19
67	Finite Element Method Computations of the Acoustics of the Human Head Based on the Projection Based Interpolation Data. Journal of Applied Mathematics and Physics, 2014, 02, 1047-1052.	0.2	0
68	Employing an Adaptive Projection-based Interpolation to Prepare Discontinuous 3D Material Data for Finite Element Analysis. Procedia Computer Science, 2013, 18, 1535-1544.	1.2	4
69	Grammar-Based Multi-Frontal Solver for One Dimensional Isogeometric Analysis with Multiple Right-Hand-Sides. Procedia Computer Science, 2013, 18, 1574-1583.	1.2	4
70	Graph Grammar Based Direct Solver for Hp-adaptive Finite Element Method with Point Singularities. Procedia Computer Science, 2013, 18, 1594-1603.	1.2	5
71	Preventing deadlock during anisotropic 2D mesh adaptation in hp-adaptive FEM. Journal of Computational Science, 2013, 4, 170-179.	1.5	14
72	A direct solver with reutilization of LU factorizations forh-adaptive finite element grids with point singularities. Computers and Mathematics With Applications, 2013, 65, 1140-1151.	1.4	11

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73	Using a graph grammar system in the finite element method. International Journal of Applied Mathematics and Computer Science, 2013, 23, 839-853.	1.5	15
74	Graph Grammar Based Multi-Frontal Solver for Isogeometric FEM Simulations On GPU. International Journal of Aerospace and Lightweight Structures (IJALS), 2013, 3, 277.	0.1	1
75	Two-dimensional HP-adaptive Algorithm for Continuous Approximations of Material Data Using Space Projection. Computer Science, 2013, 14, 97.	0.4	6
76	Employing Adaptive Finite Elements to Model Squeezing of a Layered Material in 3D. International Journal of Materials Mechanics and Manufacturing, 2013, , 319-323.	0.2	3
77	A Graph Grammar Model of the hp Adaptive Three Dimensional Finite Element Method. Part II. Fundamenta Informaticae, 2012, 114, 183-201.	0.3	15
78	Graph Grammar-Based Multi-Frontal Parallel Direct Solver for Two-Dimensional Isogeometric Analysis. Procedia Computer Science, 2012, 9, 1454-1463.	1.2	9
79	hp-HGS strategy for inverse 3D DC resistivity logging measurement simulations. Procedia Computer Science, 2012, 9, 927-936.	1.2	3
80	Petri Nets for Detecting a 3D Deadlock Problem in Hp-adaptive Finite Element Simulations. Procedia Computer Science, 2012, 9, 1434-1443.	1.2	1
81	On Round-off Error for Adaptive Finite Element Methods. Procedia Computer Science, 2012, 9, 1474-1483.	1.2	9
82	A survey on direct solvers for Galerkin methods. BoletÃ‍n De La Sociedad EspaÃ‘ola De MatemÃ‍tica Aplicada, 2012, 57, 107-134.	0.9	21
83	A Graph Grammar Model of the hp Adaptive Three Dimensional Finite Element Method. Part I. Fundamenta Informaticae, 2012, 114, 149-182.	0.3	22
84	The cost of continuity: A study of the performance of isogeometric finite elements using direct solvers. Computer Methods in Applied Mechanics and Engineering, 2012, 213-216, 353-361.	3.4	99
85	Graph Grammar Based Model for Three Dimensional Multi-physics Simulations. Studies in Computational Intelligence, 2012, , 299-324.	0.7	0
86	Out-of-core multi-frontal solver for multi-physics hp adaptive problems. Procedia Computer Science, 2011, 4, 1788-1797.	1.2	9
87	Agent-oriented image processing with the hp-adaptive projection-based interpolation operator. Procedia Computer Science, 2011, 4, 1844-1853.	1.2	3
88	Modeling of bone conduction of sound in the human head using hp-finite elements: Code design and verification. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1757-1773.	3.4	9
89	Anisotropic 2D mesh adaptation in hp-adaptive FEM. Procedia Computer Science, 2011, 4, 1818-1827.	1.2	5
90	Application of Agent-based Approach for Multiscale hp-adaptive Finite Element Method. , 2011, , .		0

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91	Multi-deme, twin adaptive strategy hp-HGS. Inverse Problems in Science and Engineering, 2011, 19, 3-16.	1.2	21
92	Graph grammarâ€driven parallel partial differential equation solver. Concurrency Computation Practice and Experience, 2010, 22, 1063-1097.	1.4	11
93	Unified Modeling Language description of the object-oriented multi-scale adaptive finite element method for Step-and-Flash Imprint Lithography Simulations. IOP Conference Series: Materials Science and Engineering, 2010, 10, 012247.	0.3	3
94	Agent-based parallel system for numerical computations. Procedia Computer Science, 2010, 1, 1971-1981.	1.2	3
95	Parallel multi-frontal solver for multi-physics p adaptive problems. Procedia Computer Science, 2010, 1, 1983-1992.	1.2	0
96	Parallel multi-frontal solver for p adaptive finite element modeling of multi-physics computational problems. Journal of Computational Science, 2010, 1, 48-54.	1.5	33
97	A parallel direct solver for the self-adaptive hp Finite Element Method. Journal of Parallel and Distributed Computing, 2010, 70, 270-281.	2.7	42
98	Agent-based computing, adaptive algorithms and bio computing. Procedia Computer Science, 2010, 1, 1951-1952.	1.2	2
99	Graph grammar-based multi-thread multi-frontal parallel solver with trace theory-based scheduler. Procedia Computer Science, 2010, 1, 1993-2001.	1.2	14
100	Graph Grammar Based Petri Nets Model of Concurrency for Self-adaptive hp-Finite Element Method with Rectangular Elements. Lecture Notes in Computer Science, 2010, , 95-104.	1.0	1
101	On the Parallelization of Self-Adaptive hp-Finite Element Methods Part II. Partitioning Communication Agglomeration Mapping (PCAM) Analysis. Fundamenta Informaticae, 2009, 93, 435-457.	0.3	18
102	Solving inverse problems by the multi-deme hierarchic genetic strategy. , 2009, , .		2
103	Graph Transformations for Modeling hp-Adaptive Finite Element Method with Mixed Triangular and Rectangular Elements. Lecture Notes in Computer Science, 2009, , 875-884.	1.0	22
104	On the Parallelization of Self-Adaptive hp-Finite Element Methods Part I. Composite Programmable Graph GrammarModel. Fundamenta Informaticae, 2009, 93, 411-434.	0.3	27
105	Handling Ambiguous Inverse Problems by the Adaptive Genetic Strategy hpâ€“HGS. Lecture Notes in Computer Science, 2009, , 904-913.	1.0	4
106	Graph Grammar Based Petri Nets Model of Concurrency for Self-adaptive hp-Finite Element Method with Triangular Elements. Lecture Notes in Computer Science, 2009, , 845-854.	1.0	2
107	Simulations of 3D DC borehole resistivity measurements with a goal-oriented hp finite-element method. Part II: through-casing resistivity instruments. Computational Geosciences, 2008, 12, 83-89.	1.2	37
108	Fourier series expansion in a non-orthogonal system of coordinates for the simulation of 3D alternating current borehole resistivity measurements. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 3836-3849.	3.4	32

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109	Fully automatic hp adaptive finite element method for the Stokes problem in two dimensions. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4549-4558.	3.4	7
110	Graph Transformations for Modeling hp-Adaptive Finite Element Method with Triangular Elements. Lecture Notes in Computer Science, 2008, , 604-613.	1.0	20
111	Intelligent Agents and Evolvable Systems. Lecture Notes in Computer Science, 2008, , 533-534.	1.0	0
112	Simulation of 3D Resistivity Logging Measurements with a Parallel Implementation of 2D hp-Adaptive Goal-Oriented Finite Element Method. AIP Conference Proceedings, 2007, , .	0.3	2
113	A self-adaptive goal-oriented hp-finite element method with electromagnetic applications. Part II: Electrodynamics. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 3585-3597.	3.4	54
114	Graph Transformations for Modeling Parallel hp-Adaptive Finite Element Method. , 2007, , 1313-1322.		22
115	Performance of Multi Level Parallel Direct Solver for hp Finite Element Method. , 2007, , 1303-1312.		3
116	Efficient Adaptive Strategy for Solving Inverse Problems. Lecture Notes in Computer Science, 2007, , 342-349.	1.0	16
117	Agents Based Hierarchical Parallelization of Complex Algorithms on the Example of hp Finite Element Method. Lecture Notes in Computer Science, 2007, , 912-919.	1.0	4
118	Numerical simulation of 3D EM borehole measurements using an hpâ€adaptive goalâ€oriented finiteâ€element formulation. , 2007, , .		5
119	Twoâ€Dimensional Highâ€Accuracy Simulation of Resistivity Log gingâ€Whileâ€Drilling (LWD) Measurements Using a Selfâ€Adaptiv e Goalâ€Oriented hp Finite Element Method. SIAM Journal on Applied Mathematics, 2006, 66, 2085-2106.	0.8	65
120	Parallel, fully automatic hp-adaptive 2d finite element package. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 711-741.	3.4	35
121	Application of the fully automatic 3D hp adaptive code to orthotropic heat transfer in structurally graded material properties. Journal of Materials Processing Technology, 2006, 177, 68-71.	3.1	6
122	Parallel, fully automatic hp-adaptive 3D finite element package. Engineering With Computers, 2006, 22, 255-276.	3.5	40
123	The Application of Agents to Parallel Mesh Refinements in Domain Decomposition Based Parallel Fully Automatic hp Adaptive Finite Element Codes. Lecture Notes in Computer Science, 2006, , 751-758.	1.0	2
124	Verification of goal-oriented HP-adaptivity. Computers and Mathematics With Applications, 2005, 50, 1395-1404.	1.4	22
125	The modified Fluid Particle Model for non-linear Casson fluid and its parallel distributed implementation. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 4386-4410.	3.4	7