# Maciej Paszynski

List of Publications by Year
in descending order



| 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 | 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 |
| 2 | 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 |
| 3 | 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 |
| 4 | 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 |
| 5 | Parallel, fully automatic hp-adaptive 3D finite element package. Engineering With Computers, 2006, 22, 255-276. | 3.5 | 40 |
| 6 | 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 |
| 7 | 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 |
| 8 | Parallel, fully automatic hp-adaptive 2d finite element package. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 711-741. | 3.4 | 35 |
| 9 | 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 |
| 10 | 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 |
| 11 | Dynamics with Matrices Possessing Kronecker Product Structure. Procedia Computer Science, 2015, 51, 286-295. | 1.2 | 29 |
| 12 | Computational cost estimates for parallel shared memory isogeometric multi-frontal solvers. Computers and Mathematics With Applications, 2014, 67, 1864-1883. | 1.4 | 28 |
| 13 | 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 |
| 14 | 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 |
| 15 | IGA-ADS: Isogeometric analysis FEM using ADS solver. Computer Physics Communications, 2017, 217, 99-116. | 3.0 | 25 |
| 16 | Verification of goal-oriented HP-adaptivity. Computers and Mathematics With Applications, 2005, 50, 1395-1404. | 1.4 | 22 |
| 17 | Graph Transformations for Modeling Parallel hp-Adaptive Finite Element Method. , 2007, , 1313-1322. | | 22 |
| 18 | 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 |

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|---|---|---|---|
| 19 | A Graph Grammar Model of the hp Adaptive Three Dimensional Finite Element Method. Part I. Fundamenta Informaticae, 2012, 114, 149-182. | 0.3 | 22 |
| 20 | A hybrid method for inversion of 3D DC resistivity logging measurements. Natural Computing, 2015, 14, 355-374. | 1.8 | 22 |
| 21 | Multi-deme, twin adaptive strategy hp-HGS. Inverse Problems in Science and Engineering, 2011, 19, 3-16. | 1.2 | 21 |
| 22 | A survey on direct solvers for Galerkin methods. BoletÃ‍n De La Sociedad EspaÃ‘ola De MatemÃ‍tica Aplicada, 2012, 57, 107-134. | 0.9 | 21 |
| 23 | Graph Grammar based Multi-thread Multi-frontal Direct Solver with Galois Scheduler. Procedia Computer Science, 2014, 29, 960-969. | 1.2 | 21 |
| 24 | Graph Transformations for Modeling hp-Adaptive Finite Element Method with Triangular Elements. Lecture Notes in Computer Science, 2008, , 604-613. | 1.0 | 20 |
| 25 | A hybrid algorithm for solving inverse problems in elasticity. International Journal of Applied Mathematics and Computer Science, 2014, 24, 865-886. | 1.5 | 19 |
| 26 | An agent-oriented hierarchic strategy for solving inverse problems. International Journal of Applied Mathematics and Computer Science, 2015, 25, 483-498. | 1.5 | 19 |
| 27 | 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 |
| 28 | 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 |
| 29 | Efficient Adaptive Strategy for Solving Inverse Problems. Lecture Notes in Computer Science, 2007, , 342-349. | 1.0 | 16 |
| 30 | Parallel Fast Isogeometric Solvers for Explicit Dynamics. Computing and Informatics, 2017, 36, 423-448. | 0.4 | 16 |
| 31 | A Graph Grammar Model of the hp Adaptive Three Dimensional Finite Element Method. Part II. Fundamenta Informaticae, 2012, 114, 183-201. | 0.3 | 15 |
| 32 | 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 |
| 33 | 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 |
| 34 | 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 |
| 35 | Graph grammar-based multi-thread multi-frontal parallel solver with trace theory-based scheduler. Procedia Computer Science, 2010, 1, 1993-2001. | 1.2 | 14 |
| 36 | Preventing deadlock during anisotropic 2D mesh adaptation in hp-adaptive FEM. Journal of Computational Science, 2013, 4, 170-179. | 1.5 | 14 |

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|---|---|---|---|
| 37 | A hybrid method for inversion of 3D AC resistivity logging measurements. Applied Soft Computing Journal, 2015, 36, 442-456. | 4.1 | 13 |
| 38 | 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 |
| 39 | Graph grammarâ€driven parallel partial differential equation solver. Concurrency Computation Practice and Experience, 2010, 22, 1063-1097. | 1.4 | 11 |
| 40 | 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 |
| 41 | Impact of element-level static condensation on iterative solver performance. Computers and Mathematics With Applications, 2015, 70, 2331-2341. | 1.4 | 11 |
| 42 | Quasi-Optimal Elimination Trees for 2D Grids with Singularities. Scientific Programming, 2015, 2015, 1-18. | 0.5 | 10 |
| 43 | Efficient model of tumor dynamics simulated in multi-GPU environment. International Journal of High Performance Computing Applications, 2019, 33, 489-506. | 2.4 | 10 |
| 44 | Out-of-core multi-frontal solver for multi-physics hp adaptive problems. Procedia Computer Science, 2011, 4, 1788-1797. | 1.2 | 9 |
| 45 | 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 |
| 46 | Graph Grammar-Based Multi-Frontal Parallel Direct Solver for Two-Dimensional Isogeometric Analysis. Procedia Computer Science, 2012, 9, 1454-1463. | 1.2 | 9 |
| 47 | On Round-off Error for Adaptive Finite Element Methods. Procedia Computer Science, 2012, 9, 1474-1483. | 1.2 | 9 |
| 48 | 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 |
| 49 | A concept of a prognostic system for personalized anti-tumor therapy based on supermodeling. Procedia Computer Science, 2017, 108, 1832-1841. | 1.2 | 8 |
| 50 | 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 |
| 51 | 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 |
| 52 | DGIRM: Discontinuous Galerkin based isogeometric residual minimization for the Stokes problem. Journal of Computational Science, 2021, 50, 101306. | 1.5 | 8 |
| 53 | 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 |
| 54 | 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 |

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|---|---|---|---|
| 55 | 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 |
| 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 | 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 |
| 58 | Two-dimensional HP-adaptive Algorithm for Continuous Approximations of Material Data Using Space Projection. Computer Science, 2013, 14, 97. | 0.4 | 6 |
| 59 | Anisotropic 2D mesh adaptation in hp-adaptive FEM. Procedia Computer Science, 2011, 4, 1818-1827. | 1.2 | 5 |
| 60 | Graph Grammar Based Direct Solver for Hp-adaptive Finite Element Method with Point Singularities. Procedia Computer Science, 2013, 18, 1594-1603. | 1.2 | 5 |
| 61 | Graph Transformation Systems for Modeling Three Dimensional Finite Element Method. Part II. Fundamenta Informaticae, 2015, 140, 173-203. | 0.3 | 5 |
| 62 | 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 |
| 63 | Isogeometric residual minimization (iGRM) for non-stationary Stokes and Navierâ€“Stokes problems. Computers and Mathematics With Applications, 2021, 95, 200-214. | 1.4 | 5 |
| 64 | Numerical simulation of 3D EM borehole measurements using an hpâ€adaptive goalâ€oriented finiteâ€element formulation. , 2007, , . | | 5 |
| 65 | 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 |
| 66 | 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 |
| 67 | 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 |
| 68 | 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 |
| 69 | 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 |
| 70 | Object-oriented implementation of the alternating directions implicit solver for isogeometric analysis. Advances in Engineering Software, 2019, 128, 187-220. | 1.8 | 4 |
| 71 | Parallel Refined Isogeometric Analysis in 3D. IEEE Transactions on Parallel and Distributed Systems, 2019, 30, 1134-1142. | 4.0 | 4 |
| 72 | Fast isogeometric solvers for hyperbolic wave propagation problems. Computers and Mathematics With Applications, 2020, 80, 109-120. | 1.4 | 4 |

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| 73 | A Stable Discontinuous Galerkin Based Isogeometric Residual Minimization for the Stokes Problem. Lecture Notes in Computer Science, 2020, , 197-211. | 1.0 | 4 |
| 74 | 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 |
| 75 | Handling Ambiguous Inverse Problems by the Adaptive Genetic Strategy hpâ€“HGS. Lecture Notes in Computer Science, 2009, , 904-913. | 1.0 | 4 |
| 76 | 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 |
| 77 | Agent-based parallel system for numerical computations. Procedia Computer Science, 2010, 1, 1971-1981. | 1.2 | 3 |
| 78 | Agent-oriented image processing with the hp-adaptive projection-based interpolation operator. Procedia Computer Science, 2011, 4, 1844-1853. | 1.2 | 3 |
| 79 | hp-HGS strategy for inverse 3D DC resistivity logging measurement simulations. Procedia Computer Science, 2012, 9, 927-936. | 1.2 | 3 |
| 80 | 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 |
| 81 | Graph Transformation Systems for Modeling Three Dimensional Finite Element Method. Part I. Fundamenta Informaticae, 2015, 140, 129-172. | 0.3 | 3 |
| 82 | A New Time Integration Scheme for Cahn-hilliard Equations. Procedia Computer Science, 2015, 51, 1003-1012. | 1.2 | 3 |
| 83 | 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 |
| 84 | 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 |
| 85 | 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 |
| 86 | Performance of Multi Level Parallel Direct Solver for hp Finite Element Method. , 2007, , 1303-1312. | | 3 |
| 87 | 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 |
| 88 | 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 |
| 89 | Solving inverse problems by the multi-deme hierarchic genetic strategy. , 2009, , . | | 2 |
| 90 | Agent-based computing, adaptive algorithms and bio computing. Procedia Computer Science, 2010, 1, 1951-1952. | 1.2 | 2 |

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| 91 | Towards Green Multi-frontal Solver for Adaptive Finite Element Method. Procedia Computer Science, 2015, 51, 984-993. | 1.2 | 2 |
| 92 | Telescopic Hybrid Fast Solver for 3D Elliptic Problems with Point Singularities. Procedia Computer Science, 2015, 51, 2744-2748. | 1.2 | 2 |
| 93 | Fast Parallel Integration for three Dimensional Discontinuous Petrov Galerkin Method. Procedia Computer Science, 2016, 101, 8-17. | 1.2 | 2 |
| 94 | Concurrency of three-dimensional refined isogeometric analysis. Parallel Computing, 2018, 80, 1-22. | 1.3 | 2 |
| 95 | 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 |
| 96 | 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 |
| 97 | Linear computational cost implicit solver for elliptic problems. Computer Science, 2020, 21, . | 0.4 | 2 |
| 98 | Petri Nets for Detecting a 3D Deadlock Problem in Hp-adaptive Finite Element Simulations. Procedia Computer Science, 2012, 9, 1434-1443. | 1.2 | 1 |
| 99 | 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 |
| 100 | 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 |
| 101 | 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 |
| 102 | Parallel spaceâ€“time hp adaptive discretization scheme for parabolic problems. Journal of Computational and Applied Mathematics, 2018, 344, 819-835. | 1.1 | 1 |
| 103 | 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 |
| 104 | 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 |
| 105 | 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 |
| 106 | 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 |
| 107 | Parallel multi-frontal solver for multi-physics p adaptive problems. Procedia Computer Science, 2010, 1, 1983-1992. | 1.2 | 0 |
| 108 | Application of Agent-based Approach for Multiscale hp-adaptive Finite Element Method. , 2011, , . | | 0 |

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| 109 | Hypergraph Grammar based Linear Computational Cost Solver for Three Dimensional Grids with Point Singularities. Procedia Computer Science, 2014, 29, 1078-1089. | 1.2 | 0 |
| 110 | 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 |
| 111 | Agent-based simulations, adaptive algorithms and solvers. Journal of Computational Science, 2017, 18, 57-58. | 1.5 | 0 |
| 112 | ICCS 2017 Workshop on Agent-Based Simulations, Adaptive Algorithms and Solvers. Procedia Computer Science, 2017, 108, 796-797. | 1.2 | 0 |
| 113 | Comparison of solvers for two formulations of Cahn-Hilliard equations. Procedia Manufacturing, 2018, 15, 1900-1907. | 1.9 | 0 |
| 114 | Computational cost of two alternative formulations of Cahn-Hilliard equations. , 2018, , . | | 0 |
| 115 | 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 |
| 116 | Computational Costs of Multi-Frontal Direct Solvers with Analysis-Suitable T-Splines. Symmetry, 2020, 12, 2070. | 1.1 | 0 |
| 117 | Higher order and continuity L2 projections with piece-wise constant test functions. Journal of Computational Science, 2021, 55, 101442. | 1.5 | 0 |
| 118 | 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 |
| 119 | Intelligent Agents and Evolvable Systems. Lecture Notes in Computer Science, 2008, , 533-534. | 1.0 | 0 |
| 120 | Graph Grammar Based Model for Three Dimensional Multi-physics Simulations. Studies in Computational Intelligence, 2012, , 299-324. | 0.7 | 0 |
| 121 | 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 |
| 122 | ALGORITHM FOR FAST SIMULATIONS OF SPACE-TIME FINITE ELEMENT METHOD. , 2016, , . | | 0 |
| 123 | HYPERGRAPH GRAMMAR BASED MULTI-THREAD MULTI-FRONTAL DIRECT SOLVER WITH GALOIS SCHEDULER. Computer Science, 2019, 20, . | 0.4 | 0 |
| 124 | Parallel Shared-Memory Isogeometric Residual Minimization (iGRM) for Three-Dimensional Advection-Diffusion Problems. Lecture Notes in Computer Science, 2020, , 133-148. | 1.0 | 0 |
| 125 | Tunning three-dimensional tumor progression simulations on a cluster of GPGPUs. Journal of Computational and Applied Mathematics, 2022, , 114308. | 1.1 | 0 |