Cornelis Vuik

List of Publications by Year
in descending order

238 papers	4,939 citations	109264 35 h-index	128225 60 g-index
247 all docs	247 docs citations	247 times ranked	2848 citing authors

#	Article	IF	Citations
1	Analysis of hydrodynamic trapping interactions during full-cycle injection and migration of CO2 in deep saline aquifers. Advances in Water Resources, 2022, 159, 104073.	1.7	16
2	CO2 Storage in deep saline aquifers: impacts of fractures on hydrodynamic trapping. International Journal of Greenhouse Gas Control, 2022, 113, 103552.	2.3	20
3	An operational bidding framework for aggregated electric vehicles on the electricity spot market. Applied Energy, 2022, 308, 118280.	5.1	10
4	Projection-based embedded discrete fracture model (pEDFM) for flow and heat transfer in real-field geological formations with hexahedral corner-point grids. Advances in Water Resources, 2022, 159, 104091.	1.7	20
5	Hybrid-dimensional modeling for fluid flow in heterogeneous porous media using dual fracture-pore model with flux interaction of fractureâ€“cavity network. Journal of Natural Gas Science and Engineering, 2022, 100, 104450.	2.1	12
6	Modeling Conjugate Heat Transfer in an Anode Baking Furnace Using OpenFoam. Fluids, 2022, 7, 124.	0.8	5
7	A stabilized mixed-FE scheme for frictional contact and shear failure analyses in deformable fractured media. Engineering Fracture Mechanics, 2022, 267, 108427.	2.0	7
8	Combining p-multigrid and Multigrid Reduction in Time methods to obtain a scalable solver for Isogeometric Analysis. SN Applied Sciences, 2022, 4, 1.	1.5	0
9	On the fundamental solutions-based inversion of Laplace matrices. Results in Applied Mathematics, 2022, 15, 100288.	0.5	0
10	Comparison and unification of material-point and optimal transportation meshfree methods. Computational Particle Mechanics, 2021, 8, 113-133.	1.5	4
11	A comparison of block preconditioners for isogeometric analysis discretizations of the incompressible Navierâ€“Stokes equations. International Journal for Numerical Methods in Fluids, 2021, 93, 1788-1815.	0.9	3
12	Preconditioning Navierâ€“Stokes control using multilevel sequentially semiseparable matrix computations. Numerical Linear Algebra With Applications, 2021, 28, e2349.	0.9	1
13	Special Issue on Applied Mathematics for Traffic and Transport Systems. Transportmetrica A: Transport Science, 2021, 17, 233-234.	1.3	0
14	Analysis of the Aerodynamics in the Heating Section of an Anode Baking Furnace Using Non-Linear Finite Element Simulations. Fluids, 2021, 6, 46.	0.8	3
15	A Simple and Fast Hole Detection Algorithm for Triangulated Surfaces. Journal of Computing and Information Science in Engineering, 2021, 21, .	1.7	1
16	Towards accuracy and scalability: Combining Isogeometric Analysis with deflation to obtain scalable convergence for the Helmholtz equation. Computer Methods in Applied Mechanics and Engineering, 2021, 377, 113694.	3.4	4
17	Convergence behavior of single-step GBLUP and SNPBLUP for different termination criteria. Genetics Selection Evolution, 2021, 53, 34.	1.2	3
18	The role of PDE-based parameterization techniques in gradient-based IGA shape optimization applications. Computer Methods in Applied Mechanics and Engineering, 2021, 378, 113685.	3.4	1

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19	Accelerating the solution of linear systems appearing in two-phase reservoir simulation by the use of POD-based deflation methods. Computational Geosciences, 2021, 25, 1621-1645.	1.2	1
20	Steady-State Stand-Alone Power Flow Solvers for Integrated Transmission-Distribution Networks: A Comparison Study and Numerical Assessment. Energies, 2021, 14, 5784.	1.6	0
21	The Effect of Variable Airâ€“Fuel Ratio on Thermal NOx Emissions and Numerical Flow Stability in Rotary Kilns Using Non-Premixed Combustion. Processes, 2021, 9, 1723.	1.3	3
22	Pollution and accuracy of solutions of the Helmholtz equation: A novel perspective from the eigenvalues. Journal of Computational and Applied Mathematics, 2021, 395, 113549.	1.1	3
23	A novel linearized power flow approach for transmission and distribution networks. Journal of Computational and Applied Mathematics, 2021, 394, 113572.	1.1	5
24	Optimal flow for general multi-carrier energy systems, including load flow equations. Results in Control and Optimization, 2021, 5, 100050.	1.3	0
25	An IGA Framework for PDE-Based Planar Parameterization on Convex Multipatch Domains. Lecture Notes in Computational Science and Engineering, 2021, , 57-75.	0.1	0
26	Preconditioning for Linear Systems Arising from IgA Discretized Incompressible Navierâ€“Stokes Equations. Lecture Notes in Computational Science and Engineering, 2021, , 77-97.	0.1	0
27	Efficient p-Multigrid Based Solvers for Isogeometric Analysis on Multipatch Geometries. Lecture Notes in Computational Science and Engineering, 2021, , 209-225.	0.1	0
28	The nitric oxide formation in anode baking furnace through numerical modeling. International Journal of Thermofluids, 2021, 12, 100122.	4.0	4
29	A graph-based model framework for steady-state load flow problems of general multi-carrier energy systems. Applied Energy, 2020, 280, 115286.	5.1	8
30	p-multigrid methods and their comparison to h-multigrid methods within Isogeometric Analysis. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113347.	3.4	14
31	Solving the Steady-State Power Flow Problem on Integrated Transmission-Distribution Networks: A Comparison of Numerical Methods. , 2020, , .		2
32	Mitigating Thermal NOx by Changing the Secondary Air Injection Channel: A Case Study in the Cement Industry. Fluids, 2020, 5, 220.	0.8	9
33	Efficient and robust Schur complement approximations in the augmented Lagrangian preconditioner for the incompressible laminar flows. Journal of Computational Physics, 2020, 408, 109286.	1.9	2
34	A stable SPH discretization of the elliptic operator with heterogeneous coefficients. Journal of Computational and Applied Mathematics, 2020, 374, 112745.	1.1	1
35	Scalable Convergence Using Two-Level Deflation Preconditioning for the Helmholtz Equation. SIAM Journal of Scientific Computing, 2020, 42, A901-A928.	1.3	9
36	Adaptive dynamic multilevel simulation of fractured geothermal reservoirs. Journal of Computational Physics: X, 2020, 7, 100061.	1.1	5

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37	Convergence of Newtonâ€™s Method for Steady-State Load Flow Problems in Multi-Carrier Energy Systems. , 2020, , .		0
38	Dynamic Multilevel Multiscale Simulation of Naturally Fractured Reservoirs with Generic Fracture-Matrix Conductivity Contrasts. , 2019, , .		0
39	A second-level diagonal preconditioner for single-step SNPBLUP. Genetics Selection Evolution, 2019, 51, 30.	1.2	18
40	Smoothness-Increasing Accuracy-Conserving (SIAC) Filtering for Discontinuous Galerkin Solutions over Nonuniform Meshes: Superconvergence and Optimal Accuracy. Journal of Scientific Computing, 2019, 81, 1150-1180.	1.1	8
41	On a comparison of Newtonâ€“Raphson solvers for power flow problems. Journal of Computational and Applied Mathematics, 2019, 360, 157-169.	1.1	33
42	Algebraic Dynamic Multilevel Method for Fractured Geothermal Reservoir Simulation. , 2019, , .		1
43	A conceptual framework for quantum accelerated automated design optimization. Microprocessors and Microsystems, 2019, 66, 67-71.	1.8	5
44	Optimal power flow formulations and their impacts on the performance of solution methods. , 2019, , .		3
45	Linear Power Flow Method Improved With Numerical Analysis Techniques Applied to a Very Large Network. Energies, 2019, 12, 4078.	1.6	7
46	Globalized Newtonâ€“Krylovâ€“Schwarz AC Load Flow Methods for Future Power Systems. , 2019, , 79-98.		0
47	Effect of different discretizations on the numerical solution of 2D aggregation population balance equation. Powder Technology, 2019, 342, 972-984.	2.1	24
48	Conservative Taylor least squares reconstruction with application to material point methods. International Journal for Numerical Methods in Engineering, 2019, 117, 271-290.	1.5	17
49	Review on some Stefan Problems for Particle Dissolution in Solid Metallic Alloys. Nonlinear Analysis: Modelling and Control, 2019, 10, 257-292.	1.1	6
50	Elliptic grid generation techniques in the framework of isogeometric analysis applications. Computer Aided Geometric Design, 2018, 65, 48-75.	0.5	31
51	Evaluation of multilevel sequentially semiseparable preconditioners on computational fluid dynamics benchmark problems using Incompressible Flow and Iterative Solver Software. Mathematical Methods in the Applied Sciences, 2018, 41, 888-903.	1.2	2
52	On POD-based Deflation Vectors for DPCG applied to porous media problems. Journal of Computational and Applied Mathematics, 2018, 330, 193-213.	1.1	7
53	Krylov Subspace Solvers and Preconditioners. ESAIM Proceedings and Surveys, 2018, 63, 1-43.	0.5	4
54	Deflated preconditioned conjugate gradient method for solving single-step BLUP models efficiently. Genetics Selection Evolution, 2018, 50, 51.	1.2	18

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55	Bifurcation Analysis of a Multi-Parameter LiÃ©nard Polynomial System. IFAC-PapersOnLine, 2018, 51, 144-149.	0.5	2
56	Systematic Development and Mesh Sensitivity Analysis of a Mathematical Model for an Anode Baking Furnace. , 2018, , .		1
57	Global Dynamics in the Leslieâ€“Gower Model with the Allee Effect. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2018, 28, 1850151.	0.7	10
58	A modified and calibrated drift-diffusion-reaction model for time-domain analysis of charging phenomena in electron-beam irradiated insulators. AIP Advances, 2018, 8, 015307.	0.6	6
59	Combining the Augmented Lagrangian Preconditioner with the Simple Schur Complement Approximation. SIAM Journal of Scientific Computing, 2018, 40, A1362-A1385.	1.3	6
60	GPU implementation for spline-based wavefront reconstruction. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2018, 35, 859.	0.8	1
61	Algebraic dynamic multilevel method for embedded discrete fracture model (F-ADM). Journal of Computational Physics, 2018, 373, 324-345.	1.9	34
62	Block-preconditioners for the incompressible Navierâ€“Stokes equations discretized by a finite volume method. Journal of Numerical Mathematics, 2017, 25, .	1.8	4
63	A mathematical model for the simulation of the formation and the subsequent regression of hypertrophic scar tissue after dermal wounding. Biomechanics and Modeling in Mechanobiology, 2017, 16, 15-32.	1.4	29
64	The Tynode: A new vacuum electron multiplier. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 847, 148-161.	0.7	14
65	Modeling of Liquefaction using Two-phase FEM with UBC3D-PLM model. Procedia Engineering, 2017, 175, 349-356.	1.2	4
66	Efficient simulation of one-dimensional two-phase flow with a high-order h-adaptive space-time Discontinuous Galerkin method. Computers and Fluids, 2017, 156, 34-47.	1.3	2
67	Toward a GPU-aware comparison of explicit and implicit CFD simulations on structured meshes. Computers and Mathematics With Applications, 2017, 74, 201-217.	1.4	24
68	On the impact of quantum computing technology on future developments in high-performance scientific computing. Ethics and Information Technology, 2017, 19, 253-269.	2.3	50
69	A mathematical model for the simulation of the contraction of burns. Journal of Mathematical Biology, 2017, 75, 1-31.	0.8	8
70	A biomechanical mathematical model for the collagen bundle distribution-dependent contraction and subsequent retraction of healing dermal wounds. Biomechanics and Modeling in Mechanobiology, 2017, 16, 345-361.	1.4	11
71	Globalization technique for projected Newtonâ€“Krylov methods. International Journal for Numerical Methods in Engineering, 2017, 110, 661-674.	1.5	2
72	Newton Power Flow Methods for Unbalanced Three-Phase Distribution Networks. Energies, 2017, 10, 1658.	1.6	51

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73	How to Choose the Shift in the Shifted Laplace Preconditioner for the Helmholtz Equation Combined with Deflation. Geosystems Mathematics, 2017, , 85-112.	0.0	3
74	Acceleration of Turbomachinery Steady Simulations on GPU. Lecture Notes in Computer Science, 2017, , 814-825.	1.0	0
75	Meshless Multi-Point Flux Approximation. Lecture Notes in Computational Science and Engineering, 2017, , 67-84.	0.1	0
76	Numerical stability for modelling of dynamic twoâ€phase interaction. International Journal for Numerical and Analytical Methods in Geomechanics, 2016, 40, 1284-1294.	1.7	32
77	A massâ€conserving levelâ€set method for simulation of multiphase flow in geometrically complicated domains. International Journal for Numerical Methods in Fluids, 2016, 81, 399-425.	0.9	7
78	Comparison of Some Preconditioners for the Incompressible Navier-Stokes Equations. Numerical Mathematics, 2016, 9, 239-261.	0.6	3
79	Aerodynamic optimization of supersonic compressor cascade using differential evolution on GPU. AIP Conference Proceedings, 2016, , .	0.3	2
80	A fully conservative mimetic discretization of the Navierâ€“Stokes equations in cylindrical coordinates with associated singularity treatment. Journal of Computational Physics, 2016, 325, 314-337.	1.9	4
81	Reduction of computing time for least-squares migration based on the Helmholtz equation by graphics processing units. Computational Geosciences, 2016, 20, 297-315.	1.2	5
82	Simulation of Front Instabilities in Density-Driven Flow, Using a Reactive Transport Model for Biogrout Combined with a Randomly Distributed Permeability Field. Transport in Porous Media, 2016, 112, 333-359.	1.2	10
83	A Reactive Transport Model for Biogrout Compared to Experimental Data. Transport in Porous Media, 2016, 111, 627-648.	1.2	26
84	Evaluation of the deflated preconditioned CG method to solve bubbly and porous media flow problems on GPU and CPU. International Journal for Numerical Methods in Fluids, 2016, 80, 666-683.	0.9	2
85	Accelerating the shifted Laplace preconditioner for the Helmholtz equation by multilevel deflation. Journal of Computational Physics, 2016, 322, 473-490.	1.9	21
86	The parallel subdomain-levelset deflation method in reservoir simulation. Journal of Computational Physics, 2016, 304, 340-358.	1.9	3
87	Stability analysis of the marching-on-in-time boundary element method for electromagnetics. Journal of Computational and Applied Mathematics, 2016, 294, 358-371.	1.1	15
88	Smoothness-Increasing Accuracy-Conserving (SIAC) filters for derivative approximations of discontinuous Galerkin (DG) solutions over nonuniform meshes and near boundaries. Journal of Computational and Applied Mathematics, 2016, 294, 275-296.	1.1	18
89	Deflated and augmented global Krylov subspace methods for the matrix equations. Applied Numerical Mathematics, 2016, 99, 137-150.	1.2	3
90	Physics-based Pre-conditioners for Large-scale Subsurface Flow Simulation. , 2016, , .		2

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91	Self-consistent drift-diffusion-reaction model for the electron beam interaction with dielectric samples. Journal of Applied Physics, 2015, 118, .	1.1	20
92	One-Sided Position-Dependent Smoothness-Increasing Accuracy-Conserving (SIAC) Filtering Over Uniform and Non-uniform Meshes. Journal of Scientific Computing, 2015, 64, 773-817.	1.1	19
93	On Preconditioning of Incompressible Non-Newtonian Flow Problems. Journal of Computational Mathematics, 2015, 33, 33-58.	0.2	18
94	Genealogy of traffic flow models. EURO Journal on Transportation and Logistics, 2015, 4, 445-473.	1.3	157
95	Scalable two-level preconditioning and deflation based on a piecewise constant subspace for (SIP)DG systems for diffusion problems. Journal of Computational and Applied Mathematics, 2015, 275, 61-78.	1.1	3
96	On the Convergence of Inexact Newton Methods. Lecture Notes in Computational Science and Engineering, 2015, , 355-363.	0.1	2
97	A parallel linear solver exploiting the physical properties of the underlying mechanical problem. Computational Geosciences, 2014, 18, 913-926.	1.2	1
98	Closing the performance gap between an iterative frequency-domain solver and an explicit time-domain scheme for 3D migration on parallel architectures. Geophysics, 2014, 79, S47-S61.	1.4	10
99	Impact of correlated infeeds on risk-based power system security assessment. , 2014, , .		4
100	A robust method to tackle pressure boundary conditions in porous media flow: application to biogrout. Computational Geosciences, 2014, 18, 103-115.	1.2	1
101	Superconvergent error estimates for position-dependent smoothness-increasing accuracy-conserving (SIAC) post-processing of discontinuous Galerkin solutions. Mathematics of Computation, 2014, 83, 2239-2262.	1.1	22
102	Fast linear solver for diffusion problems with applications to pressure computation in layered domains. Computational Geosciences, 2014, 18, 343-356.	1.2	8
103	New Generic Multiclass Kinematic Wave Traffic Flow Model. Transportation Research Record, 2014, 2422, 50-60.	1.0	17
104	SIMPLEâ€type preconditioners for cellâ€centered, colocated finite volume discretization of incompressible Reynoldsâ€averaged Navierâ€“Stokes equations. International Journal for Numerical Methods in Fluids, 2013, 71, 830-849.	0.9	51
105	Application of the level-set method to a mixed-mode driven Stefan problem in 2 $$D$$ and 3 $$D$$. Computing (Vienna/New York), 2013, 95, 553-572.	3.2	3
106	Modelling precipitate nucleation and growth with multiple precipitate species under isothermal conditions: Formulation and analysis. Computational Materials Science, 2013, 79, 933-943.	1.4	16
107	Towards Faster Solution of Large Power Flow Problems. IEEE Transactions on Power Systems, 2013, 28, 4918-4925.	4.6	22
108	The Influence of the Exact Evaluation of Radiation Fields in Finite Precision Arithmetic on the Stability of the Time Domain Integral Equation Method. IEEE Transactions on Antennas and Propagation, 2013, 61, 6064-6074.	3.1	9

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109	A mathematical model for Biogrout. Computational Geosciences, 2013, 17, 463-478.	1.2	23
110	Discontinuities in the Lagrangian formulation of the kinematic wave model. Transportation Research Part C: Emerging Technologies, 2013, 34, 148-161.	3.9	25
111	3D Bubbly Flow Simulation on the GPU - Iterative Solution of a Linear System Using Sub-domain and Level-Set Deflation. , 2013, , .		3
112	Design of Temporal Basis Functions for Time Domain Integral Equation Methods With Predefined Accuracy and Smoothness. IEEE Transactions on Antennas and Propagation, 2013, 61, 271-280.	3.1	15
113	On the convergence of shifted Laplace preconditioner combined with multilevel deflation. Numerical Linear Algebra With Applications, 2013, 20, 645-662.	0.9	43
114	On the Use of Rigid Body Modes in the Deflated Preconditioned Conjugate Gradient Method. SIAM Journal of Scientific Computing, 2013, 35, B207-B225.	1.3	13
115	Anisotropy in generic multi-class traffic flow models. Transportmetrica A: Transport Science, 2013, 9, 451-472.	1.3	21
116	On the performance of a 2D unstructured computational rheology code on a GPU. , 2013, , .		2
117	3D Helmholtz Krylov Solver Preconditioned by a Shifted Laplace Multigrid Method on Multi-GPUs. , 2013, , 653-661.		3
118	Efficient Two-Level Preconditioned Conjugate Gradient Method on the GPU. Lecture Notes in Computer Science, 2013, , 36-49.	1.0	3
119	Scalable Newton-Krylov Solver for Very Large Power Flow Problems. IEEE Transactions on Power Systems, 2012, 27, 390-396.	4.6	28
120	A provably stable MoT scheme based on quadratic spline basis functions. , 2012, , .		1
121	Comparison of the deflated preconditioned conjugate gradient method and algebraic multigrid for composite materials. Computational Mechanics, 2012, 50, 321-333.	2.2	19
122	Tailoring the release of encapsulated corrosion inhibitors from damaged coatings: Controlled release kinetics by overlapping diffusion fronts. Progress in Organic Coatings, 2012, 75, 20-27.	1.9	28
123	A Mathematical Model and Analytical Solution for the Fixation of Bacteria in Biogrout. Transport in Porous Media, 2012, 92, 847-866.	1.2	25
124	Modelling of particle nucleation and growth in binary alloys under elastic deformation: An application to a Cuâ€“0.95wt%Co alloy. Computational Materials Science, 2011, 50, 2397-2410.	1.4	7
125	Position-Dependent Smoothness-Increasing Accuracy-Conserving (SIAC) Filtering for Improving Discontinuous Galerkin Solutions. SIAM Journal of Scientific Computing, 2011, 33, 802-825.	1.3	38
126	Scaling-up spatially-explicit ecological models using graphics processors. Ecological Modelling, 2011, 222, 3011-3019.	1.2	11

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127	GPU implementation of a Helmholtz Krylov solver preconditioned by a shifted Laplace multigrid method. Journal of Computational and Applied Mathematics, 2011, 236, 281-293.	1.1	26
128	Modelling Biogrout: A New Ground Improvement Method Based on Microbial-Induced Carbonate Precipitation. Transport in Porous Media, 2011, 87, 397-420.	1.2	90
129	On iterative methods for the incompressible Stokes problem. International Journal for Numerical Methods in Fluids, 2011, 65, 1180-1200.	0.9	26
130	The accuracy of temporal basis functions used in the TDIE method. , 2011, , .		2
131	Lagrangian Formulation of Multiclass Kinematic Wave Model. Transportation Research Record, 2010, 2188, 29-36.	1.0	30
132	Application of the shifted-Laplace preconditioner for iterative solution of a higher order finite element discretisation of the vector wave equation: First experiences. Applied Numerical Mathematics, 2010, 60, 1157-1170.	1.2	2
133	Application of the numerical density-enthalpy method to the multi-phase flow through a porous medium. Procedia Computer Science, 2010, 1, 781-790.	1.2	1
134	The Deflated Relaxed Incomplete Cholesky CG method for use in a real-time ship simulator. Procedia Computer Science, 2010, 1, 249-257.	1.2	6
135	On projected Newtonâ€“Krylov solvers for instationary laminar reacting gas flows. Journal of Computational Physics, 2010, 229, 1724-1738.	1.9	1
136	Preconditioners for Incompressible Navier-Stokes Solvers. Numerical Mathematics, 2010, 3, 245-275.	0.6	19
137	Fast Newton load flow. , 2010, , .		3
138	Numerical Modelling of a Pulse Combustion Burner: Limiting Conditions of Stable Operation. Mathematics in Industry, 2010, , 875-880.	0.1	0
139	A Comparison of Two-Level Preconditioners Based on Multigrid and Deflation. SIAM Journal on Matrix Analysis and Applications, 2010, 31, 1715-1739.	0.7	30
140	Modelling the New Soil Improvement Method Biogrout: Extension to 3D. , 2010, , 893-900.		5
141	A Cut-Cell Finite-Element Method for a Discontinuous Switch Model for Wound Closure. , 2010, , 929-936.		0
142	Block Preconditioners for the Incompressible Stokes Problem. Lecture Notes in Computer Science, 2010, , 829-836.	1.0	1
143	SIMPLEâ€type preconditioners for the Oseen problem. International Journal for Numerical Methods in Fluids, 2009, 61, 432-452.	0.9	19
144	An efficient numerical method for solidâ€“liquid transitions in optical rewritable recording. International Journal for Numerical Methods in Engineering, 2009, 77, 702-718.	1.5	2

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145	Comparison of Two-Level Preconditioners Derived fromÂDeflation, Domain Decomposition and Multigrid Methods. Journal of Scientific Computing, 2009, 39, 340-370.	1.1	86
146	A mathematical analysis of physiological and morphological aspects of wound closure. Journal of Mathematical Biology, 2009, 59, 605-630.	0.8	54
147	Computing Interfaces in Diverse Applications. , 2009, , 327-341.		0
148	Scalable robust solvers for unstructured FE geodynamic modeling applications: Solving the Stokes equation for models with large localized viscosity contrasts. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	65
149	Shifted-Laplacian Preconditioners for Heterogeneous Helmholtz Problems. Lecture Notes in Computational Science and Engineering, 2009, , 21-46.	0.1	7
150	Numerical performance of a parallel solution method for a heterogeneous 2D Helmholtz equation. Computing and Visualization in Science, 2008, 11, 139-146.	1.2	4
151	Computing three-dimensional two-phase flows with a mass-conserving level set method. Computing and Visualization in Science, 2008, 11, 221-235.	1.2	21
152	A comparison of abstract versions of deflation, balancing and additive coarse grid correction preconditioners. Numerical Linear Algebra With Applications, 2008, 15, 355-372.	0.9	20
153	Comparison of ODE methods for laminar reacting gas flow simulations. Numerical Methods for Partial Differential Equations, 2008, 24, 1037-1054.	2.0	4
154	A comparison of preconditioners for incompressible Navierâ€“Stokes solvers. International Journal for Numerical Methods in Fluids, 2008, 57, 1731-1751.	0.9	39
155	Fast and robust solvers for pressure-correction in bubbly flow problems. Journal of Computational Physics, 2008, 227, 9742-9761.	1.9	38
156	Fast Deflation Methods with Applications to Two-Phase Flows. International Journal for Multiscale Computational Engineering, 2008, 6, 13-24.	0.8	3
157	Core-annular flow through a horizontal pipe: Hydrodynamic counterbalancing of buoyancy force on core. Physics of Fluids, 2007, 19, .	1.6	50
158	A three-dimensional model for particle dissolution in binary alloys. Computational Materials Science, 2007, 39, 767-774.	1.4	23
159	Spectral Analysis of the Discrete Helmholtz Operator Preconditioned with a Shifted Laplacian. SIAM Journal of Scientific Computing, 2007, 29, 1942-1958.	1.3	83
160	Comparison of numerical methods for transient CVD simulations. Surface and Coatings Technology, 2007, 201, 8859-8862.	2.2	7
161	On deflation and singular symmetric positive semi-definite matrices. Journal of Computational and Applied Mathematics, 2007, 206, 603-614.	1.1	16
162	A parallel multigrid-based preconditioner for the 3D heterogeneous high-frequency Helmholtz equation. Journal of Computational Physics, 2007, 224, 431-448.	1.9	71

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163	Estimation of the optimal shift for the discrete Helmholtz operator preconditioned with a shifted Laplacian. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 2020075-2020076.	0.2	0
164	Projection acceleration of Krylov solvers. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1020303-1020304.	0.2	0
165	A level set method for three dimensional vector Stefan problems: Dissolution of stoichiometric particles in multi-component alloys. Journal of Computational Physics, 2007, 224, 222-240.	1.9	18
166	Acceleration of Preconditioned Krylov Solvers for Bubbly Flow Problems. , 2007, , 1323-1332.		1
167	Acceleration of Preconditioned Krylov Solvers for Bubbly Flow Problems. Lecture Notes in Computer Science, 2007, , 874-881.	1.0	1
168	Numerical Methods for Reacting Gas Flow Simulations. International Journal for Multiscale Computational Engineering, 2007, 5, 1-10.	0.8	5
169	A Comparison of Deflation and the Balancing Preconditioner. SIAM Journal of Scientific Computing, 2006, 27, 1742-1759.	1.3	54
170	A Novel Multigrid Based Preconditioner For Heterogeneous Helmholtz Problems. SIAM Journal of Scientific Computing, 2006, 27, 1471-1492.	1.3	233
171	Network model of fluid flow in semi-solid aluminum alloys. Computational Materials Science, 2006, 38, 67-74.	1.4	3
172	A comparison of numerical models for one-dimensional Stefan problems. Journal of Computational and Applied Mathematics, 2006, 192, 445-459.	1.1	126
173	Comparison of multigrid and incomplete LU shifted-Laplace preconditioners for the inhomogeneous Helmholtz equation. Applied Numerical Mathematics, 2006, 56, 648-666.	1.2	64
174	A new iterative solver for the time-harmonic wave equation. Geophysics, 2006, 71, E57-E63.	1.4	55
175	The Level Set Method for Solid-Solid Phase Transformations. , 2006, , 712-719.		2
176	A Comparison of Enthalpy and Temperature Methods for Melting Problems on Composite Domains. , 2006, , 585-592.		1
177	The dependence of the Î²-AlFeSi to Î±-Al(FeMn)Si transformation kinetics in Alâ€“Mgâ€“Si alloys on the alloying elements. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 394, 9-19.	2.6	151
178	A direct method of solidification for the enhancement of mushy zone network models. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 413-414, 255-258.	2.6	1
179	Solution of vector Stefan problems with cross-diffusion. Journal of Computational and Applied Mathematics, 2005, 176, 179-201.	1.1	9
180	A mass-conserving Level-Set method for modelling of multi-phase flows. International Journal for Numerical Methods in Fluids, 2005, 47, 339-361.	0.9	155

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181	Cross-diffusion controlled particle dissolution in metallic alloys. Computing and Visualization in Science, 2005, 8, 27-33.	1.2	5
182	The Deflation Accelerated Schwarz Method for CFD. Lecture Notes in Computer Science, 2005, , 868-875.	1.0	1
183	Eigenvalue analysis of the SIMPLE preconditioning for incompressible flow. Numerical Linear Algebra With Applications, 2004, 11, 511-523.	0.9	22
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