

Cornelis Vuik

List of Publications by Year in descending order

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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 | A Novel Multigrid Based Preconditioner For Heterogeneous Helmholtz Problems. SIAM Journal of Scientific Computing, 2006, 27, 1471-1492. | 1.3 | 233 |
| 2 | GMRESR: a family of nested GMRES methods. Numerical Linear Algebra With Applications, 1994, 1, 369-386. | 0.9 | 216 |
| 3 | On a class of preconditioners for solving the Helmholtz equation. Applied Numerical Mathematics, 2004, 50, 409-425. | 1.2 | 195 |
| 4 | Genealogy of traffic flow models. EURO Journal on Transportation and Logistics, 2015, 4, 445-473. | 1.3 | 157 |
| 5 | 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 |
| 6 | The dependence of the β -AlFeSi to α -Al(FeMn)Si transformation kinetics in Al-Mg-Si alloys on the alloying elements. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 394, 9-19. | 2.6 | 151 |
| 7 | The superlinear convergence behaviour of GMRES. Journal of Computational and Applied Mathematics, 1993, 48, 327-341. | 1.1 | 129 |
| 8 | A comparison of numerical models for one-dimensional Stefan problems. Journal of Computational and Applied Mathematics, 2006, 192, 445-459. | 1.1 | 126 |
| 9 | An Efficient Preconditioned CG Method for the Solution of a Class of Layered Problems with Extreme Contrasts in the Coefficients. Journal of Computational Physics, 1999, 152, 385-403. | 1.9 | 113 |
| 10 | On the Construction of Deflation-Based Preconditioners. SIAM Journal of Scientific Computing, 2001, 23, 442-462. | 1.3 | 106 |
| 11 | Modelling Biogrout: A New Ground Improvement Method Based on Microbial-Induced Carbonate Precipitation. Transport in Porous Media, 2011, 87, 397-420. | 1.2 | 90 |
| 12 | A Conserving Discretization for the Free Boundary in a Two-Dimensional Stefan Problem. Journal of Computational Physics, 1998, 141, 1-21. | 1.9 | 88 |
| 13 | Comparison of Two-Level Preconditioners Derived from Deflation, Domain Decomposition and Multigrid Methods. Journal of Scientific Computing, 2009, 39, 340-370. | 1.1 | 86 |
| 14 | Spectral Analysis of the Discrete Helmholtz Operator Preconditioned with a Shifted Laplacian. SIAM Journal of Scientific Computing, 2007, 29, 1942-1958. | 1.3 | 83 |
| 15 | A parallel multigrid-based preconditioner for the 3D heterogeneous high-frequency Helmholtz equation. Journal of Computational Physics, 2007, 224, 431-448. | 1.9 | 71 |
| 16 | A conservative pressure-correction method for flow at all speeds. Computers and Fluids, 2003, 32, 1113-1132. | 1.3 | 70 |
| 17 | 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 |
| 18 | A Model of the β -AlFeSi to α -Al(FeMn)Si Transformation in Al-Mg-Si Alloys. Materials Transactions, 2003, 44, 1448-1456. | 0.4 | 64 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 19 | Comparison of multigrid and incomplete LU shifted-Laplace preconditioners for the inhomogeneous Helmholtz equation. <i>Applied Numerical Mathematics</i> , 2006, 56, 648-666. | 1.2 | 64 |
| 20 | A Comparison of Deflation and Coarse Grid Correction Applied to Porous Media Flow. <i>SIAM Journal on Numerical Analysis</i> , 2004, 42, 1631-1647. | 1.1 | 61 |
| 21 | A new iterative solver for the time-harmonic wave equation. <i>Geophysics</i> , 2006, 71, E57-E63. | 1.4 | 55 |
| 22 | A Comparison of Deflation and the Balancing Preconditioner. <i>SIAM Journal of Scientific Computing</i> , 2006, 27, 1742-1759. | 1.3 | 54 |
| 23 | A mathematical analysis of physiological and morphological aspects of wound closure. <i>Journal of Mathematical Biology</i> , 2009, 59, 605-630. | 0.8 | 54 |
| 24 | SIMPLE-type preconditioners for cell-centered, collocated finite volume discretization of incompressible Reynolds-averaged Navier-Stokes equations. <i>International Journal for Numerical Methods in Fluids</i> , 2013, 71, 830-849. | 0.9 | 51 |
| 25 | Newton Power Flow Methods for Unbalanced Three-Phase Distribution Networks. <i>Energies</i> , 2017, 10, 1658. | 1.6 | 51 |
| 26 | Core-annular flow through a horizontal pipe: Hydrodynamic counterbalancing of buoyancy force on core. <i>Physics of Fluids</i> , 2007, 19, . | 1.6 | 50 |
| 27 | On the impact of quantum computing technology on future developments in high-performance scientific computing. <i>Ethics and Information Technology</i> , 2017, 19, 253-269. | 2.3 | 50 |
| 28 | Numerical solution of an etching problem. <i>Journal of Computational Physics</i> , 1985, 59, 247-263. | 1.9 | 49 |
| 29 | On the convergence of shifted Laplace preconditioner combined with multilevel deflation. <i>Numerical Linear Algebra With Applications</i> , 2013, 20, 645-662. | 0.9 | 43 |
| 30 | A comparison of preconditioners for incompressible Navier-Stokes solvers. <i>International Journal for Numerical Methods in Fluids</i> , 2008, 57, 1731-1751. | 0.9 | 39 |
| 31 | A comparison of some GMRES-like methods. <i>Linear Algebra and Its Applications</i> , 1992, 160, 131-162. | 0.4 | 38 |
| 32 | Fast and robust solvers for pressure-correction in bubbly flow problems. <i>Journal of Computational Physics</i> , 2008, 227, 9742-9761. | 1.9 | 38 |
| 33 | Position-Dependent Smoothness-Increasing Accuracy-Conserving (SIAC) Filtering for Improving Discontinuous Galerkin Solutions. <i>SIAM Journal of Scientific Computing</i> , 2011, 33, 802-825. | 1.3 | 38 |
| 34 | The Krylov accelerated SIMPLE(R) method for flow problems in industrial furnaces. <i>International Journal for Numerical Methods in Fluids</i> , 2000, 33, 1027-1040. | 0.9 | 37 |
| 35 | Solution of the discretized incompressible Navier-Stokes equations with the GMRES method. <i>International Journal for Numerical Methods in Fluids</i> , 1993, 16, 507-523. | 0.9 | 35 |
| 36 | A mathematical model for the dissolution kinetics of Mg ₂ Si-phases in Al-Mg-Si alloys during homogenisation under industrial conditions. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1998, 254, 13-32. | 2.6 | 35 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 37 | Algebraic dynamic multilevel method for embedded discrete fracture model (F-ADM). <i>Journal of Computational Physics</i> , 2018, 373, 324-345. | 1.9 | 34 |
| 38 | On a comparison of Newton–Raphson solvers for power flow problems. <i>Journal of Computational and Applied Mathematics</i> , 2019, 360, 157-169. | 1.1 | 33 |
| 39 | The Construction of Projection Vectors for a Deflated ICCG Method Applied to Problems with Extreme Contrasts in the Coefficients. <i>Journal of Computational Physics</i> , 2001, 172, 426-450. | 1.9 | 32 |
| 40 | Numerical stability for modelling of dynamic two-phase interaction. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2016, 40, 1284-1294. | 1.7 | 32 |
| 41 | Elliptic grid generation techniques in the framework of isogeometric analysis applications. <i>Computer Aided Geometric Design</i> , 2018, 65, 48-75. | 0.5 | 31 |
| 42 | Lagrangian Formulation of Multiclass Kinematic Wave Model. <i>Transportation Research Record</i> , 2010, 2188, 29-36. | 1.0 | 30 |
| 43 | A Comparison of Two-Level Preconditioners Based on Multigrid and Deflation. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2010, 31, 1715-1739. | 0.7 | 30 |
| 44 | AnL 2-error estimate for an approximation of the solution of a parabolic variational inequality. <i>Numerische Mathematik</i> , 1990, 57, 453-471. | 0.9 | 29 |
| 45 | A mathematical model for the simulation of the formation and the subsequent regression of hypertrophic scar tissue after dermal wounding. <i>Biomechanics and Modeling in Mechanobiology</i> , 2017, 16, 15-32. | 1.4 | 29 |
| 46 | Scalable Newton-Krylov Solver for Very Large Power Flow Problems. <i>IEEE Transactions on Power Systems</i> , 2012, 27, 390-396. | 4.6 | 28 |
| 47 | Tailoring the release of encapsulated corrosion inhibitors from damaged coatings: Controlled release kinetics by overlapping diffusion fronts. <i>Progress in Organic Coatings</i> , 2012, 75, 20-27. | 1.9 | 28 |
| 48 | On the implementation of symmetric and antisymmetric periodic boundary conditions for incompressible flow. <i>International Journal for Numerical Methods in Fluids</i> , 1994, 18, 1153-1165. | 0.9 | 26 |
| 49 | GPU implementation of a Helmholtz Krylov solver preconditioned by a shifted Laplace multigrid method. <i>Journal of Computational and Applied Mathematics</i> , 2011, 236, 281-293. | 1.1 | 26 |
| 50 | On iterative methods for the incompressible Stokes problem. <i>International Journal for Numerical Methods in Fluids</i> , 2011, 65, 1180-1200. | 0.9 | 26 |
| 51 | A Reactive Transport Model for Biogrout Compared to Experimental Data. <i>Transport in Porous Media</i> , 2016, 111, 627-648. | 1.2 | 26 |
| 52 | A numerical method to compute the dissolution of second phases in ternary alloys. <i>Journal of Computational and Applied Mathematics</i> , 1998, 93, 123-143. | 1.1 | 25 |
| 53 | A mathematical model for the dissolution of particles in multi-component alloys. <i>Journal of Computational and Applied Mathematics</i> , 2000, 126, 233-254. | 1.1 | 25 |
| 54 | A Mathematical Model and Analytical Solution for the Fixation of Bacteria in Biogrout. <i>Transport in Porous Media</i> , 2012, 92, 847-866. | 1.2 | 25 |

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|----|---|-----|-----------|
| 55 | Discontinuities in the Lagrangian formulation of the kinematic wave model. <i>Transportation Research Part C: Emerging Technologies</i> , 2013, 34, 148-161. | 3.9 | 25 |
| 56 | Toward a GPU-aware comparison of explicit and implicit CFD simulations on structured meshes. <i>Computers and Mathematics With Applications</i> , 2017, 74, 201-217. | 1.4 | 24 |
| 57 | Effect of different discretizations on the numerical solution of 2D aggregation population balance equation. <i>Powder Technology</i> , 2019, 342, 972-984. | 2.1 | 24 |
| 58 | New insights in GMRES-like methods with variable preconditioners. <i>Journal of Computational and Applied Mathematics</i> , 1995, 61, 189-204. | 1.1 | 23 |
| 59 | A three-dimensional model for particle dissolution in binary alloys. <i>Computational Materials Science</i> , 2007, 39, 767-774. | 1.4 | 23 |
| 60 | A mathematical model for Biogrout. <i>Computational Geosciences</i> , 2013, 17, 463-478. | 1.2 | 23 |
| 61 | Eigenvalue analysis of the SIMPLE preconditioning for incompressible flow. <i>Numerical Linear Algebra With Applications</i> , 2004, 11, 511-523. | 0.9 | 22 |
| 62 | Towards Faster Solution of Large Power Flow Problems. <i>IEEE Transactions on Power Systems</i> , 2013, 28, 4918-4925. | 4.6 | 22 |
| 63 | Superconvergent error estimates for position-dependent smoothness-increasing accuracy-conserving (SIAC) post-processing of discontinuous Galerkin solutions. <i>Mathematics of Computation</i> , 2014, 83, 2239-2262. | 1.1 | 22 |
| 64 | How fast the laplace equation was solved in 1995. <i>Applied Numerical Mathematics</i> , 1997, 24, 439-455. | 1.2 | 21 |
| 65 | A mathematical model for the dissolution of stoichiometric particles in multi-component alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2002, 328, 14-25. | 2.6 | 21 |
| 66 | Computing three-dimensional two-phase flows with a mass-conserving level set method. <i>Computing and Visualization in Science</i> , 2008, 11, 221-235. | 1.2 | 21 |
| 67 | Anisotropy in generic multi-class traffic flow models. <i>Transportmetrica A: Transport Science</i> , 2013, 9, 451-472. | 1.3 | 21 |
| 68 | Accelerating the shifted Laplace preconditioner for the Helmholtz equation by multilevel deflation. <i>Journal of Computational Physics</i> , 2016, 322, 473-490. | 1.9 | 21 |
| 69 | Domain decomposition for the incompressible Navier-Stokes equations: solving subdomain problems accurately and inaccurately. <i>International Journal for Numerical Methods in Fluids</i> , 1998, 26, 1217-1237. | 0.9 | 20 |
| 70 | A comparison of abstract versions of deflation, balancing and additive coarse grid correction preconditioners. <i>Numerical Linear Algebra With Applications</i> , 2008, 15, 355-372. | 0.9 | 20 |
| 71 | Self-consistent drift-diffusion-reaction model for the electron beam interaction with dielectric samples. <i>Journal of Applied Physics</i> , 2015, 118, . | 1.1 | 20 |
| 72 | CO2 Storage in deep saline aquifers: impacts of fractures on hydrodynamic trapping. <i>International Journal of Greenhouse Gas Control</i> , 2022, 113, 103552. | 2.3 | 20 |

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|----|---|-----|-----------|
| 73 | Projection-based embedded discrete fracture model (pEDFM) for flow and heat transfer in real-field geological formations with hexahedral corner-point grids. <i>Advances in Water Resources</i> , 2022, 159, 104091. | 1.7 | 20 |
| 74 | FAST ITERATIVE SOLVERS FOR THE DISCRETIZED INCOMPRESSIBLE NAVIER-STOKES EQUATIONS. <i>International Journal for Numerical Methods in Fluids</i> , 1996, 22, 195-210. | 0.9 | 19 |
| 75 | Stability analysis of segregated solution methods for compressible flow. <i>Applied Numerical Mathematics</i> , 2001, 38, 257-274. | 1.2 | 19 |
| 76 | SIMPLEA-type preconditioners for the Oseen problem. <i>International Journal for Numerical Methods in Fluids</i> , 2009, 61, 432-452. | 0.9 | 19 |
| 77 | Preconditioners for Incompressible Navier-Stokes Solvers. <i>Numerical Mathematics</i> , 2010, 3, 245-275. | 0.6 | 19 |
| 78 | Comparison of the deflated preconditioned conjugate gradient method and algebraic multigrid for composite materials. <i>Computational Mechanics</i> , 2012, 50, 321-333. | 2.2 | 19 |
| 79 | One-Sided Position-Dependent Smoothness-Increasing Accuracy-Conserving (SIAC) Filtering Over Uniform and Non-uniform Meshes. <i>Journal of Scientific Computing</i> , 2015, 64, 773-817. | 1.1 | 19 |
| 80 | Numerical solution of the incompressible Navier-Stokes equations by Krylov subspace and multigrid methods. <i>Advances in Computational Mathematics</i> , 1995, 4, 27-49. | 0.8 | 18 |
| 81 | A level set method for three dimensional vector Stefan problems: Dissolution of stoichiometric particles in multi-component alloys. <i>Journal of Computational Physics</i> , 2007, 224, 222-240. | 1.9 | 18 |
| 82 | On Preconditioning of Incompressible Non-Newtonian Flow Problems. <i>Journal of Computational Mathematics</i> , 2015, 33, 33-58. | 0.2 | 18 |
| 83 | Smoothness-Increasing Accuracy-Conserving (SIAC) filters for derivative approximations of discontinuous Galerkin (DG) solutions over nonuniform meshes and near boundaries. <i>Journal of Computational and Applied Mathematics</i> , 2016, 294, 275-296. | 1.1 | 18 |
| 84 | Deflated preconditioned conjugate gradient method for solving single-step BLUP models efficiently. <i>Genetics Selection Evolution</i> , 2018, 50, 51. | 1.2 | 18 |
| 85 | A second-level diagonal preconditioner for single-step SNPBLUP. <i>Genetics Selection Evolution</i> , 2019, 51, 30. | 1.2 | 18 |
| 86 | Parallelism in ILU-preconditioned GMRES. <i>Parallel Computing</i> , 1998, 24, 1927-1946. | 1.3 | 17 |
| 87 | A conservative pressure-correction method for the Euler and ideal MHD equations at all speeds. <i>International Journal for Numerical Methods in Fluids</i> , 2002, 40, 521-529. | 0.9 | 17 |
| 88 | Particle dissolution and cross-diffusion in multi-component alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003, 347, 265-279. | 2.6 | 17 |
| 89 | New Generic Multiclass Kinematic Wave Traffic Flow Model. <i>Transportation Research Record</i> , 2014, 2422, 50-60. | 1.0 | 17 |
| 90 | Conservative Taylor least squares reconstruction with application to material point methods. <i>International Journal for Numerical Methods in Engineering</i> , 2019, 117, 271-290. | 1.5 | 17 |

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| 91 | The dissolution of a stoichiometric second phase in ternary alloys: a numerical analysis. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1998, 246, 93-103. | 2.6 | 16 |
| 92 | On deflation and singular symmetric positive semi-definite matrices. <i>Journal of Computational and Applied Mathematics</i> , 2007, 206, 603-614. | 1.1 | 16 |
| 93 | Modelling precipitate nucleation and growth with multiple precipitate species under isothermal conditions: Formulation and analysis. <i>Computational Materials Science</i> , 2013, 79, 933-943. | 1.4 | 16 |
| 94 | Analysis of hydrodynamic trapping interactions during full-cycle injection and migration of CO ₂ in deep saline aquifers. <i>Advances in Water Resources</i> , 2022, 159, 104073. | 1.7 | 16 |
| 95 | A comparison of various deflation vectors applied to elliptic problems with discontinuous coefficients. <i>Applied Numerical Mathematics</i> , 2002, 41, 219-233. | 1.2 | 15 |
| 96 | Design of Temporal Basis Functions for Time Domain Integral Equation Methods With Predefined Accuracy and Smoothness. <i>IEEE Transactions on Antennas and Propagation</i> , 2013, 61, 271-280. | 3.1 | 15 |
| 97 | Stability analysis of the marching-on-in-time boundary element method for electromagnetics. <i>Journal of Computational and Applied Mathematics</i> , 2016, 294, 358-371. | 1.1 | 15 |
| 98 | Parallel implementation of a multiblock method with approximate subdomain solution. <i>Applied Numerical Mathematics</i> , 1999, 30, 403-423. | 1.2 | 14 |
| 99 | The Tynode: A new vacuum electron multiplier. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2017, 847, 148-161. | 0.7 | 14 |
| 100 | p-multigrid methods and their comparison to h-multigrid methods within Isogeometric Analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 372, 113347. | 3.4 | 14 |
| 101 | On the Use of Rigid Body Modes in the Deflated Preconditioned Conjugate Gradient Method. <i>SIAM Journal of Scientific Computing</i> , 2013, 35, B207-B225. | 1.3 | 13 |
| 102 | Hybrid-dimensional modeling for fluid flow in heterogeneous porous media using dual fracture-pore model with flux interaction of fracture-cavity network. <i>Journal of Natural Gas Science and Engineering</i> , 2022, 100, 104450. | 2.1 | 12 |
| 103 | Scaling-up spatially-explicit ecological models using graphics processors. <i>Ecological Modelling</i> , 2011, 222, 3011-3019. | 1.2 | 11 |
| 104 | A biomechanical mathematical model for the collagen bundle distribution-dependent contraction and subsequent retraction of healing dermal wounds. <i>Biomechanics and Modeling in Mechanobiology</i> , 2017, 16, 345-361. | 1.4 | 11 |
| 105 | Closing the performance gap between an iterative frequency-domain solver and an explicit time-domain scheme for 3D migration on parallel architectures. <i>Geophysics</i> , 2014, 79, S47-S61. | 1.4 | 10 |
| 106 | Simulation of Front Instabilities in Density-Driven Flow, Using a Reactive Transport Model for Biogrowth Combined with a Randomly Distributed Permeability Field. <i>Transport in Porous Media</i> , 2016, 112, 333-359. | 1.2 | 10 |
| 107 | Global Dynamics in the Leslie-Gower Model with the Allee Effect. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2018, 28, 1850151. | 0.7 | 10 |
| 108 | An operational bidding framework for aggregated electric vehicles on the electricity spot market. <i>Applied Energy</i> , 2022, 308, 118280. | 5.1 | 10 |

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|-----|--|-----|-----------|
| 109 | A Preconditioned Krylov Subspace Method for the Solution of Least Squares Problems in Inverse Scattering. <i>Journal of Computational Physics</i> , 1996, 123, 330-340. | 1.9 | 9 |
| 110 | A conserving discretization for a Stefan problem with an interface reaction at the free boundary. <i>Computing and Visualization in Science</i> , 2000, 3, 109-114. | 1.2 | 9 |
| 111 | Solution of vector Stefan problems with cross-diffusion. <i>Journal of Computational and Applied Mathematics</i> , 2005, 176, 179-201. | 1.1 | 9 |
| 112 | The Influence of the Exact Evaluation of Radiation Fields in Finite Precision Arithmetic on the Stability of the Time Domain Integral Equation Method. <i>IEEE Transactions on Antennas and Propagation</i> , 2013, 61, 6064-6074. | 3.1 | 9 |
| 113 | Mitigating Thermal NOx by Changing the Secondary Air Injection Channel: A Case Study in the Cement Industry. <i>Fluids</i> , 2020, 5, 220. | 0.8 | 9 |
| 114 | Scalable Convergence Using Two-Level Deflation Preconditioning for the Helmholtz Equation. <i>SIAM Journal of Scientific Computing</i> , 2020, 42, A901-A928. | 1.3 | 9 |
| 115 | Deflation in Preconditioned Conjugate Gradient Methods for Finite Element Problems. <i>Scientific Computation</i> , 2004, , 103-129. | 0.2 | 9 |
| 116 | Fast linear solver for diffusion problems with applications to pressure computation in layered domains. <i>Computational Geosciences</i> , 2014, 18, 343-356. | 1.2 | 8 |
| 117 | A mathematical model for the simulation of the contraction of burns. <i>Journal of Mathematical Biology</i> , 2017, 75, 1-31. | 0.8 | 8 |
| 118 | Smoothness-Increasing Accuracy-Conserving (SIAC) Filtering for Discontinuous Galerkin Solutions over Nonuniform Meshes: Superconvergence and Optimal Accuracy. <i>Journal of Scientific Computing</i> , 2019, 81, 1150-1180. | 1.1 | 8 |
| 119 | A graph-based model framework for steady-state load flow problems of general multi-carrier energy systems. <i>Applied Energy</i> , 2020, 280, 115286. | 5.1 | 8 |
| 120 | Clearance rates of <i>Bosmina</i> species in response to changes in trophy and food concentration. <i>Verhandlungen Der Internationalen Vereinigung Fur Theoretische Und Angewandte Limnologie International Association of Theoretical and Applied Limnology</i> , 1991, 24, 745-750. | 0.1 | 7 |
| 121 | Fast pressure calculation for 2D and 3D time dependent incompressible flow. <i>Numerical Linear Algebra With Applications</i> , 2000, 7, 429-447. | 0.9 | 7 |
| 122 | Comparison of numerical methods for transient CVD simulations. <i>Surface and Coatings Technology</i> , 2007, 201, 8859-8862. | 2.2 | 7 |
| 123 | Modelling of particle nucleation and growth in binary alloys under elastic deformation: An application to a Cu-0.95wt%Co alloy. <i>Computational Materials Science</i> , 2011, 50, 2397-2410. | 1.4 | 7 |
| 124 | A mass-conserving level-set method for simulation of multiphase flow in geometrically complicated domains. <i>International Journal for Numerical Methods in Fluids</i> , 2016, 81, 399-425. | 0.9 | 7 |
| 125 | On POD-based Deflation Vectors for DPCG applied to porous media problems. <i>Journal of Computational and Applied Mathematics</i> , 2018, 330, 193-213. | 1.1 | 7 |
| 126 | Linear Power Flow Method Improved With Numerical Analysis Techniques Applied to a Very Large Network. <i>Energies</i> , 2019, 12, 4078. | 1.6 | 7 |

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|-----|--|-----|-----------|
| 127 | Shifted-Laplacian Preconditioners for Heterogeneous Helmholtz Problems. Lecture Notes in Computational Science and Engineering, 2009, , 21-46. | 0.1 | 7 |
| 128 | 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 |
| 129 | Bi-Lanczos with partial orthogonalization. Computers and Structures, 1995, 56, 605-613. | 2.4 | 6 |
| 130 | Branch switching techniques for bifurcation in soil deformation. Computer Methods in Applied Mechanics and Engineering, 2000, 190, 707-719. | 3.4 | 6 |
| 131 | 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 |
| 132 | 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 |
| 133 | Combining the Augmented Lagrangian Preconditioner with the Simple Schur Complement Approximation. SIAM Journal of Scientific Computing, 2018, 40, A1362-A1385. | 1.3 | 6 |
| 134 | Computing Incompressible Flows in General Domains. , 1994, , 298-314. | | 6 |
| 135 | Review on some Stefan Problems for Particle Dissolution in Solid Metallic Alloys. Nonlinear Analysis: Modelling and Control, 2019, 10, 257-292. | 1.1 | 6 |
| 136 | An eigenvalue analysis of nonassociated plasticity. Computers and Mathematics With Applications, 1999, 38, 107-115. | 1.4 | 5 |
| 137 | Cross-diffusion controlled particle dissolution in metallic alloys. Computing and Visualization in Science, 2005, 8, 27-33. | 1.2 | 5 |
| 138 | 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 |
| 139 | A conceptual framework for quantum accelerated automated design optimization. Microprocessors and Microsystems, 2019, 66, 67-71. | 1.8 | 5 |
| 140 | A novel linearized power flow approach for transmission and distribution networks. Journal of Computational and Applied Mathematics, 2021, 394, 113572. | 1.1 | 5 |
| 141 | Modelling the New Soil Improvement Method BiogROUT: Extension to 3D. , 2010, , 893-900. | | 5 |
| 142 | Adaptive dynamic multilevel simulation of fractured geothermal reservoirs. Journal of Computational Physics: X, 2020, 7, 100061. | 1.1 | 5 |
| 143 | Numerical Methods for Reacting Gas Flow Simulations. International Journal for Multiscale Computational Engineering, 2007, 5, 1-10. | 0.8 | 5 |
| 144 | Modeling Conjugate Heat Transfer in an Anode Baking Furnace Using OpenFoam. Fluids, 2022, 7, 124. | 0.8 | 5 |

| # | ARTICLE | IF | CITATIONS |
|-----|---|-----|-----------|
| 145 | Curie temperatures of some tetrabromochromates(II). <i>Inorganica Chimica Acta</i> , 1981, 54, L261-L262. | 1.2 | 4 |
| 146 | Numerical performance of a parallel solution method for a heterogeneous 2D Helmholtz equation. <i>Computing and Visualization in Science</i> , 2008, 11, 139-146. | 1.2 | 4 |
| 147 | Comparison of ODE methods for laminar reacting gas flow simulations. <i>Numerical Methods for Partial Differential Equations</i> , 2008, 24, 1037-1054. | 2.0 | 4 |
| 148 | Impact of correlated infeeds on risk-based power system security assessment. , 2014, , . | | 4 |
| 149 | A fully conservative mimetic discretization of the Navier–Stokes equations in cylindrical coordinates with associated singularity treatment. <i>Journal of Computational Physics</i> , 2016, 325, 314-337. | 1.9 | 4 |
| 150 | Block-preconditioners for the incompressible Navier–Stokes equations discretized by a finite volume method. <i>Journal of Numerical Mathematics</i> , 2017, 25, . | 1.8 | 4 |
| 151 | Modeling of Liquefaction using Two-phase FEM with UBC3D-PLM model. <i>Procedia Engineering</i> , 2017, 175, 349-356. | 1.2 | 4 |
| 152 | Krylov Subspace Solvers and Preconditioners. <i>ESAIM Proceedings and Surveys</i> , 2018, 63, 1-43. | 0.5 | 4 |
| 153 | Comparison and unification of material-point and optimal transportation meshfree methods. <i>Computational Particle Mechanics</i> , 2021, 8, 113-133. | 1.5 | 4 |
| 154 | Towards accuracy and scalability: Combining Isogeometric Analysis with deflation to obtain scalable convergence for the Helmholtz equation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 377, 113694. | 3.4 | 4 |
| 155 | Parallel Deflated Krylov methods for incompressible flow. , 2002, , 381-388. | | 4 |
| 156 | The nitric oxide formation in anode baking furnace through numerical modeling. <i>International Journal of Thermofluids</i> , 2021, 12, 100122. | 4.0 | 4 |
| 157 | Modelling The Microstructural Changes During The Homogenisation of Extrudable Aluminium Alloys. <i>Journal of the Mechanical Behavior of Materials</i> , 1998, 9, 115-120. | 0.7 | 3 |
| 158 | Network model of fluid flow in semi-solid aluminum alloys. <i>Computational Materials Science</i> , 2006, 38, 67-74. | 1.4 | 3 |
| 159 | Fast Newton load flow. , 2010, , . | | 3 |
| 160 | Application of the level-set method to a mixed-mode driven Stefan problem in 2 \$\$\$ and 3 \$\$\$\$. <i>Computing (Vienna/New York)</i> , 2013, 95, 553-572. | 3.2 | 3 |
| 161 | 3D Bubbly Flow Simulation on the GPU - Iterative Solution of a Linear System Using Sub-domain and Level-Set Deflation. , 2013, , . | | 3 |
| 162 | Scalable two-level preconditioning and deflation based on a piecewise constant subspace for (SIP)DG systems for diffusion problems. <i>Journal of Computational and Applied Mathematics</i> , 2015, 275, 61-78. | 1.1 | 3 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 163 | Comparison of Some Preconditioners for the Incompressible Navier-Stokes Equations. Numerical Mathematics, 2016, 9, 239-261. | 0.6 | 3 |
| 164 | The parallel subdomain-levelset deflation method in reservoir simulation. Journal of Computational Physics, 2016, 304, 340-358. | 1.9 | 3 |
| 165 | Deflated and augmented global Krylov subspace methods for the matrix equations. Applied Numerical Mathematics, 2016, 99, 137-150. | 1.2 | 3 |
| 166 | Optimal power flow formulations and their impacts on the performance of solution methods. , 2019, , . | | 3 |
| 167 | A comparison of block preconditioners for isogeometric analysis discretizations of the incompressible Navier-Stokes equations. International Journal for Numerical Methods in Fluids, 2021, 93, 1788-1815. | 0.9 | 3 |
| 168 | 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 |
| 169 | Convergence behavior of single-step GBLUP and SNPBLUP for different termination criteria. Genetics Selection Evolution, 2021, 53, 34. | 1.2 | 3 |
| 170 | The Effect of Variable Air-Fuel Ratio on Thermal NOx Emissions and Numerical Flow Stability in Rotary Kilns Using Non-Premixed Combustion. Processes, 2021, 9, 1723. | 1.3 | 3 |
| 171 | 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 |
| 172 | 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 |
| 173 | 3D Helmholtz Krylov Solver Preconditioned by a Shifted Laplace Multigrid Method on Multi-GPUs. , 2013, , 653-661. | | 3 |
| 174 | Efficient Two-Level Preconditioned Conjugate Gradient Method on the GPU. Lecture Notes in Computer Science, 2013, , 36-49. | 1.0 | 3 |
| 175 | On a Class of Preconditioners for Solving the Discrete Helmholtz Equation. , 2003, , 788-793. | | 3 |
| 176 | Fast Deflation Methods with Applications to Two-Phase Flows. International Journal for Multiscale Computational Engineering, 2008, 6, 13-24. | 0.8 | 3 |
| 177 | A parallel implementation of the block preconditioned GCR method. Lecture Notes in Computer Science, 1999, , 1052-1060. | 1.0 | 2 |
| 178 | A parallel block-preconditioned GCR method for incompressible flow problems. Future Generation Computer Systems, 2001, 18, 31-40. | 4.9 | 2 |
| 179 | An efficient numerical method for solid-liquid transitions in optical rewritable recording. International Journal for Numerical Methods in Engineering, 2009, 77, 702-718. | 1.5 | 2 |
| 180 | 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 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 181 | Mathematical Modelling of NbC Particle Nucleation and Growth in an HSLA Steel under Elastic Deformation. <i>Solid State Phenomena</i> , 0, 172-174, 893-898. | 0.3 | 2 |
| 182 | The accuracy of temporal basis functions used in the TDIE method. , 2011, , . | | 2 |
| 183 | On the performance of a 2D unstructured computational rheology code on a GPU. , 2013, , . | | 2 |
| 184 | Aerodynamic optimization of supersonic compressor cascade using differential evolution on GPU. <i>AIP Conference Proceedings</i> , 2016, , . | 0.3 | 2 |
| 185 | Evaluation of the deflated preconditioned CG method to solve bubbly and porous media flow problems on GPU and CPU. <i>International Journal for Numerical Methods in Fluids</i> , 2016, 80, 666-683. | 0.9 | 2 |
| 186 | Efficient simulation of one-dimensional two-phase flow with a high-order h-adaptive space-time Discontinuous Galerkin method. <i>Computers and Fluids</i> , 2017, 156, 34-47. | 1.3 | 2 |
| 187 | Globalization technique for projected Newtonâ€™Krylov methods. <i>International Journal for Numerical Methods in Engineering</i> , 2017, 110, 661-674. | 1.5 | 2 |
| 188 | Evaluation of multilevel sequentially semiseparable preconditioners on computational fluid dynamics benchmark problems using Incompressible Flow and Iterative Solver Software. <i>Mathematical Methods in the Applied Sciences</i> , 2018, 41, 888-903. | 1.2 | 2 |
| 189 | Bifurcation Analysis of a Multi-Parameter LiÃ©nard Polynomial System. <i>IFAC-PapersOnLine</i> , 2018, 51, 144-149. | 0.5 | 2 |
| 190 | Solving the Steady-State Power Flow Problem on Integrated Transmission-Distribution Networks: A Comparison of Numerical Methods. , 2020, , . | | 2 |
| 191 | Efficient and robust Schur complement approximations in the augmented Lagrangian preconditioner for the incompressible laminar flows. <i>Journal of Computational Physics</i> , 2020, 408, 109286. | 1.9 | 2 |
| 192 | On the Convergence of Inexact Newton Methods. <i>Lecture Notes in Computational Science and Engineering</i> , 2015, , 355-363. | 0.1 | 2 |
| 193 | The Level Set Method for Solid-Solid Phase Transformations. , 2006, , 712-719. | | 2 |
| 194 | Physics-based Pre-conditioners for Large-scale Subsurface Flow Simulation. , 2016, , . | | 2 |
| 195 | Coarse grid acceleration of a parallel block preconditioner. <i>Future Generation Computer Systems</i> , 2001, 17, 933-940. | 4.9 | 1 |
| 196 | A direct method of solidification for the enhancement of mushy zone network models. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 413-414, 255-258. | 2.6 | 1 |
| 197 | The Deflation Accelerated Schwarz Method for CFD. <i>Lecture Notes in Computer Science</i> , 2005, , 868-875. | 1.0 | 1 |
| 198 | Acceleration of Preconditioned Krylov Solvers for Bubbly Flow Problems. , 2007, , 1323-1332. | | 1 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 199 | Application of the numerical density-enthalpy method to the multi-phase flow through a porous medium. <i>Procedia Computer Science</i> , 2010, 1, 781-790. | 1.2 | 1 |
| 200 | On projected Newton Krylov solvers for instationary laminar reacting gas flows. <i>Journal of Computational Physics</i> , 2010, 229, 1724-1738. | 1.9 | 1 |
| 201 | A provably stable MoT scheme based on quadratic spline basis functions. , 2012, , . | | 1 |
| 202 | A parallel linear solver exploiting the physical properties of the underlying mechanical problem. <i>Computational Geosciences</i> , 2014, 18, 913-926. | 1.2 | 1 |
| 203 | A robust method to tackle pressure boundary conditions in porous media flow: application to biogrowth. <i>Computational Geosciences</i> , 2014, 18, 103-115. | 1.2 | 1 |
| 204 | Systematic Development and Mesh Sensitivity Analysis of a Mathematical Model for an Anode Baking Furnace. , 2018, , . | | 1 |
| 205 | GPU implementation for spline-based wavefront reconstruction. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2018, 35, 859. | 0.8 | 1 |
| 206 | Algebraic Dynamic Multilevel Method for Fractured Geothermal Reservoir Simulation. , 2019, , . | | 1 |
| 207 | A stable SPH discretization of the elliptic operator with heterogeneous coefficients. <i>Journal of Computational and Applied Mathematics</i> , 2020, 374, 112745. | 1.1 | 1 |
| 208 | Preconditioning Navier-Stokes control using multilevel sequentially semiseparable matrix computations. <i>Numerical Linear Algebra With Applications</i> , 2021, 28, e2349. | 0.9 | 1 |
| 209 | A Simple and Fast Hole Detection Algorithm for Triangulated Surfaces. <i>Journal of Computing and Information Science in Engineering</i> , 2021, 21, . | 1.7 | 1 |
| 210 | The role of PDE-based parameterization techniques in gradient-based IGA shape optimization applications. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 378, 113685. | 3.4 | 1 |
| 211 | Accelerating the solution of linear systems appearing in two-phase reservoir simulation by the use of POD-based deflation methods. <i>Computational Geosciences</i> , 2021, 25, 1621-1645. | 1.2 | 1 |
| 212 | Acceleration of Preconditioned Krylov Solvers for Bubbly Flow Problems. <i>Lecture Notes in Computer Science</i> , 2007, , 874-881. | 1.0 | 1 |
| 213 | Modeling of Multi-Phase Flows with a Level-Set Method. , 2004, , 698-707. | | 1 |
| 214 | Deflation Accelerated Parallel Preconditioned Conjugate Gradient Method in Finite Element Problems. , 2004, , 825-833. | | 1 |
| 215 | Block Preconditioners for the Incompressible Stokes Problem. <i>Lecture Notes in Computer Science</i> , 2010, , 829-836. | 1.0 | 1 |
| 216 | A Comparison of Enthalpy and Temperature Methods for Melting Problems on Composite Domains. , 2006, , 585-592. | | 1 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 217 | The relation between numerical and material stress states. Computers and Mathematics With Applications, 1999, 38, 245-249. | 1.4 | 0 |
| 218 | A Staggered Scheme for Hyperbolic Conservation Laws Applied to Computation of Flow with Cavitation. , 2001, , 969-976. | | 0 |
| 219 | 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 |
| 220 | Projection acceleration of Krylov solvers. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1020303-1020304. | 0.2 | 0 |
| 221 | Computing Interfaces in Diverse Applications. , 2009, , 327-341. | | 0 |
| 222 | Numerical Modelling of a Pulse Combustion Burner: Limiting Conditions of Stable Operation. Mathematics in Industry, 2010, , 875-880. | 0.1 | 0 |
| 223 | Dynamic Multilevel Multiscale Simulation of Naturally Fractured Reservoirs with Generic Fracture-Matrix Conductivity Contrasts. , 2019, , . | | 0 |
| 224 | Globalized Newton-Krylov-Schwarz AC Load Flow Methods for Future Power Systems. , 2019, , 79-98. | | 0 |
| 225 | Special Issue on Applied Mathematics for Traffic and Transport Systems. Transportmetrica A: Transport Science, 2021, 17, 233-234. | 1.3 | 0 |
| 226 | 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 |
| 227 | Optimal flow for general multi-carrier energy systems, including load flow equations. Results in Control and Optimization, 2021, 5, 100050. | 1.3 | 0 |
| 228 | A Parallel Block Preconditioner Accelerated by Coarse Grid Correction. Lecture Notes in Computer Science, 2000, , 99-108. | 1.0 | 0 |
| 229 | An Overview of ParCFD activities at Delft University of Technology. , 2002, , 3-20. | | 0 |
| 230 | A Cut-Cell Finite-Element Method for a Discontinuous Switch Model for Wound Closure. , 2010, , 929-936. | | 0 |
| 231 | Acceleration of Turbomachinery Steady Simulations on GPU. Lecture Notes in Computer Science, 2017, , 814-825. | 1.0 | 0 |
| 232 | Meshless Multi-Point Flux Approximation. Lecture Notes in Computational Science and Engineering, 2017, , 67-84. | 0.1 | 0 |
| 233 | 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 |
| 234 | Preconditioning for Linear Systems Arising from IgA Discretized Incompressible Navier-Stokes Equations. Lecture Notes in Computational Science and Engineering, 2021, , 77-97. | 0.1 | 0 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 235 | Efficient p-Multigrid Based Solvers for Isogeometric Analysis on Multipatch Geometries. Lecture Notes in Computational Science and Engineering, 2021, , 209-225. | 0.1 | 0 |
| 236 | Convergence of Newton's Method for Steady-State Load Flow Problems in Multi-Carrier Energy Systems. , 2020, , . | | 0 |
| 237 | 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 |
| 238 | On the fundamental solutions-based inversion of Laplace matrices. Results in Applied Mathematics, 2022, 15, 100288. | 0.5 | 0 |