Yuri V Vassilevski

List of Publications by Year
in descending order

128	1,864	331670	302126
papers	citations	21 h-index	39 g-index

139	139	139	896
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Monotone finite volume schemes for diffusion equations on unstructured triangular and shape-regular polygonal meshes. Journal of Computational Physics, 2007, 227, 492-512.	3.8	217
2	Interpolation-free monotone finite volume method for diffusion equations on polygonal meshes. Journal of Computational Physics, 2009, 228, 703-716.	3.8	132
3	Iterative Solution Methods for Modeling Multiphase Flow in Porous Media Fully Implicitly. SIAM Journal of Scientific Computing, 2003, 25, 905-926.	2.8	89
4	A monotone finite volume method for advectionâ€“diffusion equations on unstructured polygonal meshes. Journal of Computational Physics, 2010, 229, 4017-4032.	3.8	80
5	Decoupling preconditioners in the implicit parallel accurate reservoir simulator (IPARS). Numerical Linear Algebra With Applications, 2001, 8, 537-549.	1.6	68
6	Minimal stencil finite volume scheme with the discrete maximum principle. Russian Journal of Numerical Analysis and Mathematical Modelling, 2012, 27, .	0.6	64
7	A monotone nonlinear finite volume method for diffusion equations and multiphase flows. Computational Geosciences, 2014, 18, 311-324.	2.4	64
8	A monotone nonlinear finite volume method for diffusion equations on conformal polyhedral meshes. Russian Journal of Numerical Analysis and Mathematical Modelling, 2009, 24, .	0.6	61
9	Pressure Schur Complement Preconditioners for the Discrete Oseen Problem. SIAM Journal of Scientific Computing, 2007, 29, 2686-2704.	2.8	51
10	Computational issues related to iterative coupling of subsurface and channel flows. Calcolo, 2007, 44, 1-20.	1.1	41
11	On the elasticity of blood vessels in one-dimensional problems of hemodynamics. Computational Mathematics and Mathematical Physics, 2015, 55, 1567-1578.	0.8	39
12	Anderson Acceleration for Nonlinear Finite Volume Scheme for Advection-Diffusion Problems. SIAM Journal of Scientific Computing, 2013, 35, A1120-A1136.	2.8	38
13	Methods of graph network reconstruction in personalized medicine. International Journal for Numerical Methods in Biomedical Engineering, 2016, 32, e02754.	2.1	37
14	An octree-based solver for the incompressible Navierâ€“Stokes equations with enhanced stability and low dissipation. Computers and Fluids, 2013, 84, 231-246.	2.5	35
15	Nonâ€invasive coronary CT angiographyâ€derived fractional flow reserve: A benchmark study comparing the diagnostic performance of four different computational methodologies. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3235.	2.1	35
16	Parallel Finite Volume Computation on General Meshes. , 2020, , .		29
17	A monotone nonlinear finite volume method for advectionâ€“diffusion equations on unstructured polyhedral meshes in 3D. Russian Journal of Numerical Analysis and Mathematical Modelling, 2010, 25, .	0.6	26
18	A multiâ€scale model of the coronary circulation applied to investigate transmural myocardial flow. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e3123.	2.1	26

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19	A parallel solver for unsteady incompressible 3D Navierâ€“Stokes equations. Parallel Computing, 2001, 27, 363-389.	2.1	24
20	A Parallel Schwarz Method for a Convection-Diffusion Problem. SIAM Journal of Scientific Computing, 2000, 22, 891-916.	2.8	22
21	Reaction-Diffusion Modelling of Interferon Distribution in Secondary Lymphoid Organs. Mathematical Modelling of Natural Phenomena, 2011, 6, 13-26.	2.4	21
22	A Numerthod for the Simulation of Free Surface Flows of Viscoplastic Fluid in 3D. Journal of Computational Mathematics, 2011, 29, 605-622.	0.4	21
23	Monotonicity recovering and accuracy preserving optimization methods for postprocessing finite element solutions. Journal of Computational Physics, 2012, 231, 3126-3142.	3.8	21
24	Multiscale models of blood flow in the compliant aortic bifurcation. Applied Mathematics Letters, 2019, 93, 98-104.	2.7	21
25	ILU Preconditioners for Nonsymmetric Saddle-Point Matrices with Application to the Incompressible Navier–Stokes Equations. SIAM Journal of Scientific Computing, 2015, 37, A2171-A2197.	2.8	20
26	Modelâ€based analysis of the sensitivities and diagnostic implications of FFR and CFR under various pathological conditions. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3257.	2.1	20
27	Choice of initial guess in iterative solution of series of systems arising in fluid flow simulations. Journal of Computational Physics, 2006, 219, 210-227.	3.8	19
28	Virtual blunt injury of human thorax: age-dependent response of vascular system. Russian Journal of Numerical Analysis and Mathematical Modelling, 2015, 30, .	0.6	19
29	Analysis and assessment of a monolithic FSI finite element method. Computers and Fluids, 2019, 179, 277-288.	2.5	19
30	A mathematical model to quantify the effects of platelet count, shear rate, and injury size on the initiation of blood coagulation under venous flow conditions. PLoS ONE, 2020, 15, e0235392.	2.5	18
31	Mathematical modelling of atherosclerosis. Mathematical Modelling of Natural Phenomena, 2019, 14, 603.	2.4	17
32	Two splitting schemes for nonstationary convection-diffusion problems on tetrahedral meshes. Computational Mathematics and Mathematical Physics, 2008, 48, 1349-1366.	0.8	16
33	Hessian-free metric-based mesh adaptation via geometry of interpolation error. Computational Mathematics and Mathematical Physics, 2010, 50, 124-138.	0.8	16
34	Minimization of gradient errors of piecewise linear interpolation on simplicial meshes. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 2195-2203.	6.6	16
35	Patient-specific anatomical models in human physiology. Russian Journal of Numerical Analysis and Mathematical Modelling, 2015, 30, .	0.6	15
36	A quasi-Lagrangian finite element method for the Navierâ€“Stokes equations in a time-dependent domain. Computer Methods in Applied Mechanics and Engineering, 2018, 333, 55-73.	6.6	15

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37	A hybrid finite volume â€“ finite element method for bulkâ€“surface coupled problems. Journal of Computational Physics, 2018, 352, 516-533.	3.8	15
38	Parallel adaptive solution of 3D boundary value problems by Hessian recovery. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 1495-1513.	6.6	14
39	Modelling of bioimpedance measurements: unstructured mesh application to real human anatomy. Russian Journal of Numerical Analysis and Mathematical Modelling, 2012, 27, .	0.6	14
40	Patient Specific Haemodynamic Modeling after Occlusion Treatment in Leg. Mathematical Modelling of Natural Phenomena, 2014, 9, 85-97.	2.4	14
41	Comparison of Instantaneous Wave-Free Ratio (iFR) and Fractional Flow Reserve (FFR) with respect to Their Sensitivities to Cardiovascular Factors: A Computational Model-Based Study. Journal of Interventional Cardiology, 2020, 2020, 1-12.	1.2	14
42	Two-phase water flooding simulations on dynamic adaptive octree grids with two-point nonlinear fluxes. Russian Journal of Numerical Analysis and Mathematical Modelling, 2013, 28, .	0.6	13
43	A finite element method for the Navier-Stokes equations in moving domain with application to hemodynamics of the left ventricle. Russian Journal of Numerical Analysis and Mathematical Modelling, 2017, 32, .	0.6	12
44	Finite volume method for coupled subsurface flow problems, I: Darcy problem. Journal of Computational Physics, 2019, 395, 298-306.	3.8	12
45	A semi-Lagrangian method on dynamically adapted octree meshes. Russian Journal of Numerical Analysis and Mathematical Modelling, 2015, 30, .	0.6	10
46	Blood Flow Simulation in Atherosclerotic Vascular Network Using Fiber-Spring Representation of Diseased Wall. Mathematical Modelling of Natural Phenomena, 2011, 6, 333-349.	2.4	9
47	Nonlinear finite volume method with discrete maximum principle for the two-phase flow model. Lobachevskii Journal of Mathematics, 2016, 37, 570-581.	0.9	9
48	An unconditionally stable semi-implicit FSI finite element method. Computer Methods in Applied Mechanics and Engineering, 2015, 297, 437-454.	6.6	8
49	Transcranial ultrasound of cerebral vessels in silico: proof of concept. Russian Journal of Numerical Analysis and Mathematical Modelling, 2016, 31, .	0.6	8
50	An adaptive numerical method for free surface flows passing rigidly mounted obstacles. Computers and Fluids, 2017, 148, 56-68.	2.5	8
51	Analysis of Hessian Recovery Methods for Generating Adaptive Meshes. , 2006, , 163-171.		8
52	Vessel Wall Models for Simulation of Atherosclerotic Vascular Networks. Mathematical Modelling of Natural Phenomena, 2011, 6, 82-99.	2.4	7
53	CFD technology for 3D simulation of large-scale hydrodynamic events and disasters. Russian Journal of Numerical Analysis and Mathematical Modelling, 2012, 27, .	0.6	7
54	Sensitivity field distributions for segmental bioelectrical impedance analysis based on real human anatomy. Journal of Physics: Conference Series, 2013, 434, 012001.	0.4	7

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55	A Splitting Method for Numerical Simulation of Free Surface Flows of Incompressible Fluids with Surface Tension. Computational Methods in Applied Mathematics, 2015, 15, 59-77.	0.8	7
56	Numerical simulation of aberrated medical ultrasound signals. Russian Journal of Numerical Analysis and Mathematical Modelling, 2018, 33, 277-288.	0.6	7
57	Finite Element Models of Hyperelastic Materials Based on a New Strain Measure. Differential Equations, 2018, 54, 971-978.	0.7	7
58	INMOST Parallel Platform for Mathematical Modeling and Applications. Communications in Computer and Information Science, 2019, , 230-241.	0.5	7
59	A Finite Volume Scheme with the Discrete Maximum Principle for Diffusion Equations on Polyhedral Meshes. Springer Proceedings in Mathematics and Statistics, 2014, , 197-205.	0.2	7
60	Generation of Quasi-Optimal Meshes Based on a Posteriori Error Estimates. , 2008, , 139-148.		7
61	Noninvasive assessment of the fractional reserve of coronary blood flow with a one-dimensional mathematical model. Preliminary results of the pilot study. Russian Journal of Cardiology, 2019, 24, 60-68.	1.4	7
62	A multiâ€model approach to intravenous filter optimization. International Journal for Numerical Methods in Biomedical Engineering, 2010, 26, 915-925.	2.1	6
63	LU factorizations and ILU preconditioning for stabilized discretizations of incompressible Navierâ€“Stokes equations. Numerical Linear Algebra With Applications, 2017, 24, e2085.	1.6	6
64	Numerical modelling of medical ultrasound: phantom-based verification. Russian Journal of Numerical Analysis and Mathematical Modelling, 2017, 32, .	0.6	6
65	Finite volume method for coupled subsurface flow problems, II: Poroelasticity. Journal of Computational Physics, 2022, 462, 111225.	3.8	6
66	Free surface flow modelling on dynamically refined hexahedral meshes. Russian Journal of Numerical Analysis and Mathematical Modelling, 2008, 23, .	0.6	5
67	Mesh generation and computational modeling techniques for bioimpedance measurements: an example using the VHP data. Journal of Physics: Conference Series, 2012, 407, 012004.	0.4	5
68	Concise formulas for strain analysis of soft biological tissues. Differential Equations, 2017, 53, 908-915.	0.7	5
69	Numerical Simulation of Blood Flow in Aorta with Dilation: A Comparison between Laminar and LES Modeling Methods. CMES - Computer Modeling in Engineering and Sciences, 2020, 124, 509-526.	1.1	5
70	A hybrid domain decomposition method based on aggregation. Numerical Linear Algebra With Applications, 2004, 11, 327-341.	1.6	4
71	POD acceleration of fully implicit solver for unsteady nonlinear flows and its application on grid architecture. Advances in Engineering Software, 2007, 38, 301-311.	3.8	4
72	Edge-based a Posteriori Error Estimators for Generating Quasi-optimal Simplicial Meshes. Mathematical Modelling of Natural Phenomena, 2010, 5, 91-96.	2.4	4

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73	Could Revision of the Embryology Influence Our Cesarean Delivery Technique: Towards an Optimized Cesarean Delivery for Universal Use. AJP Reports, 2016, 06, e352-e354.	0.7	4
74	A finite volume scheme with improved well modeling in subsurface flow simulation. Computational Geosciences, 2017, 21, 1023-1033.	2.4	4
75	Two methods of surface tension treatment in free surface flow simulations. Applied Mathematics Letters, 2018, 86, 236-242.	2.7	4
76	Automatic segmentation algorithms and personalized geometric modelling for a human knee. Russian Journal of Numerical Analysis and Mathematical Modelling, 2019, 34, 361-367.	0.6	4
77	Application of Hyperelastic Nodal Force Method to Evaluation of Aortic Valve Cusps Coaptation: Thin Shell vs. Membrane Formulations. Mathematics, 2021, 9, 1450.	2.2	4
78	Anisotropic Mesh Adaptation for Solution of Finite Element Problems Using Hierarchical Edge-Based Error Estimates. , 2009, , 595-610.		4
79	On optimal convergence rate of finite element solutions of boundary value problems on adaptive anisotropic meshes. Mathematics and Computers in Simulation, 2011, 81, 1949-1961.	4.4	3
80	Erratum to the paper â€œMethods of Blood Flow Modellingâ€• Mathematical Modelling of Natural Phenomena, 2016, 11, 91-91.	2.4	3
81	Numerical Modelling of Multicellular Spheroid Compression: Viscoelastic Fluid vs. Viscoelastic Solid. Mathematics, 2021, 9, 2333.	2.2	3
82	Non-invasive fractional flow reserve: a comparison of one-dimensional and three-dimensional mathematical modeling effectiveness. Cardiovascular Therapy and Prevention (Russian Federation), 2020, 19, 2303.	1.4	3
83	Automatic detection of attachment sites for knee ligaments and tendons on CT images. International Journal of Computer Assisted Radiology and Surgery, 2022, 17, 393-402.	2.8	3
84	Simulation of the interferon-mediated protective field in lymphoid organs with their spatial and functional organization taken into consideration. Doklady Biological Sciences, 2011, 439, 194-6.	0.6	2
85	Personalized Anatomical Meshing of the Human Body with Applications. Modeling, Simulation and Applications, 2015, , 221-236.	1.3	2
86	A splitting method for free surface flows over partially submerged obstacles. Russian Journal of Numerical Analysis and Mathematical Modelling, 2018, 33, 95-110.	0.6	2
87	Sensitivity of Coronary Flow Reserve to Cardiovascular Parameters: A Computational Model-Based Study. , 2018, , .		2
88	Numerical assessment of coaptation for auto-pericardium based aortic valve cusps. Russian Journal of Numerical Analysis and Mathematical Modelling, 2019, 34, 277-287.	0.6	2
89	Nonlinear Monotone FV Schemes for Radionuclide Geomigration and Multiphase Flow Models. Springer Proceedings in Mathematics and Statistics, 2014, , 655-663.	0.2	2
90	PERSONALIZED COMPUTATION OF FRACTIONAL FLOW RESERVE IN CASE OF TWO CONSECUTIVE STENOSES. , 2016, , .		2

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91	A stable method for 4D CT-based CFD simulation in the right ventricle of a TGA patient. Russian Journal of Numerical Analysis and Mathematical Modelling, 2020, 35, 315-324.	0.6	2
92	Comparison of algorithms for estimating blood flow velocities in cerebral arteries based on the transport information of contrast agent: An in silico study. Computers in Biology and Medicine, 2022, 141, 105040.	7.0	2
93	A finite element scheme for the numerical solution of the Navierâ€“Stokes/Biot coupled problem. Russian Journal of Numerical Analysis and Mathematical Modelling, 2022, 37, 159-174.	0.6	2
94	Structuring preconditioners for unstructured meshes. Russian Journal of Numerical Analysis and Mathematical Modelling, 1996, 11, .	0.6	1
95	Aitken-Schwarz methods with non matching finite elements and spectral elements grids for the parallel simulation of an underground waste disposal site modelized by upscaling. , 1996, , 69-76.		1
96	Parallel adaptive solution of the Stokes and Oseen problems on unstructured 3D meshes. , 2004, , 153-161.		1
97	On control of adaptation in parallel mesh generation. Engineering With Computers, 2004, 20, 193-201.	6.1	1
98	Error estimates for a finite element solution of the diffusion equation based on composite norms. Journal of Numerical Mathematics, 2009, 17, .	3.5	1
99	Numerical issues of modelling blood flow in networks of vessels with pathologies. Russian Journal of Numerical Analysis and Mathematical Modelling, 2012, 26, .	0.6	1
100	Analysis of Operating Modes for Left Ventricle Assist Devices via Integrated Models of Blood Circulation. Mathematics, 2020, 8, 1331.	2.2	1
101	Personalized Geometric Modeling of a Human Knee: Data, Algorithms, Outcomes. Smart Innovation, Systems and Technologies, 2021, , 213-222.	0.6	1
102	An implicit scheme for simulation of free surface non-Newtonian fluid flows on dynamically adapted grids. Russian Journal of Numerical Analysis and Mathematical Modelling, 2021, 36, 165-176.	0.6	1
103	A Nonlinear Correction FV Scheme forÂNear-Well Regions. Springer Proceedings in Mathematics and Statistics, 2017, , 507-516.	0.2	1
104	Ani3D-Extension of Parallel Platform INMOST and Hydrodynamic Applications. Communications in Computer and Information Science, 2017, , 219-228.	0.5	1
105	Two-scale haemodynamic modelling for patients with Fontan circulation. Russian Journal of Numerical Analysis and Mathematical Modelling, 2021, 36, 267-278.	0.6	1
106	Analysis of the impact of left ventricular assist devices on the systemic circulation. Russian Journal of Numerical Analysis and Mathematical Modelling, 2020, 35, 295-314.	0.6	1
107	Domain decomposition methods and averaging operators for the case of multidomain splitting. Russian Journal of Numerical Analysis and Mathematical Modelling, 1995, 10, .	0.6	0
108	Blood Flow Simulation in a Grid Environment. , 2003, , 195-202.		0

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109	Parallel iterative multilevel solution of mixed finite element systems for scalar equations. Concurrency Computation Practice and Experience, 2006, 18, 501-518.	2.2	0
110	On discrete boundaries and solution accuracy in anisotropic adaptive meshing. Engineering With Computers, 2010, 26, 281-288.	6.1	0
111	Parallel solution of Mixed Finite Element/Spectral Element systems for convectionâ€“diffusion equations on non-matching grids. Applied Numerical Mathematics, 2010, 60, 1131-1147.	2.1	0
112	Adaptive Solution of PDEs on Anisotropic Triangular Meshes. , 2010, , .		0
113	Application of Nonlinear Monotone Finite Volume Schemes to Advection-Diffusion Problems. Springer Proceedings in Mathematics, 2011, , 761-769.	0.5	0
114	Families of meshes minimizing P 1 interpolation error for functions with indefinite Hessian. Russian Journal of Numerical Analysis and Mathematical Modelling, 2011, 26, .	0.6	0
115	On the <mml:math altimg="si1.gif" display="inline" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.com/x	2.7	0
116	A Unified Approach for Computing Tsunami, Waves, Floods, and Landslides. Lecture Notes in Computational Science and Engineering, 2015, , 643-650.	0.3	0
117	Acceleration of iterative solution of series of systems due to better initial guess. Lecture Notes in Computational Science and Engineering, 2010, , 29-40.	0.3	0
118	A Hybrid Finite Volumeâ€"Finite Element Method for Modeling Flows in Fractured Media. Springer Proceedings in Mathematics and Statistics, 2017, , 527-535.	0.2	0
119	Parallel BIILU2-Based Iterative Solution of Linear Systems in Reservoir Simulation: Do Optimal Parameters Exist?. Communications in Computer and Information Science, 2020, , 74-85.	0.5	0
120	INMOST Platform for Parallel Multi-physics Applications: Multi-phase Flow in Porous Media and Blood Flow Coagulation. Communications in Computer and Information Science, 2020, , 226-236.	0.5	0
121	On discrete boundaries and solution accuracy in anisotropic adaptive meshing. , 2005, , 312-324.		0
122	Title is missing!. , 2020, 15, e0235392.		0
123	Title is missing!. , 2020, 15, e0235392.		0
124	Title is missing!. , 2020, 15, e0235392.		0
125	Title is missing!. , 2020, 15, e0235392.		0
126	Title is missing!. , 2020, 15, e0235392.		0

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127	Title is missing!. , 2020, 15, e0235392.		0
128	Hessian-based anisotropic mesh adaptation in domains with discrete boundaries. Russian Journal of Numerical Analysis and Mathematical Modelling, 2005, 20, 391-402.	0.6	0