Alfio Maria Quarteroni

List of Publications by Year
in descending order

333 papers	18,758 citations	19608 61 h-index	22764 112 g-index
356 all docs	356 docs citations	356 times ranked	9062 citing authors

#	Article	IF	Citations
1	Spectral Methods in Fluid Dynamics. , 1988, , .		2,712
2	Spectral Methods. Scientific Computation, 2006, , .	0.2	1,089
3	Numerical Approximation of Partial Differential Equations. Springer Series in Computational Mathematics, 1994, , .	0.1	750
4	On the coupling of 3D and 1D Navierâ€“Stokes equations for flow problems in compliant vessels. Computer Methods in Applied Mechanics and Engineering, 2001, 191, 561-582.	3.4	454
5	Computational vascular fluid dynamics: problems, models and methods. Computing and Visualization in Science, 2000, 2, 163-197.	1.2	371
6	Approximation results for orthogonal polynomials in Sobolev spaces. Mathematics of Computation, 1982, 38, 67-86.	1.1	356
7	Mathematical and numerical models for coupling surface and groundwater flows. Applied Numerical Mathematics, 2002, 43, 57-74.	1.2	356
8	One-dimensional models for blood flow in arteries. Journal of Engineering Mathematics, 2003, 47, 251-276.	0.6	344
9	2d and 3D elastic wave propagation by a pseudo-spectral domain decomposition method. Journal of Seismology, 1997, 1, 237-251.	0.6	297
10	Multiscale modelling of the circulatory system: a preliminary analysis. Computing and Visualization in Science, 1999, 2, 75-83.	1.2	230
11	Reduced Basis Methods for Partial Differential Equations. Unitext, 2016, , .	0.0	208
12	Robinâ€“Robin Domain Decomposition Methods for the Stokesâ€“Darcy Coupling. SIAM Journal on Numerical Analysis, 2007, 45, 1246-1268.	1.1	180
13	Supremizer stabilization of PODâ€“Galerkin approximation of parametrized steady incompressible Navierâ€“Stokes equations. International Journal for Numerical Methods in Engineering, 2015, 102, 1136-1161.	1.5	180
14	Integrated Heartâ€”Coupling multiscale and multiphysics models for the simulation of the cardiac function. Computer Methods in Applied Mechanics and Engineering, 2017, 314, 345-407.	3.4	179
15	Numerical Treatment of Defective Boundary Conditions for the Navier--Stokes Equations. SIAM Journal on Numerical Analysis, 2002, 40, 376-401.	1.1	172
16	The cardiovascular system:ÂMathematical modelling, numerical algorithms and clinical applications. Acta Numerica, 2017, 26, 365-590.	6.3	160
17	Analysis of a Geometrical Multiscale Model Based on the Coupling of ODE and PDE for Blood Flow Simulations. Multiscale Modeling and Simulation, 2003, 1, 173-195.	0.6	159
18	Fluidâ€“structure interaction simulation of aortic blood flow. Computers and Fluids, 2011, 43, 46-57.	1.3	156

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19	Mathematical and numerical models for transfer of low-density lipoproteins through the arterial walls: a new methodology for the model set up with applications to the study of disturbed lumenal flow. Journal of Biomechanics, 2005, 38, 903-917.	0.9	153
20	Navier-Stokes/darcy coupling: modeling, analysis, and numerical approximation. Revista Matematica Complutense, 2009, 22, .	0.7	145
21	Factorization methods for the numerical approximation of Navierâ€“Stokes equations. Computer Methods in Applied Mechanics and Engineering, 2000, 188, 505-526.	3.4	144
22	Geometric multiscale modeling of the cardiovascular system, between theory and practice. Computer Methods in Applied Mechanics and Engineering, 2016, 302, 193-252.	3.4	144
23	ON THE COUPLING OF 1D AND 3D DIFFUSION-REACTION EQUATIONS: APPLICATION TO TISSUE PERFUSION PROBLEMS. Mathematical Models and Methods in Applied Sciences, 2008, 18, 1481-1504.	1.7	138
24	Physiological simulation of blood flow in the aorta: Comparison of hemodynamic indices as predicted by 3-D FSI, 3-D rigid wall and 1-D models. Medical Engineering and Physics, 2013, 35, 784-791.	0.8	137
25	A relaxation procedure for domain decomposition methods using finite elements. Numerische Mathematik, 1989, 55, 575-598.	0.9	136
26	A vision and strategy for the virtual physiological human in 2010 and beyond. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 2595-2614.	1.6	136
27	An Iterative Procedure with Interface Relaxation for Domain Decomposition Methods. SIAM Journal on Numerical Analysis, 1988, 25, 1213-1236.	1.1	130
28	Splitting Methods Based on Algebraic Factorization for Fluid-Structure Interaction. SIAM Journal of Scientific Computing, 2008, 30, 1778-1805.	1.3	123
29	Certified reduced basis approximation for parametrized partial differential equations and applications. Journal of Mathematics in Industry, 2011, 1, .	0.7	122
30	Coupling between lumped and distributed models for blood flow problems. Computing and Visualization in Science, 2001, 4, 111-124.	1.2	118
31	Fluidâ€“structure algorithms based on Steklovâ€“PoincarÃ© operators. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5797-5812.	3.4	113
32	Numerical analysis of the Navierâ€“Stokes/Darcy coupling. Numerische Mathematik, 2010, 115, 195-227.	0.9	112
33	Mathematical and Numerical Modeling of Solute Dynamics in Blood Flow and Arterial Walls. SIAM Journal on Numerical Analysis, 2002, 39, 1488-1511.	1.1	109
34	Numerical Models for Differential Problems. , 2009, , .		109
35	Mathematical Modelling and Numerical Simulation of the Cardiovascular System. Handbook of Numerical Analysis, 2004, 12, 3-127.	0.9	108
36	Numerical solution of parametrized Navierâ€“Stokes equations by reduced basis methods. Numerical Methods for Partial Differential Equations, 2007, 23, 923-948.	2.0	108

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37	Modular vs. non-modular preconditioners for fluidâ€“structure systems with large added-mass effect. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4216-4232.	3.4	105
38	Convergence analysis of a subdomain iterative method for the finite element approximation of the coupling of Stokes and Darcy equations. Computing and Visualization in Science, 2004, 6, 93-103.	1.2	103
39	Analysis of lumped parameter models for blood flow simulations and their relation with 1D models. ESAIM: Mathematical Modelling and Numerical Analysis, 2004, 38, 613-632.	0.8	103
40	Coupling Biot and Navierâ€“Stokes equations for modelling fluidâ€“poroelastic media interaction. Journal of Computational Physics, 2009, 228, 7986-8014.	1.9	101
41	A SEMI-IMPLICIT APPROACH FOR FLUID-STRUCTURE INTERACTION BASED ON AN ALGEBRAIC FRACTIONAL STEP METHOD. Mathematical Models and Methods in Applied Sciences, 2007, 17, 957-983.	1.7	92
42	Parallel Algorithms for Fluid-Structure Interaction Problems in Haemodynamics. SIAM Journal of Scientific Computing, 2011, 33, 1598-1622.	1.3	92
43	Shape optimization for viscous flows by reduced basis methods and freeâ€form deformation. International Journal for Numerical Methods in Fluids, 2012, 70, 646-670.	0.9	90
44	OPTIMAL CONTROL AND SHAPE OPTIMIZATION OF AORTO-CORONARIC BYPASS ANASTOMOSES. Mathematical Models and Methods in Applied Sciences, 2003, 13, 1801-1823.	1.7	86
45	Spectralâ€domain decomposition methods for the solution of acoustic and elastic wave equations. Geophysics, 1996, 61, 1160-1174.	1.4	84
46	Electromechanical Coupling in Cardiac Dynamics: The Active Strain Approach. SIAM Journal on Applied Mathematics, 2011, 71, 605-621.	0.8	82
47	A multiscale Darcyâ€“Brinkman model for fluid flow in fractured porous media. Numerische Mathematik, 2011, 117, 717-752.	0.9	82
48	Thermodynamically consistent orthotropic activation model capturing ventricular systolic wall thickening in cardiac electromechanics. European Journal of Mechanics, A/Solids, 2014, 48, 129-142.	2.1	82
49	Isogeometric Analysis and error estimates for high order partial differential equations in fluid dynamics. Computers and Fluids, 2014, 102, 277-303.	1.3	81
50	A reduced computational and geometrical framework for inverse problems in hemodynamics. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 741-776.	1.0	78
51	Orthotropic active strain models for the numerical simulation of cardiac biomechanics. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 761-788.	1.0	76
52	A vision and strategy for the virtual physiological human: 2012 update. Interface Focus, 2013, 3, 20130004.	1.5	74
53	Fast simulations of patient-specific haemodynamics of coronary artery bypass grafts based on a PODâ€“Galerkin method and a vascular shape parametrization. Journal of Computational Physics, 2016, 315, 609-628.	1.9	74
54	Isogeometric Analysis of high order Partial Differential Equations on surfaces. Computer Methods in Applied Mechanics and Engineering, 2015, 295, 446-469.	3.4	73

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55	Model Order Reduction in Fluid Dynamics: Challenges and Perspectives. , 2014, , 235-273.		72
56	Analysis of a Geometrical Multiscale Blood Flow Model Based on the Coupling of ODEs and Hyperbolic PDEs. Multiscale Modeling and Simulation, 2005, 4, 215-236.	0.6	71
57	The Impact of Left Atrium Appendage Morphology on Stroke Risk Assessment in Atrial Fibrillation: A Computational Fluid Dynamics Study. Frontiers in Physiology, 2018, 9, 1938.	1.3	71
58	Preconditioned minimal residual methods for chebyshev spectral calculations. Journal of Computational Physics, 1985, 60, 315-337.	1.9	70
59	Model reduction techniques for fast blood flow simulation in parametrized geometries. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 604-625.	1.0	69
60	An active strain electromechanical model for cardiac tissue. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 52-71.	1.0	69
61	Reduced Basis Method for Parametrized Elliptic Optimal Control Problems. SIAM Journal of Scientific Computing, 2013, 35, A2316-A2340.	1.3	69
62	Multiscale homogenization for fluid and drug transport in vascularized malignant tissues. Mathematical Models and Methods in Applied Sciences, 2015, 25, 79-108.	1.7	66
63	Legendre and Chebyshev spectral approximations of Burgers' equation. Numerische Mathematik, 1981, 37, 321-332.	0.9	64
64	Non-conforming high order approximations of the elastodynamics equation. Computer Methods in Applied Mechanics and Engineering, 2012, 209-212, 212-238.	3.4	64
65	A 3D/1D geometrical multiscale model of cerebral vasculature. Journal of Engineering Mathematics, 2009, 64, 319-330.	0.6	62
66	Efficient oxygen transfer by surface aeration in shaken cylindrical containers for mammalian cell cultivation at volumetric scales up to 1000L. Biochemical Engineering Journal, 2009, 45, 41-47.	1.8	62
67	Simulationâ€based uncertainty quantification of human arterial network hemodynamics. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 698-721.	1.0	61
68	Modeling cardiac muscle fibers in ventricular and atrial electrophysiology simulations. Computer Methods in Applied Mechanics and Engineering, 2021, 373, 113468.	3.4	58
69	Analysis of the Yosida method for the incompressible Navierâ€“Stokes equations. Journal Des Mathematiques Pures Et Appliquees, 1999, 78, 473-503.	0.8	55
70	Spectral and Pseudo-Spectral Approximations of the Navierâ€“Stokes Equations. SIAM Journal on Numerical Analysis, 1982, 19, 761-780.	1.1	54
71	Comparison Between Reduced Basis and Stochastic Collocation Methods for Elliptic Problems. Journal of Scientific Computing, 2014, 59, 187-216.	1.1	54
72	Helical flows and asymmetry of blood jet in dilated ascending aorta with normally functioning bicuspid valve. Biomechanics and Modeling in Mechanobiology, 2013, 12, 801-813.	1.4	52

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73	Mathematical modelling of active contraction in isolated cardiomyocytes. Mathematical Medicine and Biology, 2014, 31, 259-283.	0.8	52
74	Isogeometric numerical dispersion analysis for two-dimensional elastic wave propagation. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 320-348.	3.4	52
75	Generalized Galerkin approximations of elastic waves with absorbing boundary conditions. Computer Methods in Applied Mechanics and Engineering, 1998, 163, 323-341.	3.4	51
76	On the coupling of hyperbolic and parabolic systems: analytical and numerical approach. Applied Numerical Mathematics, 1989, 6, 3-31.	1.2	50
77	A Weighted Reduced Basis Method for Elliptic Partial Differential Equations with Random Input Data. SIAM Journal on Numerical Analysis, 2013, 51, 3163-3185.	1.1	50
78	Coupling of free surface and groundwater flows. Computers and Fluids, 2003, 32, 73-83.	1.3	49
79	A reduced basis hybrid method for the coupling of parametrized domains represented by fluidic networks. Computer Methods in Applied Mechanics and Engineering, 2012, 221-222, 63-82.	3.4	49
80	Mathematical models and numerical simulations for the Americaâ€™s Cup. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 1001-1026.	3.4	48
81	FaCSI: A block parallel preconditioner for fluidâ€“structure interaction in hemodynamics. Journal of Computational Physics, 2016, 327, 700-718.	1.9	47
82	A Rescaled Localized Radial Basis Function Interpolation on Non-Cartesian and Nonconforming Grids. SIAM Journal of Scientific Computing, 2014, 36, A2745-A2762.	1.3	46
83	Comparisons between reduced order models and full 3D models for fluidâ€“structure interaction problems in haemodynamics. Journal of Computational and Applied Mathematics, 2014, 265, 120-138.	1.1	46
84	Weighted Reduced Basis Method for Stochastic Optimal Control Problems with Elliptic PDE Constraint. SIAM-ASA Journal on Uncertainty Quantification, 2014, 2, 364-396.	1.1	44
85	Patient-specific generation of the Purkinje network driven by clinical measurements of a normal propagation. Medical and Biological Engineering and Computing, 2014, 52, 813-826.	1.6	44
86	Numerical approximation of parametrized problems in cardiac electrophysiology by a local reduced basis method. Computer Methods in Applied Mechanics and Engineering, 2018, 340, 530-558.	3.4	44
87	Finite element approximation of Quasi-3D shallow water equations. Computer Methods in Applied Mechanics and Engineering, 1999, 174, 355-369.	3.4	43
88	Reduced basis techniques for nonlinear conservation laws. ESAIM: Mathematical Modelling and Numerical Analysis, 2015, 49, 787-814.	0.8	43
89	Use of Orbital Shaken Disposable Bioreactors for Mammalian Cell Cultures from the Milliliter-Scale to the 1,000-Liter Scale. Advances in Biochemical Engineering/Biotechnology, 2009, 115, 33-53.	0.6	42
90	Reduced basis method and domain decomposition for elliptic problems in networks and complex parametrized geometries. Computers and Mathematics With Applications, 2016, 71, 408-430.	1.4	42

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91	On the physical consistency between three-dimensional and one-dimensional models in haemodynamics. Journal of Computational Physics, 2013, 244, 97-112.	1.9	41
92	Reduced Basis Methods for Uncertainty Quantification. SIAM-ASA Journal on Uncertainty Quantification, 2017, 5, 813-869.	1.1	41
93	A patient-specific aortic valve model based on moving resistive immersed implicit surfaces. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1779-1803.	1.4	41
94	A Proof of Concept for Computational Fluid Dynamic Analysis of the Left Atrium in Atrial Fibrillation on a Patient-Specific Basis. Journal of Biomechanical Engineering, 2020, 142, .	0.6	41
95	Stochastic Optimal Robin Boundary Control Problems of Advection-Dominated Elliptic Equations. SIAM Journal on Numerical Analysis, 2013, 51, 2700-2722.	1.1	40
96	An orthotropic activeâ€“strain model for the myocardium mechanics and its numerical approximation. European Journal of Mechanics, A/Solids, 2014, 48, 83-96.	2.1	40
97	Polygonal surface processing and mesh generation tools for the numerical simulation of the cardiac function. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3435.	1.0	40
98	Deep learning-based reduced order models in cardiac electrophysiology. PLoS ONE, 2020, 15, e0239416.	1.1	40
99	Error Estimates for Spectral and Pseudospectral Approximations of Hyperbolic Equations. SIAM Journal on Numerical Analysis, 1982, 19, 629-642.	1.1	39
100	A mortar spectral/finite element method for complex 2D and 3D elastodynamic problems. Computer Methods in Applied Mechanics and Engineering, 2002, 191, 5119-5148.	3.4	38
101	Numerical Models for Differential Problems. , 2014, , .		38
102	A new algorithm for high-dimensional uncertainty quantification based on dimension-adaptive sparse grid approximation and reduced basis methods. Journal of Computational Physics, 2015, 298, 176-193.	1.9	38
103	A matrix DEIM technique for model reduction of nonlinear parametrized problems in cardiac mechanics. Computer Methods in Applied Mechanics and Engineering, 2017, 324, 300-326.	3.4	38
104	Primer of Adaptive Finite Element Methods. Lecture Notes in Mathematics, 2011, , 125-225.	0.1	38
105	A One Dimensional Model for Blood Flow: Application to Vascular Prosthesis. Lecture Notes in Computational Science and Engineering, 2002, , 137-153.	0.1	38
106	Domain decomposition preconditioners for the spectral collocation method. Journal of Scientific Computing, 1988, 3, 45-76.	1.1	37
107	Isogeometric Analysis for second order Partial Differential Equations on surfaces. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 807-834.	3.4	37
108	Numerical Models for Differential Problems. Modeling, Simulation and Applications, 2017, , .	1.3	37

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109	Fourier Spectral Methods for Pseudoparabolic Equations. SIAM Journal on Numerical Analysis, 1987, 24, 323-335.	1.1	36
110	Optimal control and numerical adaptivity for advectionâ€“diffusion equations. ESAIM: Mathematical Modelling and Numerical Analysis, 2005, 39, 1019-1040.	0.8	36
111	Shape Design in Aorto-Coronaric Bypass Anastomoses Using Perturbation Theory. SIAM Journal on Numerical Analysis, 2006, 44, 367-384.	1.1	36
112	Accurate and efficient evaluation of failure probability for partial different equations with random input data. Computer Methods in Applied Mechanics and Engineering, 2013, 267, 233-260.	3.4	36
113	Numerical modeling of fluidâ€“structure interaction in arteries with anisotropic polyconvex hyperelastic and anisotropic viscoelastic material models at finite strains. International Journal for Numerical Methods in Biomedical Engineering, 2016, 32, e02756.	1.0	36
114	A Robust Algorithm for Parametric Model Order Reduction Based on Implicit Moment Matching. , 2014, , 159-185.		36
115	Biophysically detailed mathematical models of multiscale cardiac active mechanics. PLoS Computational Biology, 2020, 16, e1008294.	1.5	36
116	A monolithic algorithm for the simulation of cardiac electromechanics in the human left ventricle. Mathematics in Engineering, 2018, 1, 1-37.	0.5	36
117	Finite Element Preconditioning for Legendre Spectral Collocation Approximations to Elliptic Equations and Systems. SIAM Journal on Numerical Analysis, 1992, 29, 917-936.	1.1	35
118	Multilevel and weighted reduced basis method for stochastic optimal control problems constrained by Stokes equations. Numerische Mathematik, 2016, 133, 67-102.	0.9	35
119	Heterogeneous coupling by virtual control methods. Numerische Mathematik, 2001, 90, 241-264.	0.9	34
120	Reduced basis method for linear elasticity problems with many parameters. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4812-4829.	3.4	34
121	Large eddy simulations for blood dynamics in realistic stenotic carotids. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2868.	1.0	34
122	Analysis of the combined finite element and Fourier interpolation. Numerische Mathematik, 1982, 39, 205-220.	0.9	33
123	Computational Reduction for Parametrized PDEs: Strategies and Applications. Milan Journal of Mathematics, 2012, 80, 283-309.	0.7	33
124	Domain Decomposition Methods for Systems of Conservation Laws: Spectral Collocation Approximations. SIAM Journal on Scientific and Statistical Computing, 1990, 11, 1029-1052.	1.5	32
125	Implicit Coupling of One-Dimensional and Three-Dimensional Blood Flow Models with Compliant Vessels. Multiscale Modeling and Simulation, 2013, 11, 474-506.	0.6	32
126	Stability Analysis of Discontinuous Galerkin Approximations to the Elastodynamics Problem. Journal of Scientific Computing, 2016, 68, 143-170.	1.1	32

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127	Numerical modeling of hemodynamics scenarios of patient-specific coronary artery bypass grafts. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1373-1399.	1.4	32
128	Finite-Element Preconditioning of G-NI Spectral Methods. SIAM Journal of Scientific Computing, 2010, 31, 4422-4451.	1.3	31
129	A Mathematical Approach in the Design of Arterial Bypass Using Unsteady Stokes Equations. Journal of Scientific Computing, 2006, 28, 139-165.	1.1	30
130	The non-circular shape of FloWatchÂ®-PAB prevents the need for pulmonary artery reconstruction after banding.Computational fluid dynamics and clinical correlations. European Journal of Cardio-thoracic Surgery, 2006, 29, 93-99.	0.6	30
131	Some results of bernstein and jackson type for polynomial approximation inL p-spaces. Japan Journal of Industrial and Applied Mathematics, 1984, 1, 173-181.	0.3	29
132	A coupled 3Dâ€“1D numerical monodomain solver for cardiac electrical activation in the myocardium with detailed Purkinje network. Journal of Computational Physics, 2016, 308, 218-238.	1.9	29
133	Isogeometric approximation of cardiac electrophysiology models on surfaces: An accuracy study with application to the human left atrium. Computer Methods in Applied Mechanics and Engineering, 2017, 317, 248-273.	3.4	28
134	Numerical simulation of orbitally shaken viscous fluids with free surface. International Journal for Numerical Methods in Fluids, 2013, 71, 294-315.	0.9	27
135	Hemodynamics of the heartâ€™s left atrium based on a Variational Multiscale-LES numerical method. European Journal of Mechanics, B/Fluids, 2021, 89, 380-400.	1.2	27
136	A Domain Decomposition Method for Advection-Diffusion Processes with Application to Blood Solutes. SIAM Journal of Scientific Computing, 2002, 23, 1959-1980.	1.3	26
137	Parameter estimates for the Relaxed Dimensional Factorization preconditioner and application to hemodynamics. Computer Methods in Applied Mechanics and Engineering, 2016, 300, 129-145.	3.4	26
138	Shear stress alterations in the celiac trunk of patients with a continuous-flow left ventricular assist device as shown by in-silico and in-vitro flow analyses. Journal of Heart and Lung Transplantation, 2017, 36, 906-913.	0.3	26
139	An image-based computational hemodynamics study of the Systolic Anterior Motion of the mitral valve. Computers in Biology and Medicine, 2020, 123, 103922.	3.9	26
140	Electromechanical modeling of human ventricles with ischemic cardiomyopathy: numerical simulations in sinus rhythm and under arrhythmia. Computers in Biology and Medicine, 2021, 136, 104674.	3.9	26
141	Combined finite element and spectral approximation of the Navier-Stokes equations. Numerische Mathematik, 1984, 44, 201-217.	0.9	25
142	Algorithms for the partitioned solution of weakly coupled fluid models for cardiovascular flows. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 2035-2057.	1.0	25
143	A Reduced Basis Model with Parametric Coupling for Fluid-Structure Interaction Problems. SIAM Journal of Scientific Computing, 2012, 34, A1187-A1213.	1.3	25
144	Radial basis functions for inter-grid interpolation and mesh motion in FSI problems. Computer Methods in Applied Mechanics and Engineering, 2013, 256, 117-131.	3.4	25

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145	Interior Penalty Continuous and Discontinuous Finite Element Approximations of Hyperbolic Equations. Journal of Scientific Computing, 2010, 43, 293-312.	1.1	24
146	Parallel preconditioners for the unsteady Navierâ€“Stokes equations and applications to hemodynamics simulations. Computers and Fluids, 2014, 92, 253-273.	1.3	24
147	Well-Posedness, Regularity, and Convergence Analysis of the Finite Element Approximation of a Generalized Robin Boundary Value Problem. SIAM Journal on Numerical Analysis, 2015, 53, 105-126.	1.1	24
148	INTERNODES: an accurate interpolation-based method for coupling the Galerkin solutions of PDEs on subdomains featuring non-conforming interfaces. Computers and Fluids, 2016, 141, 22-41.	1.3	24
149	Isogeometric analysis and proper orthogonal decomposition for parabolic problems. Numerische Mathematik, 2017, 135, 333-370.	0.9	24
150	Active contraction of cardiac cells: a reduced model for sarcomere dynamics with cooperative interactions. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1663-1686.	1.4	24
151	Numerical simulation of left ventricular assist device implantations: Comparing the ascending and the descending aorta cannulations. Medical Engineering and Physics, 2013, 35, 1465-1475.	0.8	23
152	Computational generation of the Purkinje network driven by clinical measurements: The case of pathological propagations. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 1558-1577.	1.0	23
153	High order discontinuous Galerkin methods on simplicial elements for the elastodynamics equation. Numerical Algorithms, 2016, 71, 181-206.	1.1	23
154	A computational model applied to myocardial perfusion in the human heart: From large coronaries to microvasculature. Journal of Computational Physics, 2021, 424, 109836.	1.9	23
155	Multipatch Isogeometric Analysis for electrophysiology: Simulation in a human heart. Computer Methods in Applied Mechanics and Engineering, 2021, 376, 113666.	3.4	23
156	3Dâ€“0D closed-loop model for the simulation of cardiac biventricular electromechanics. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114607.	3.4	23
157	Boundary control and shape optimization for the robust design of bypass anastomoses under uncertainty. ESAIM: Mathematical Modelling and Numerical Analysis, 2013, 47, 1107-1131.	0.8	22
158	Numerical modeling of seismic waves by discontinuous spectral element methods. ESAIM Proceedings and Surveys, 2018, 61, 1-37.	0.5	22
159	A geometric multiscale model for the numerical simulation of blood flow in the human left heart. Discrete and Continuous Dynamical Systems - Series S, 2022, 15, 2391.	0.6	22
160	Numerical Simulation of Sailing Boats: Dynamics, FSI, and Shape Optimization. Springer Optimization and Its Applications, 2012, , 339-377.	0.6	21
161	The Interface Control Domain Decomposition (ICDD) Method for Elliptic Problems. SIAM Journal on Control and Optimization, 2013, 51, 3434-3458.	1.1	21
162	A computational fluidâ€“structure interaction analysis of coronary Y-grafts. Medical Engineering and Physics, 2017, 47, 117-127.	0.8	21

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163	Reduced-order modeling of blood flow for noninvasive functional evaluation of coronary artery disease. Biomechanics and Modeling in Mechanobiology, 2019, 18, 1867-1881.	1.4	21
164	Isogeometric Analysis of the electrophysiology in the human heart: Numerical simulation of the bidomain equations on the atria. Computer Methods in Applied Mechanics and Engineering, 2019, 343, 52-73.	3.4	21
165	<tt>SUIHTER</tt> : a new mathematical model for COVID-19. Application to the analysis of the second epidemic outbreak in Italy. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210027.	1.0	21
166	The role of mechano-electric feedbacks and hemodynamic coupling in scar-related ventricular tachycardia. Computers in Biology and Medicine, 2022, 142, 105203.	3.9	21
167	Modeling of salt tectonics. Computer Methods in Applied Mechanics and Engineering, 2007, 197, 281-293.	3.4	20
168	Analysis of a finite volume element method for the Stokes problem. Numerische Mathematik, 2011, 118, 737-764.	0.9	20
169	Fully Eulerian finite element approximation of a fluidâ€structure interaction problem in cardiac cells. International Journal for Numerical Methods in Engineering, 2013, 96, 712-738.	1.5	20
170	Outer loop and isthmus in ventricular tachycardia circuits: Characteristics and implications. Heart Rhythm, 2020, 17, 1719-1728.	0.3	20
171	A Patient-Specific Computational Fluid Dynamics Model of the Left Atrium in Atrial Fibrillation: Development and Initial Evaluation. Lecture Notes in Computer Science, 2017, , 392-400.	1.0	20
172	On the boundary treatment in spectral methods for hyperbolic systems. Journal of Computational Physics, 1987, 71, 100-110.	1.9	19
173	POD-Enhanced Deep Learning-Based Reduced Order Models for the Real-Time Simulation of Cardiac Electrophysiology in the Left Atrium. Frontiers in Physiology, 2021, 12, 679076.	1.3	19
174	Recent developments in the numerical simulation of shallow water equations I: boundary conditions. Applied Numerical Mathematics, 1994, 15, 175-200.	1.2	18
175	Modeling dimensionally-heterogeneous problems: analysis, approximation and applications. Numerische Mathematik, 2011, 119, 299-335.	0.9	18
176	A weighted empirical interpolation method:a prioriconvergence analysis and applications. ESAIM: Mathematical Modelling and Numerical Analysis, 2014, 48, 943-953.	0.8	18
177	Complex blood flow patterns in an idealized left ventricle: A numerical study. Chaos, 2017, 27, 093939.	1.0	18
178	Computational comparison of aortic root stresses in presence of stentless and stented aortic valve bio-prostheses. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 171-181.	0.9	18
179	Modeling the Cardiovascular System: A Mathematical Challenge. , 2001, , 961-970.		18
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