Thomas J R Hughes

List of Publications by Year
in descending order

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358	67,292	553 126	735 251
papers	citations	h-index	g-index

395	395	395	14428
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Isogeometric analysis: CAD, finite elements, NURBS, exact geometry and mesh refinement. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 4135-4195.	3.4	4,614
2	Streamline upwind/Petrov-Galerkin formulations for convection dominated flows with particular emphasis on the incompressible Navier-Stokes equations. Computer Methods in Applied Mechanics and Engineering, 1982, 32, 199-259.	3.4	4,288
3	Improved numerical dissipation for time integration algorithms in structural dynamics. Earthquake Engineering and Structural Dynamics, 1977, 5, 283-292.	2.5	1,886
4	Multiscale phenomena: Green's functions, the Dirichlet-to-Neumann formulation, subgrid scale models, bubbles and the origins of stabilized methods. Computer Methods in Applied Mechanics and Engineering, 1995, 127, 387-401.	3.4	1,460
5	The variational multiscale methodâ€"a paradigm for computational mechanics. Computer Methods in Applied Mechanics and Engineering, 1998, 166, 3-24.	3.4	1,269
6	Lagrangian-Eulerian finite element formulation for incompressible viscous flows. Computer Methods in Applied Mechanics and Engineering, 1981, 29, 329-349.	3.4	1,255
7	A phase-field description of dynamic brittle fracture. Computer Methods in Applied Mechanics and Engineering, 2012, 217-220, 77-95.	3.4	1,196
8	A new finite element formulation for computational fluid dynamics: V. Circumventing the babuÅ¡ka-brezzi condition: a stable Petrov-Galerkin formulation of the stokes problem accommodating equal-order interpolations. Computer Methods in Applied Mechanics and Engineering, 1986, 59, 85-99.	3.4	1,190
9	A new finite element formulation for computational fluid dynamics: VIII. The galerkin/least-squares method for advective-diffusive equations. Computer Methods in Applied Mechanics and Engineering, 1989, 73, 173-189.	3.4	1,186
10	Isogeometric analysis of structural vibrations. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5257-5296.	3.4	885
11	Mixed finite element methods â€" Reduced and selective integration techniques: A unification of concepts. Computer Methods in Applied Mechanics and Engineering, 1978, 15, 63-81.	3.4	854
12	Finite element method for piezoelectric vibration. International Journal for Numerical Methods in Engineering, 1970, 2, 151-157.	1.5	841
13	Variational multiscale residual-based turbulence modeling for large eddy simulation of incompressible flows. Computer Methods in Applied Mechanics and Engineering, 2007, 197, 173-201.	3.4	835
14	Isogeometric analysis using T-splines. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 229-263.	3.4	834
15	Isogeometric fluid-structure interaction: theory, algorithms, and computations. Computational Mechanics, 2008, 43, 3-37.	2.2	768
16	Generalization of selective integration procedures to anisotropic and nonlinear media. International Journal for Numerical Methods in Engineering, 1980, 15, 1413-1418.	1.5	766
17	Finite rotation effects in numerical integration of rate constitutive equations arising in large-deformation analysis. International Journal for Numerical Methods in Engineering, 1980, 15, 1862-1867.	1.5	688
18	A simple and efficient finite element for plate bending. International Journal for Numerical Methods in Engineering, 1977, 11, 1529-1543.	1.5	623

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19	Finite element modeling of blood flow in arteries. Computer Methods in Applied Mechanics and Engineering, 1998, 158, 155-196.	3.4	594
20	Isogeometric Fluidâ€“structure Interaction Analysis with Applications to Arterial Blood Flow. Computational Mechanics, 2006, 38, 310-322.	2.2	561
21	ISOGEOMETRIC ANALYSIS: APPROXIMATION, STABILITY AND ERROR ESTIMATES FOR h-REFINED MESHES. Mathematical Models and Methods in Applied Sciences, 2006, 16, 1031-1090.	1.7	556
22	Finite Elements Based Upon Mindlin Plate Theory With Particular Reference to the Four-Node Bilinear Isoparametric Element. Journal of Applied Mechanics, Transactions ASME, 1981, 48, 587-596.	1.1	553
23	Stabilized finite element methods: I. Application to the advective-diffusive model. Computer Methods in Applied Mechanics and Engineering, 1992, 95, 253-276.	3.4	551
24	Isogeometric shell analysis: The Reissnerâ€“Mindlin shell. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 276-289.	3.4	551
25	Studies of refinement and continuity in isogeometric structural analysis. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 4160-4183.	3.4	550
26	Reduced and selective integration techniques in the finite element analysis of plates. Nuclear Engineering and Design, 1978, 46, 203-222.	0.8	536
27	A new finite element formulation for computational fluid dynamics: II. Beyond SUPG. Computer Methods in Applied Mechanics and Engineering, 1986, 54, 341-355.	3.4	535
28	Large Eddy Simulation and the variational multiscale method. Computing and Visualization in Science, 2000, 3, 47-59.	1.2	532
29	Finite element analysis of incompressible viscous flows by the penalty function formulation. Journal of Computational Physics, 1979, 30, 1-60.	1.9	517
30	Isogeometric analysis of the Cahnâ€“Hilliard phase-field model. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4333-4352.	3.4	514
31	Nonlinear finite element analysis of shells: Part I. three-dimensional shells. Computer Methods in Applied Mechanics and Engineering, 1981, 26, 331-362.	3.4	511
32	A new finite element formulation for computational fluid dynamics: III. The generalized streamline operator for multidimensional advective-diffusive systems. Computer Methods in Applied Mechanics and Engineering, 1986, 58, 305-328.	3.4	478
33	A new finite element formulation for computational fluid dynamics: X. The compressible Euler and Navier-Stokes equations. Computer Methods in Applied Mechanics and Engineering, 1991, 89, 141-219.	3.4	455
34	A new finite element formulation for computational fluid dynamics: I. Symmetric forms of the compressible Euler and Navier-Stokes equations and the second law of thermodynamics. Computer Methods in Applied Mechanics and Engineering, 1986, 54, 223-234.	3.4	436
35	Space-time finite element methods for elastodynamics: Formulations and error estimates. Computer Methods in Applied Mechanics and Engineering, 1988, 66, 339-363.	3.4	436
36	Efficient quadrature for NURBS-based isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 301-313.	3.4	426

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37	A higher-order phase-field model for brittle fracture: Formulation and analysis within the isogeometric analysis framework. Computer Methods in Applied Mechanics and Engineering, 2014, 273, 100-118.	3.4	418
38	A finite element method for a class of contact-impact problems. Computer Methods in Applied Mechanics and Engineering, 1976, 8, 249-276.	3.4	407
39	Isogeometric finite element data structures based on BÃ©zier extraction of NURBS. International Journal for Numerical Methods in Engineering, 2011, 87, 15-47.	1.5	407
40	A coupled momentum method for modeling blood flow in three-dimensional deformable arteries. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5685-5706.	3.4	406
41	A phase-field formulation for fracture in ductile materials: Finite deformation balance law derivation, plastic degradation, and stress triaxiality effects. Computer Methods in Applied Mechanics and Engineering, 2016, 312, 130-166.	3.4	399
42	Large eddy simulation of turbulent channel flows by the variational multiscale method. Physics of Fluids, 2001, 13, 1784-1799.	1.6	384
43	Weak imposition of Dirichlet boundary conditions in fluid mechanics. Computers and Fluids, 2007, 36, 12-26.	1.3	381
44	An isogeometric design-through-analysis methodology based on adaptive hierarchical refinement of NURBS, immersed boundary methods, and T-spline CAD surfaces. Computer Methods in Applied Mechanics and Engineering, 2012, 249-252, 116-150.	3.4	372
45	Collocation, dissipation and [overshoot] for time integration schemes in structural dynamics. Earthquake Engineering and Structural Dynamics, 1978, 6, 99-117.	2.5	366
46	Continuous/discontinuous finite element approximations of fourth-order elliptic problems in structural and continuum mechanics with applications to thin beams and plates, and strain gradient elasticity. Computer Methods in Applied Mechanics and Engineering, 2002, 191, 3669-3750.	3.4	365
47	On the Variational Foundations of Assumed Strain Methods. Journal of Applied Mechanics, Transactions ASME, 1986, 53, 51-54.	1.1	351
48	A new finite element formulation for computational fluid dynamics: VII. The stokes problem with various well-posed boundary conditions: Symmetric formulations that converge for all velocity/pressure spaces. Computer Methods in Applied Mechanics and Engineering, 1987, 65, 85-96.	3.4	351
49	An immersogeometric variational framework for fluidâ€“structure interaction: Application to bioprosthetic heart valves. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 1005-1053.	3.4	350
50	Finite element methods for first-order hyperbolic systems with particular emphasis on the compressible euler equations. Computer Methods in Applied Mechanics and Engineering, 1984, 45, 217-284.	3.4	348
51	Patient-specific isogeometric fluidâ€“structure interaction analysis of thoracic aortic blood flow due to implantation of the Jarvik 2000 left ventricular assist device. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3534-3550.	3.4	347
52	The multiscale formulation of large eddy simulation: Decay of homogeneous isotropic turbulence. Physics of Fluids, 2001, 13, 505-512.	1.6	344
53	Patient-specific vascular NURBS modeling for isogeometric analysis of blood flow. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 2943-2959.	3.4	340
54	Duality and unified analysis of discrete approximations in structural dynamics and wave propagation: Comparison of p-method finite elements with k-method NURBS. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4104-4124.	3.4	329

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55	An arbitrary Lagrangian-Eulerian finite element method for interaction of fluid and a rigid body. Computer Methods in Applied Mechanics and Engineering, 1992, 95, 115-138.	3.4	318
56	Isogeometric boundary element analysis using unstructured T-splines. Computer Methods in Applied Mechanics and Engineering, 2013, 254, 197-221.	3.4	311
57	ISOGEOMETRIC COLLOCATION METHODS. Mathematical Models and Methods in Applied Sciences, 2010, 20, 2075-2107.	1.7	308
58	Well-posed quasi-linear second-order hyperbolic systems with applications to nonlinear elastodynamics and general relativity. Archive for Rational Mechanics and Analysis, 1977, 63, 273-294.	1.1	303
59	A large deformation, rotation-free, isogeometric shell. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1367-1378.	3.4	300
60	and projection methods for nearly incompressible linear and non-linear elasticity and plasticity using higher-order NURBS elements. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 2732-2762.	3.4	297
61	Finite Element Modeling of Three-Dimensional Pulsatile Flow in the Abdominal Aorta: Relevance to Atherosclerosis. Annals of Biomedical Engineering, 1998, 26, 975-987.	1.3	293
62	Product formulas and numerical algorithms. Communications on Pure and Applied Mathematics, 1978, 31, 205-256.	1.2	291
63	Implicit-Explicit Finite Elements in Transient Analysis: Stability Theory. Journal of Applied Mechanics, Transactions ASME, 1978, 45, 371-374.	1.1	287
64	A new finite element formulation for computational fluid dynamics: IV. A discontinuity-capturing operator for multidimensional advective-diffusive systems. Computer Methods in Applied Mechanics and Engineering, 1986, 58, 329-336.	3.4	286
65	Local refinement of analysis-suitable T-splines. Computer Methods in Applied Mechanics and Engineering, 2012, 213-216, 206-222.	3.4	285
66	On drilling degrees of freedom. Computer Methods in Applied Mechanics and Engineering, 1989, 72, 105-121.	3.4	273
67	Isogeometric finite element data structures based on BÃ©zier extraction of Tâ€splines. International Journal for Numerical Methods in Engineering, 2011, 88, 126-156.	1.5	268
68	Space-time finite element methods for second-order hyperbolic equations. Computer Methods in Applied Mechanics and Engineering, 1990, 84, 327-348.	3.4	257
69	b = âˆ‡g. Computer Methods in Applied Mechanics and Engineering, 1997, 145, 329-339.	3.4	253
70	Isogeometric collocation: Cost comparison with Galerkin methods and extension to adaptive hierarchical NURBS discretizations. Computer Methods in Applied Mechanics and Engineering, 2013, 267, 170-232.	3.4	248
71	NURBS-based isogeometric analysis for the computation of flows about rotating components. Computational Mechanics, 2008, 43, 143-150.	2.2	244
72	Isogeometric variational multiscale modeling of wall-bounded turbulent flows with weakly enforced boundary conditions on unstretched meshes. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 780-790.	3.4	241

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73	Fluidâ€“structure interaction analysis of bioprosthetic heart valves: significance of arterial wall deformation. Computational Mechanics, 2014, 54, 1055-1071.	2.2	240
74	Implicit-explicit finite elements in nonlinear transient analysis. Computer Methods in Applied Mechanics and Engineering, 1979, 17-18, 159-182.	3.4	239
75	A three-node mindlin plate element with improved transverse shear. Computer Methods in Applied Mechanics and Engineering, 1985, 50, 71-101.	3.4	237
76	Contact treatment in isogeometric analysis with NURBS. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1100-1112.	3.4	236
77	Two classes of mixed finite element methods. Computer Methods in Applied Mechanics and Engineering, 1988, 69, 89-129.	3.4	235
78	A stabilized mixed finite element method for Darcy flow. Computer Methods in Applied Mechanics and Engineering, 2002, 191, 4341-4370.	3.4	233
79	n-Widths, supâ€“infs, and optimality ratios for the k-version of the isogeometric finite element method. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 1726-1741.	3.4	231
80	An element-by-element solution algorithm for problems of structural and solid mechanics. Computer Methods in Applied Mechanics and Engineering, 1983, 36, 241-254.	3.4	228
81	A simple scheme for developing â€˜upwindâ€™ finite elements. International Journal for Numerical Methods in Engineering, 1978, 12, 1359-1365.	1.5	221
82	Robustness of isogeometric structural discretizations under severe mesh distortion. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 357-373.	3.4	220
83	Isogeometric Analysis for Topology Optimization with a Phase Field Model. Archives of Computational Methods in Engineering, 2012, 19, 427-465.	6.0	220
84	Variational Multiscale Analysis: the Fineâ€scale Greenâ€™s Function, Projection, Optimization, Localization, and Stabilized Methods. SIAM Journal on Numerical Analysis, 2007, 45, 539-557.	1.1	216
85	Recent progress in the development and understanding of SUPG methods with special reference to the compressible Euler and Navier-Stokes equations. International Journal for Numerical Methods in Fluids, 1987, 7, 1261-1275.	0.9	215
86	A generalized finite element formulation for arbitrary basis functions: From isogeometric analysis to XFEM. International Journal for Numerical Methods in Engineering, 2010, 83, 765-785.	1.5	213
87	Galerkin/least-squares finite element methods for the reduced wave equation with non-reflecting boundary conditions in unbounded domains. Computer Methods in Applied Mechanics and Engineering, 1992, 98, 411-454.	3.4	212
88	A new finite element formulation for computational fluid dynamics: VI. Convergence analysis of the generalized SUPG formulation for linear time-dependent multidimensional advective-diffusive systems. Computer Methods in Applied Mechanics and Engineering, 1987, 63, 97-112.	3.4	210
89	The Continuous Galerkin Method Is Locally Conservative. Journal of Computational Physics, 2000, 163, 467-488.	1.9	203
90	The role of continuity in residual-based variational multiscale modeling of turbulence. Computational Mechanics, 2007, 41, 371-378.	2.2	202

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91	Nonlinear finite element analysis of shells-part II. two-dimensional shells. Computer Methods in Applied Mechanics and Engineering, 1981, 27, 167-181.	3.4	201
92	Weak Dirichlet boundary conditions for wall-bounded turbulent flows. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 4853-4862.	3.4	200
93	A space-time Galerkin/least-squares finite element formulation of the Navier-Stokes equations for moving domain problems. Computer Methods in Applied Mechanics and Engineering, 1997, 146, 91-126.	3.4	199
94	Improving stability of stabilized and multiscale formulations in flow simulations at small time steps. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 828-840.	3.4	199
95	Provably unconditionally stable, second-order time-accurate, mixed variational methods for phase-field models. Journal of Computational Physics, 2011, 230, 5310-5327.	1.9	196
96	The â€œheterosisâ€•finite element for plate bending. Computers and Structures, 1978, 9, 445-450.	2.4	191
97	Isogeometric analysis of the isothermal Navierâ€“Stokesâ€“Korteweg equations. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1828-1840.	3.4	191
98	Finite element and NURBS approximations of eigenvalue, boundary-value, and initial-value problems. Computer Methods in Applied Mechanics and Engineering, 2014, 272, 290-320.	3.4	187
99	On linear independence of T-spline blending functions. Computer Aided Geometric Design, 2012, 29, 63-76.	0.5	184
100	Unconditionally stable algorithms for quasi-static elasto/visco-plastic finite element analysis. Computers and Structures, 1978, 8, 169-173.	2.4	183
101	Implicit-Explicit Finite Elements in Transient Analysis: Implementation and Numerical Examples. Journal of Applied Mechanics, Transactions ASME, 1978, 45, 375-378.	1.1	181
102	A comparative study of different sets of variables for solving compressible and incompressible flows. Computer Methods in Applied Mechanics and Engineering, 1998, 153, 1-44.	3.4	176
103	A simple algorithm for obtaining nearly optimal quadrature rules for NURBS-based isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2012, 249-252, 15-27.	3.4	172
104	Isogeometric collocation for elastostatics and explicit dynamics. Computer Methods in Applied Mechanics and Engineering, 2012, 249-252, 2-14.	3.4	171
105	On the one-dimensional theory of blood flow in the larger vessels. Mathematical Biosciences, 1973, 18, 161-170.	0.9	168
106	Large-scale vectorized implicit calculations in solid mechanics on a Cray X-MP/48 utilizing EBE preconditioned conjugate gradients. Computer Methods in Applied Mechanics and Engineering, 1987, 61, 215-248.	3.4	168
107	An isogeometric analysis approach to gradient damage models. International Journal for Numerical Methods in Engineering, 2011, 86, 115-134.	1.5	160
108	Finite element methods for the helmholtz equation in an exterior domain: Model problems. Computer Methods in Applied Mechanics and Engineering, 1991, 87, 59-96.	3.4	159

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109	Computation of Trailing-Edge Noise Due to Turbulent Flow over an Airfoil. AIAA Journal, 2002, 40, 2206-2216.	1.5	158
110	The finite element method with Lagrange multipliers on the boundary: circumventing the BabuÅ¡ka-Brezzi condition. Computer Methods in Applied Mechanics and Engineering, 1991, 85, 109-128.	3.4	157
111	What are C and h?: Inequalities for the analysis and design of finite element methods. Computer Methods in Applied Mechanics and Engineering, 1992, 97, 157-192.	3.4	157
112	Simulating the spread of COVID-19 via a spatially-resolved susceptibleâ€“exposedâ€“infectedâ€“recoveredâ€“deceased (SEIRD) model with heterogeneous diffusion. Applied Mathematics Letters, 2021, 111, 106617.	1.5	156
113	Effect of exercise on hemodynamic conditions in the abdominal aorta. Journal of Vascular Surgery, 1999, 29, 1077-1089.	0.6	155
114	An isogeometric approach to cohesive zone modeling. International Journal for Numerical Methods in Engineering, 2011, 87, 336-360.	1.5	154
115	Unconditionally stable algorithms for nonlinear heat conduction. Computer Methods in Applied Mechanics and Engineering, 1977, 10, 135-139.	3.4	149
116	A new finite element formulation for computational fluid dynamics: IX. Fourier analysis of space-time Galerkin/least-squares algorithms. Computer Methods in Applied Mechanics and Engineering, 1991, 87, 35-58.	3.4	149
117	Solution algorithms for nonlinear transient heat conduction analysis employing element-by-element iterative strategies. Computer Methods in Applied Mechanics and Engineering, 1985, 52, 711-815.	3.4	148
118	A unified approach to compressible and incompressible flows. Computer Methods in Applied Mechanics and Engineering, 1994, 113, 389-395.	3.4	148
119	An automatic 3D mesh generation method for domains with multiple materials. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 405-415.	3.4	146
120	A PreÂ´cis of Developments in Computational Methods for Transient Analysis. Journal of Applied Mechanics, Transactions ASME, 1983, 50, 1033-1041.	1.1	145
121	Finite-Element Methods for Nonlinear Elastodynamics Which Conserve Energy. Journal of Applied Mechanics, Transactions ASME, 1978, 45, 366-370.	1.1	143
122	An improved treatment of transverse shear in the mindlin-type four-node quadrilateral element. Computer Methods in Applied Mechanics and Engineering, 1983, 39, 311-335.	3.4	142
123	Consistent linearization in mechanics of solids and structures. Computers and Structures, 1978, 8, 391-397.	2.4	140
124	ISOGEOMETRIC DIVERGENCE-CONFORMING B-SPLINES FOR THE STEADY NAVIERâ€“STOKES EQUATIONS. Mathematical Models and Methods in Applied Sciences, 2013, 23, 1421-1478.	1.7	137
125	Three-dimensional mortar-based frictional contact treatment in isogeometric analysis with NURBS. Computer Methods in Applied Mechanics and Engineering, 2012, 209-212, 115-128.	3.4	134
126	Solid T-spline construction from boundary representations for genus-zero geometry. Computer Methods in Applied Mechanics and Engineering, 2012, 249-252, 185-197.	3.4	133

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127	Blended isogeometric shells. Computer Methods in Applied Mechanics and Engineering, 2013, 255, 133-146.	3.4	133
128	YZÎ² discontinuity capturing for advection-dominated processes with application to arterial drug delivery. International Journal for Numerical Methods in Fluids, 2007, 54, 593-608.	0.9	129
129	Stabilized Methods for Compressible Flows. Journal of Scientific Computing, 2010, 43, 343-368.	1.1	129
130	Convergence analyses of Galerkin least-squares methods for symmetric advective-diffusive forms of the Stokes and incompressible Navier-Stokes equations. Computer Methods in Applied Mechanics and Engineering, 1993, 105, 285-298.	3.4	125
131	Numerical Implementation of Constitutive Models: Rate-Independent Deviatoric Plasticity. , 1984, , 29-63.		123
132	Research directions in computational mechanics. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 913-922.	3.4	123
133	Finite element formulations for convection dominated flows with particular emphasis on the compressible Euler equations. , 1983, , .		122
134	Isogeometric contact: a review. GAMM Mitteilungen, 2014, 37, 85-123.	2.7	122
135	Isogeometric divergence-conforming B-splines for the unsteady Navierâ€“Stokes equations. Journal of Computational Physics, 2013, 241, 141-167.	1.9	120
136	Reduced BÃ©zier element quadrature rules for quadratic and cubic splines in isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2014, 277, 1-45.	3.4	120
137	A multi-element group preconditioned GMRES algorithm for nonsymmetric systems arising in finite element analysis. Computer Methods in Applied Mechanics and Engineering, 1989, 75, 415-456.	3.4	117
138	Equivalence of Finite Elements for Nearly Incompressible Elasticity. Journal of Applied Mechanics, Transactions ASME, 1977, 44, 181-183.	1.1	115
139	Analysis of continuous formulations underlying the computation of time-harmonic acoustics in exterior domains. Computer Methods in Applied Mechanics and Engineering, 1992, 97, 103-124.	3.4	115
140	A Review of Trimming in Isogeometric Analysis: Challenges, Data Exchange and Simulation Aspects. Archives of Computational Methods in Engineering, 2018, 25, 1059-1127.	6.0	115
141	A globally convergent matrix-free algorithm for implicit time-marching schemes arising in finite element analysis in fluids. Computer Methods in Applied Mechanics and Engineering, 1991, 87, 281-304.	3.4	114
142	Trivariate solid T-spline construction from boundary triangulations with arbitrary genus topology. CAD Computer Aided Design, 2013, 45, 351-360.	1.4	114
143	A multiscale discontinuous Galerkin method with the computational structure of a continuous Galerkin method. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 2761-2787.	3.4	111
144	A cost comparison of boundary element and finite element methods for problems of time-harmonic acoustics. Computer Methods in Applied Mechanics and Engineering, 1992, 97, 77-102.	3.4	110

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145	Stability, convergence and growth and decay of energy of the average acceleration method in nonlinear structural dynamics. Computers and Structures, 1976, 6, 313-324.	2.4	109
146	A space-time formulation for multiscale phenomena. Journal of Computational and Applied Mathematics, 1996, 74, 217-229.	1.1	109
147	A Petrov-Galerkin finite element method for convection-dominated flows: An accurate upwinding technique for satisfying the maximum principle. Computer Methods in Applied Mechanics and Engineering, 1985, 50, 181-193.	3.4	108
148	Patient-specific isogeometric structural analysis of aortic valve closure. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 508-520.	3.4	102
149	Isogeometric collocation: Neumann boundary conditions and contact. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 21-54.	3.4	101
150	A Priori Error Analysis of Residual-Free Bubbles for Advection-Diffusion Problems. SIAM Journal on Numerical Analysis, 1999, 36, 1933-1948.	1.1	99
151	An improved implicit-explicit time integration method for structural dynamics. Earthquake Engineering and Structural Dynamics, 1989, 18, 643-653.	2.5	97
152	Computational procedures for determining structural-acoustic response due to hydrodynamic sources. Computer Methods in Applied Mechanics and Engineering, 2000, 190, 345-361.	3.4	97
153	Selective and reduced numerical integrations for NURBS-based isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 732-761.	3.4	96
154	Smooth cubic spline spaces on unstructured quadrilateral meshes with particular emphasis on extraordinary points: Geometric design and isogeometric analysis considerations. Computer Methods in Applied Mechanics and Engineering, 2017, 327, 411-458.	3.4	94
155	A framework for designing patientâ€specific bioprosthetic heart valves using immersogeometric fluidâ€“structure interaction analysis. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e2938.	1.0	93
156	In vivo validation of a one-dimensional finite-element method for predicting blood flow in cardiovascular bypass grafts. IEEE Transactions on Biomedical Engineering, 2003, 50, 649-656.	2.5	91
157	A One-dimensional Finite Element Method for Simulation-based Medical Planning for Cardiovascular Disease. Computer Methods in Biomechanics and Biomedical Engineering, 2002, 5, 195-206.	0.9	90
158	Mixed Discontinuous Galerkin Methods for Darcy Flow. Journal of Scientific Computing, 2005, 22-23, 119-145.	1.1	90
159	Isogeometric analysis of the advective Cahnâ€“Hilliard equation: Spinodal decomposition under shear flow. Journal of Computational Physics, 2013, 242, 321-350.	1.9	90
160	Single-variable formulations and isogeometric discretizations for shear deformable beams. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 988-1004.	3.4	90
161	Truncated hierarchical Catmullâ€“Clark subdivision with local refinement. Computer Methods in Applied Mechanics and Engineering, 2015, 291, 1-20.	3.4	89
162	Nonlinear finite element shell formulation accounting for large membrane strains. Computer Methods in Applied Mechanics and Engineering, 1983, 39, 69-82.	3.4	86

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163	Recent developments in finite element methods for structural acoustics. Archives of Computational Methods in Engineering, 1996, 3, 131-309.	6.0	86
164	Mathematical modeling of coupled drug and drug-encapsulated nanoparticle transport in patient-specific coronary artery walls. Computational Mechanics, 2012, 49, 213-242.	2.2	86
165	A variational multiscale approach to strain localization â€“ formulation for multidimensional problems. Computer Methods in Applied Mechanics and Engineering, 2000, 188, 39-60.	3.4	85
166	Isogeometric collocation for large deformation elasticity and frictional contact problems. Computer Methods in Applied Mechanics and Engineering, 2015, 296, 73-112.	3.4	85
167	Augmented Lagrangian method for constraining the shape of velocity profiles at outlet boundaries for three-dimensional finite element simulations of blood flow. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3551-3566.	3.4	84
168	A stabilized mixed discontinuous Galerkin method for Darcy flow. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 3347-3381.	3.4	83
169	Stabilized Finite Element Methods. , 1993, , 87-108.		82
170	ISOGEOMETRIC DIVERGENCE-CONFORMING B-SPLINES FOR THE DARCYâ€“STOKESâ€“BRINKMAN EQUATIONS. Mathematical Models and Methods in Applied Sciences, 2013, 23, 671-741.	1.7	81
171	Optimal and reduced quadrature rules for tensor product and hierarchically refined splines in isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 966-1004.	3.4	81
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