Jean-franÃ§ois Remacle

List of Publications by Year
in descending order

113 papers	8,726 citations	147801 31 h-index	43889 91 g-index
118 all docs	118 docs citations	118 times ranked	7724 citing authors

#	Article	IF	Citations
1	Multidirectional sweeping preconditioners with non-overlapping checkerboard domain decomposition for Helmholtz problems. Journal of Computational Physics, 2022, 453, 110887.	3.8	5
2	Curvilinear Mesh Adaptation. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2021, , 245-257.	0.3	0
3	Automatic featureâ€preserving size field for threeâ€dimensional mesh generation. International Journal for Numerical Methods in Engineering, 2021, 122, 4825-4847.	2.8	3
4	Generation of High-Order Coarse Quad Meshes on CAD Models via Integer Linear Programming. , 2021, , .		3
5	Automatic surface mesh generation for discrete models â€“ A complete and automatic pipeline based on reparametrization. Journal of Computational Physics, 2020, 417, 109575.	3.8	5
6	One machine, one minute, three billion tetrahedra. International Journal for Numerical Methods in Engineering, 2019, 117, 967-990.	2.8	28
7	A 44-element mesh of Schneidersâ€™ pyramid: Bounding the difficulty of hex-meshing problems. CAD Computer Aided Design, 2019, 116, 102735.	2.7	4
8	Curvilinear Mesh Adaptation. Lecture Notes in Computational Science and Engineering, 2019, , 57-69.	0.3	2
9	Representing Three-Dimensional Cross Fields Using Fourth Order Tensors. Lecture Notes in Computational Science and Engineering, 2019, , 89-108.	0.3	11
10	Finding hexahedrizations for small quadrangulations of the sphere. ACM Transactions on Graphics, 2019, 38, 1-13.	7.2	7
11	A fully consistent and conservative vertically adaptive coordinate system for SLIMÂ3D v0.4 with an application to the thermocline oscillations of Lake Tanganyika. Geoscientific Model Development, 2018, 11, 1161-1179.	3.6	15
12	Identifying combinations of tetrahedra into hexahedra: A vertex based strategy. CAD Computer Aided Design, 2018, 105, 1-10.	2.7	8
13	Fast and robust mesh generation on the sphereâ€”Application to coastal domains. CAD Computer Aided Design, 2018, 103, 14-23.	2.7	7
14	There are 174 subdivisions of the hexahedron into tetrahedra. ACM Transactions on Graphics, 2018, 37, 1-9.	7.2	5
15	Submesoscale tidal eddies in the wake of coral islands and reefs: satellite data and numerical modelling. Ocean Dynamics, 2017, 67, 897-913.	2.2	25
16	A two-level multithreaded Delaunay kernel. CAD Computer Aided Design, 2017, 85, 2-9.	2.7	12
17	Identifying combinations of tetrahedra into hexahedra: a vertex based strategy. Procedia Engineering, 2017, 203, 2-13.	1.2	8
18	Computing cross fields A PDE approach based on the Ginzburg-Landau theory. Procedia Engineering, 2017, 203, 219-231.	1.2	14

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19	Robust and efficient validation of the linear hexahedral element. Procedia Engineering, 2017, 203, 271-283.	1.2	15
20	Fast and Robust Mesh Generation on the Sphere â€“ Application to Coastal Domains. Procedia Engineering, 2016, 163, 20-32.	1.2	6
21	GPU-accelerated discontinuous Galerkin methods on hybrid meshes. Journal of Computational Physics, 2016, 318, 142-168.	3.8	56
22	GPU accelerated spectral finite elements on all-hex meshes. Journal of Computational Physics, 2016, 324, 246-257.	3.8	24
23	Finite element modeling of periodic polycrystalline aggregates with intergranular cracks. International Journal of Solids and Structures, 2016, 90, 60-68.	2.7	16
24	Optimizing the geometrical accuracy of curvilinear meshes. Journal of Computational Physics, 2016, 310, 361-380.	3.8	25
25	23rd International Meshing Roundtableâ€"Mesh modeling for simulations and visualization. CAD Computer Aided Design, 2016, 72, 1-2.	2.7	0
26	A Two-Level Multithreaded Delaunay Kernel. Procedia Engineering, 2015, 124, 6-17.	1.2	9
27	Optimal parametrizations for surface remeshing. Engineering With Computers, 2014, 30, 383-402.	6.1	19
28	Geometrical validity of high-order triangular finite elements. Engineering With Computers, 2014, 30, 375-382.	6.1	15
29	Lloydâ€™s energy minimization in the L p norm for quadrilateral surface mesh generation. Engineering With Computers, 2014, 30, 97-110.	6.1	9
30	Discontinuous Galerkin finite element discretization of a strongly anisotropic diffusion operator. International Journal for Numerical Methods in Fluids, 2014, 75, 365-384.	1.6	3
31	An efficient parallel implementation of explicit multirate Rungeâ€“Kutta schemes for discontinuous Galerkin computations. Journal of Computational Physics, 2014, 256, 135-160.	3.8	31
32	Anisotropic adaptive nearly body-fitted meshes for CFD. Engineering With Computers, 2014, 30, 517-533.	6.1	3
33	A frontal approach to hex-dominant mesh generation. Advanced Modeling and Simulation in Engineering Sciences, 2014, 1, 8.	1.7	36
34	Anisotropic mesh adaptation with optimal convergence for finite elements using embedded geometries. Computer Methods in Applied Mechanics and Engineering, 2014, 268, 65-81.	6.6	22
35	Optimizing the Geometrical Accuracy of 2D Curvilinear Meshes. Procedia Engineering, 2014, 82, 228-239.	1.2	13
36	Hex-dominant Meshing Approach based on Frame Field Smoothness. Procedia Engineering, 2014, 82, 175-186.	1.2	5

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37	Multirate time stepping for accelerating explicit discontinuous Galerkin computations with application to geophysical flows. International Journal for Numerical Methods in Fluids, 2013, 71, 41-64.	1.6	33
38	A 3D strongly coupled implicit discontinuous Galerkin level set-based method for modeling two-phase flows. Computers and Fluids, 2013, 87, 144-155.	2.5	19
39	Numerical simulation of CAD thin structures using the eXtended Finite Element Method and Level Sets. Finite Elements in Analysis and Design, 2013, 77, 40-58.	3.2	9
40	Robust untangling of curvilinear meshes. Journal of Computational Physics, 2013, 254, 8-26.	3.8	125
41	Robust Untangling of Curvilinear Meshes. , 2013, , 71-83.		15
42	Geometrical validity of curvilinear finite elements. Journal of Computational Physics, 2013, 233, 359-372.	3.8	78
43	A frontal Delaunay quad mesh generator using the L^{â€‰âˆžâ€‰}norm. International Journal for Numerical Methods in Engineering, 2013, 94, 494-512.	2.8	41
44	Quality open source mesh generation for cardiovascular flow simulations. Modeling, Simulation and Applications, 2012, , 395-414.	1.3	9
45	CAD and mesh repair with Radial Basis Functions. Journal of Computational Physics, 2012, 231, 2376-2387.	3.8	27
46	Discontinuous Galerkin Method for Computing Induced Fields in Superconducting Materials. IEEE Transactions on Magnetics, 2012, 48, 591-594.	2.1	13
47	Blossomâ€Quad: A nonâ€uniform quadrilateral mesh generator using a minimumâ€cost perfectâ€matching algorithm. International Journal for Numerical Methods in Engineering, 2012, 89, 1102-1119.	2.8	103
48	Highâ€quality surface remeshing using harmonic mapsâ€”Part II: Surfaces with high genus and of large aspect ratio. International Journal for Numerical Methods in Engineering, 2011, 86, 1303-1321.	2.8	24
49	A mesh adaptation procedure for periodic domains. International Journal for Numerical Methods in Engineering, 2011, 86, 1396-1412.	2.8	8
50	Geometrical Validity of Curvilinear Finite Elements. , 2011, , 255-271.		13
51	Quality Surface Meshing Using Discrete Parametrizations. , 2011, , 21-39.		1
52	Mesh and CAD Repair Based on Parametrizations with Radial Basis Functions. , 2011, , 419-436.		0
53	L p Lloydâ€™s Energy Minimization for Quadrilateral Surface Mesh Generation. , 2011, , 473-487.		1
54	Practical evaluation of five partly discontinuous finite element pairs for the nonâ€conservative shallow water equations. International Journal for Numerical Methods in Fluids, 2010, 63, 701-724.	1.6	21

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55	A discontinuous finite element baroclinic marine model on unstructured prismatic meshes. Ocean Dynamics, 2010, 60, 1395-1414.	2.2	19
56	A discontinuous finite element baroclinic marine model on unstructured prismatic meshes. Ocean Dynamics, 2010, 60, 1371-1393.	2.2	30
57	A mesh adaptation framework for dealing with large deforming meshes. International Journal for Numerical Methods in Engineering, 2010, 82, 843-867.	2.8	53
58	Highâ€quality surface remeshing using harmonic maps. International Journal for Numerical Methods in Engineering, 2010, 83, 403-425.	2.8	57
59	Quality meshing based on STL triangulations for biomedical simulations. International Journal for Numerical Methods in Biomedical Engineering, 2010, 26, 876-889.	2.1	16
60	Boundary discretization for highâ€order discontinuous Galerkin computations of tidal flows around shallow water islands. International Journal for Numerical Methods in Fluids, 2009, 59, 535-557.	1.6	23
61	Gmsh: A 3â€D finite element mesh generator with builtâ€in preâ€and postâ€processing facilities. International Journal for Numerical Methods in Engineering, 2009, 79, 1309-1331.	2.8	4,970
62	High-order discontinuous Galerkin schemes on general 2D manifolds applied to the shallow water equations. Journal of Computational Physics, 2009, 228, 6514-6535.	3.8	41
63	Application of the substructured finite element/extended finite element method (S-FE/XFE) to the analysis of cracks in aircraft thin walled structures. Engineering Fracture Mechanics, 2009, 76, 44-58.	4.3	27
64	Influence of grain shape on the planar anisotropy of rolled steel sheets â€“ evaluation of three models. Computational Materials Science, 2009, 45, 739-743.	3.0	81
65	Modal analysis on unstructured meshes of the dispersion properties of the pair. Ocean Modelling, 2009, 28, 2-11.	2.4	8
66	Simulation-based femoro-popliteal bypass surgery. IFMBE Proceedings, 2009, , 2568-2570.	0.3	0
67	Dispersion Analysis of Discontinuous Galerkin Schemes Applied to PoincarÃ©, Kelvin and Rossby Waves. Journal of Scientific Computing, 2008, 34, 26-47.	2.3	15
68	Multiscale mesh generation on the sphere. Ocean Dynamics, 2008, 58, 461-473.	2.2	55
69	Transient adaptivity applied to two-phase incompressible flows. Journal of Computational Physics, 2008, 227, 1923-1942.	3.8	29
70	Spatial and spectral superconvergence of discontinuous Galerkin method for hyperbolic problems. Journal of Computational and Applied Mathematics, 2008, 215, 484-494.	2.0	11
71	Substructuring FEâ€“XFE approaches applied to three-dimensional crack propagation. Journal of Computational and Applied Mathematics, 2008, 215, 626-638.	2.0	51
72	A multi-scale model of the hydrodynamics of the whole Great Barrier Reef. Estuarine, Coastal and Shelf Science, 2008, 79, 143-151.	2.1	102

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73	Transient Mesh Adaptivity with Large Rigid-Body Displacements. , 2008, , 213-230.		7
74	Crystal-Plasticity-Based FE Modelling Of A Dual-Phase Microstructure In Which Grains Have Non-Uniform Shape And Size. AIP Conference Proceedings, 2007, , .	0.4	1
75	Capturing the bottom boundary layer in finite element ocean models. Ocean Modelling, 2007, 17, 153-162.	2.4	14
76	Influence of the turbulence closure scheme on the finite-element simulation of the upwelling in the wake of a shallow-water island. Continental Shelf Research, 2007, 27, 2329-2345.	1.8	12
77	A substructured FE/XFE method for stress intensity factors computation in an industrial structure. European Journal of Computational Mechanics, 2007, 16, 199-212.	0.6	4
78	Efficient visualization of high-order finite elements. International Journal for Numerical Methods in Engineering, 2007, 69, 750-771.	2.8	43
79	A substructured FE-shell/XFE-3D method for crack analysis in thin-walled structures. International Journal for Numerical Methods in Engineering, 2007, 72, 757-779.	2.8	60
80	Electrical detection of DNA hybridization: Three extraction techniques based on interdigitated Al/Al2O3 capacitors. Biosensors and Bioelectronics, 2007, 22, 2199-2207.	10.1	66
81	Optimal numerical parameterization of discontinuous Galerkin method applied to wave propagation problems. Journal of Computational Physics, 2007, 223, 188-207.	3.8	23
82	A stabilized finite element method using a discontinuous level set approach for the computation of bubble dynamics. Journal of Computational Physics, 2007, 225, 949-974.	3.8	75
83	High-order h-adaptive discontinuous Galerkin methods for ocean modelling. Ocean Dynamics, 2007, 57, 109-121.	2.2	42
84	Discontinuous Galerkin Implementation of the Extended Helmholtz Resonator Model in Time Domain. , 2006, , .		16
85	A quadrature-free discontinuous Galerkin method for the level set equation. Journal of Computational Physics, 2006, 212, 338-357.	3.8	80
86	A stabilized finite element method using a discontinuous level set approach for solving two phase incompressible flows. Journal of Computational Physics, 2006, 219, 780-800.	3.8	97
87	Hierarchic multigrid iteration strategy for the discontinuous Galerkin solution of the steady Euler equations. International Journal for Numerical Methods in Fluids, 2006, 51, 1157-1176.	1.6	21
88	An adaptive discretization of shallow-water equations based on discontinuous Galerkin methods. International Journal for Numerical Methods in Fluids, 2006, 52, 903-923.	1.6	41
89	Anisotropic adaptive simulation of transient flows using discontinuous Galerkin methods. International Journal for Numerical Methods in Engineering, 2005, 62, 899-923.	2.8	78
90	Adaptive mesh generation for curved domains. Applied Numerical Mathematics, 2005, 52, 251-271.	2.1	65

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91	Efficient Discontinuous Galerkin Methods for solving acoustic problems. , 2005, , .		26
92	Shock detection and limiting with discontinuous Galerkin methods for hyperbolic conservation laws. Applied Numerical Mathematics, 2004, 48, 323-338.	2.1	330
93	An algorithm oriented mesh database. International Journal for Numerical Methods in Engineering, 2003, 58, 349-374.	2.8	73
94	A computational approach to handle complex microstructure geometries. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 3163-3177.	6.6	546
95	An Adaptive Discontinuous Galerkin Technique with an Orthogonal Basis Applied to Compressible Flow Problems. SIAM Review, 2003, 45, 53-72.	9.5	154
96	Transient adaptive discontinuous Galerkin method with anisotropic meshes. , 2003, , 1100-1101.		1
97	Parallel Algorithm Oriented Mesh Database. Engineering With Computers, 2002, 18, 274-284.	6.1	25
98	Aspects of discontinuous Galerkin methods for hyperbolic conservation laws. Finite Elements in Analysis and Design, 2002, 38, 889-908.	3.2	43
99	Parallel Numerical Solution of the Boltzmann Equation for Atomic Layer Deposition. Lecture Notes in Computer Science, 2002, , 452-456.	1.3	5
100	Simplified methods and a posteriori error estimation for the homogenization of representative volume elements (RVE). Computer Methods in Applied Mechanics and Engineering, 1999, 176, 265-278.	6.6	17
101	Optimization of the width of a thin plate in a transverse flux induction furnace. IEEE Transactions on Magnetics, 1998, 34, 3118-3121.	2.1	4
102	Error estimation based on a new principle of projection and reconstruction. IEEE Transactions on Magnetics, 1998, 34, 3264-3267.	2.1	15
103	On the resolution of magnetostatic and magnetodynamic mixed formulations. IEEE Transactions on Magnetics, 1997, 33, 1768-1771.	2.1	0
104	Magnetostatic and magnetodynamic mixed formulations compared with conventional formulations. IEEE Transactions on Magnetics, 1997, 33, 1302-1305.	2.1	21
105	A posteriori error estimation and adaptive meshing using error in constitutive relation. IEEE Transactions on Magnetics, 1996, 32, 1369-1372.	2.1	23
106	Error estimation and mesh optimisation using error in constitutive relation for electromagnetic field computation. IEEE Transactions on Magnetics, 1995, 31, 3587-3589.	2.1	13
107	A sinusoidal magnetic field computation in nonlinear materials. IEEE Transactions on Magnetics, 1995, 31, 3527-3529.	2.1	8
108	Transformation methods in computational electromagnetism. Journal of Applied Physics, 1994, 75, 6036-6038.	2.5	58

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109	Strychnine-induced passive avoidance facilitation after electroconvulsive shock or undertraining: A retrieval effect. Behavioral Biology, 1977, 19, 465-475.	2.2	16
110	User-friendly, economical, 3D charged particle code with adaptive meshing. , 0, , .		1
111	Demonstration of beam optics analysis, a 3D finite element charged particle code with adaptive meshing. , 0, , .		0
112	Beam optics analysis - a 3D finite element charged particle code with adaptive meshing. , 0, , .		2
113	A Complete Open-Source Solution for Electromagnetic Field Computation. , 0, , .		0