

# Jean-françois Remacle

## List of Publications by Year in descending order

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113  
papers

8,726  
citations

147566

31  
h-index

43802

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.	1.9	5
2	Curvilinear Mesh Adaptation. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2021, , 245-257.	0.2	0
3	Automatic feature-preserving size field for three-dimensional mesh generation. International Journal for Numerical Methods in Engineering, 2021, 122, 4825-4847.	1.5	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 – A complete and automatic pipeline based on reparametrization. Journal of Computational Physics, 2020, 417, 109575.	1.9	5
6	One machine, one minute, three billion tetrahedra. International Journal for Numerical Methods in Engineering, 2019, 117, 967-990.	1.5	28
7	A 44-element mesh of Schneiders’s pyramid: Bounding the difficulty of hex-meshing problems. CAD Computer Aided Design, 2019, 116, 102735.	1.4	4
8	Curvilinear Mesh Adaptation. Lecture Notes in Computational Science and Engineering, 2019, , 57-69.	0.1	2
9	Representing Three-Dimensional Cross Fields Using Fourth Order Tensors. Lecture Notes in Computational Science and Engineering, 2019, , 89-108.	0.1	11
10	Finding hexahedrizations for small quadrangulations of the sphere. ACM Transactions on Graphics, 2019, 38, 1-13.	4.9	7
11	A fully consistent and conservative vertically adaptive coordinate system for SLIM3D v0.4 with an application to the thermocline oscillations of Lake Tanganyika. Geoscientific Model Development, 2018, 11, 1161-1179.	1.3	15
12	Identifying combinations of tetrahedra into hexahedra: A vertex based strategy. CAD Computer Aided Design, 2018, 105, 1-10.	1.4	8
13	Fast and robust mesh generation on the sphere – Application to coastal domains. CAD Computer Aided Design, 2018, 103, 14-23.	1.4	7
14	There are 174 subdivisions of the hexahedron into tetrahedra. ACM Transactions on Graphics, 2018, 37, 1-9.	4.9	5
15	Submesoscale tidal eddies in the wake of coral islands and reefs: satellite data and numerical modelling. Ocean Dynamics, 2017, 67, 897-913.	0.9	25
16	A two-level multithreaded Delaunay kernel. CAD Computer Aided Design, 2017, 85, 2-9.	1.4	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. <i>Procedia Engineering</i> , 2017, 203, 271-283.	1.2	15
20	Fast and Robust Mesh Generation on the Sphere – Application to Coastal Domains. <i>Procedia Engineering</i> , 2016, 163, 20-32.	1.2	6
21	GPU-accelerated discontinuous Galerkin methods on hybrid meshes. <i>Journal of Computational Physics</i> , 2016, 318, 142-168.	1.9	56
22	GPU accelerated spectral finite elements on all-hex meshes. <i>Journal of Computational Physics</i> , 2016, 324, 246-257.	1.9	24
23	Finite element modeling of periodic polycrystalline aggregates with intergranular cracks. <i>International Journal of Solids and Structures</i> , 2016, 90, 60-68.	1.3	16
24	Optimizing the geometrical accuracy of curvilinear meshes. <i>Journal of Computational Physics</i> , 2016, 310, 361-380.	1.9	25
25	23rd International Meshing Roundtable – Mesh modeling for simulations and visualization. <i>CAD Computer Aided Design</i> , 2016, 72, 1-2.	1.4	0
26	A Two-Level Multithreaded Delaunay Kernel. <i>Procedia Engineering</i> , 2015, 124, 6-17.	1.2	9
27	Optimal parametrizations for surface remeshing. <i>Engineering With Computers</i> , 2014, 30, 383-402.	3.5	19
28	Geometrical validity of high-order triangular finite elements. <i>Engineering With Computers</i> , 2014, 30, 375-382.	3.5	15
29	Lloyd’s energy minimization in the $L_p$ norm for quadrilateral surface mesh generation. <i>Engineering With Computers</i> , 2014, 30, 97-110.	3.5	9
30	Discontinuous Galerkin finite element discretization of a strongly anisotropic diffusion operator. <i>International Journal for Numerical Methods in Fluids</i> , 2014, 75, 365-384.	0.9	3
31	An efficient parallel implementation of explicit multirate Runge-Kutta schemes for discontinuous Galerkin computations. <i>Journal of Computational Physics</i> , 2014, 256, 135-160.	1.9	31
32	Anisotropic adaptive nearly body-fitted meshes for CFD. <i>Engineering With Computers</i> , 2014, 30, 517-533.	3.5	3
33	A frontal approach to hex-dominant mesh generation. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2014, 1, 8.	0.7	36
34	Anisotropic mesh adaptation with optimal convergence for finite elements using embedded geometries. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 268, 65-81.	3.4	22
35	Optimizing the Geometrical Accuracy of 2D Curvilinear Meshes. <i>Procedia Engineering</i> , 2014, 82, 228-239.	1.2	13
36	Hex-dominant Meshing Approach based on Frame Field Smoothness. <i>Procedia Engineering</i> , 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. <i>International Journal for Numerical Methods in Fluids</i> , 2013, 71, 41-64.	0.9	33
38	A 3D strongly coupled implicit discontinuous Galerkin level set-based method for modeling two-phase flows. <i>Computers and Fluids</i> , 2013, 87, 144-155.	1.3	19
39	Numerical simulation of CAD thin structures using the eXtended Finite Element Method and Level Sets. <i>Finite Elements in Analysis and Design</i> , 2013, 77, 40-58.	1.7	9
40	Robust untangling of curvilinear meshes. <i>Journal of Computational Physics</i> , 2013, 254, 8-26.	1.9	125
41	Robust Untangling of Curvilinear Meshes. , 2013, , 71-83.		15
42	Geometrical validity of curvilinear finite elements. <i>Journal of Computational Physics</i> , 2013, 233, 359-372.	1.9	78
43	A frontal Delaunay quad mesh generator using the $L^1$ norm. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 94, 494-512.	1.5	41
44	Quality open source mesh generation for cardiovascular flow simulations. <i>Modeling, Simulation and Applications</i> , 2012, , 395-414.	1.3	9
45	CAD and mesh repair with Radial Basis Functions. <i>Journal of Computational Physics</i> , 2012, 231, 2376-2387.	1.9	27
46	Discontinuous Galerkin Method for Computing Induced Fields in Superconducting Materials. <i>IEEE Transactions on Magnetics</i> , 2012, 48, 591-594.	1.2	13
47	BlossomQuad: A nonuniform quadrilateral mesh generator using a minimum cost perfect matching algorithm. <i>International Journal for Numerical Methods in Engineering</i> , 2012, 89, 1102-1119.	1.5	103
48	High quality surface remeshing using harmonic maps Part II: Surfaces with high genus and of large aspect ratio. <i>International Journal for Numerical Methods in Engineering</i> , 2011, 86, 1303-1321.	1.5	24
49	A mesh adaptation procedure for periodic domains. <i>International Journal for Numerical Methods in Engineering</i> , 2011, 86, 1396-1412.	1.5	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	$L_p$ Lloyd's Energy Minimization for Quadrilateral Surface Mesh Generation. , 2011, , 473-487.		1
54	Practical evaluation of five partly discontinuous finite element pairs for the nonconservative shallow water equations. <i>International Journal for Numerical Methods in Fluids</i> , 2010, 63, 701-724.	0.9	21

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55	A discontinuous finite element baroclinic marine model on unstructured prismatic meshes. Ocean Dynamics, 2010, 60, 1395-1414.	0.9	19
56	A discontinuous finite element baroclinic marine model on unstructured prismatic meshes. Ocean Dynamics, 2010, 60, 1371-1393.	0.9	30
57	A mesh adaptation framework for dealing with large deforming meshes. International Journal for Numerical Methods in Engineering, 2010, 82, 843-867.	1.5	53
58	High-quality surface remeshing using harmonic maps. International Journal for Numerical Methods in Engineering, 2010, 83, 403-425.	1.5	57
59	Quality meshing based on STL triangulations for biomedical simulations. International Journal for Numerical Methods in Biomedical Engineering, 2010, 26, 876-889.	1.0	16
60	Boundary discretization for high-order discontinuous Galerkin computations of tidal flows around shallow water islands. International Journal for Numerical Methods in Fluids, 2009, 59, 535-557.	0.9	23
61	Gmsh: A 3D finite element mesh generator with built-in pre- and post-processing facilities. International Journal for Numerical Methods in Engineering, 2009, 79, 1309-1331.	1.5	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.	1.9	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.	2.0	27
64	Influence of grain shape on the planar anisotropy of rolled steel sheets – evaluation of three models. Computational Materials Science, 2009, 45, 739-743.	1.4	81
65	Modal analysis on unstructured meshes of the dispersion properties of the pair. Ocean Modelling, 2009, 28, 2-11.	1.0	8
66	Simulation-based femoro-popliteal bypass surgery. IFMBE Proceedings, 2009, , 2568-2570.	0.2	0
67	Dispersion Analysis of Discontinuous Galerkin Schemes Applied to Poincaré, Kelvin and Rossby Waves. Journal of Scientific Computing, 2008, 34, 26-47.	1.1	15
68	Multiscale mesh generation on the sphere. Ocean Dynamics, 2008, 58, 461-473.	0.9	55
69	Transient adaptivity applied to two-phase incompressible flows. Journal of Computational Physics, 2008, 227, 1923-1942.	1.9	29
70	Spatial and spectral superconvergence of discontinuous Galerkin method for hyperbolic problems. Journal of Computational and Applied Mathematics, 2008, 215, 484-494.	1.1	11
71	Substructuring FE-XFE approaches applied to three-dimensional crack propagation. Journal of Computational and Applied Mathematics, 2008, 215, 626-638.	1.1	51
72	A multi-scale model of the hydrodynamics of the whole Great Barrier Reef. Estuarine, Coastal and Shelf Science, 2008, 79, 143-151.	0.9	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, , .	0.3	1
75	Capturing the bottom boundary layer in finite element ocean models. Ocean Modelling, 2007, 17, 153-162.	1.0	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.	0.9	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.	1.5	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.	1.5	60
80	Electrical detection of DNA hybridization: Three extraction techniques based on interdigitated Al/Al <sub>2</sub> O <sub>3</sub> capacitors. Biosensors and Bioelectronics, 2007, 22, 2199-2207.	5.3	66
81	Optimal numerical parameterization of discontinuous Galerkin method applied to wave propagation problems. Journal of Computational Physics, 2007, 223, 188-207.	1.9	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.	1.9	75
83	High-order h-adaptive discontinuous Galerkin methods for ocean modelling. Ocean Dynamics, 2007, 57, 109-121.	0.9	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.	1.9	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.	1.9	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.	0.9	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.	0.9	41
89	Anisotropic adaptive simulation of transient flows using discontinuous Galerkin methods. International Journal for Numerical Methods in Engineering, 2005, 62, 899-923.	1.5	78
90	Adaptive mesh generation for curved domains. Applied Numerical Mathematics, 2005, 52, 251-271.	1.2	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.	1.2	330
93	An algorithm oriented mesh database. International Journal for Numerical Methods in Engineering, 2003, 58, 349-374.	1.5	73
94	A computational approach to handle complex microstructure geometries. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 3163-3177.	3.4	546
95	An Adaptive Discontinuous Galerkin Technique with an Orthogonal Basis Applied to Compressible Flow Problems. SIAM Review, 2003, 45, 53-72.	4.2	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.	3.5	25
98	Aspects of discontinuous Galerkin methods for hyperbolic conservation laws. Finite Elements in Analysis and Design, 2002, 38, 889-908.	1.7	43
99	Parallel Numerical Solution of the Boltzmann Equation for Atomic Layer Deposition. Lecture Notes in Computer Science, 2002, , 452-456.	1.0	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.	3.4	17
101	Optimization of the width of a thin plate in a transverse flux induction furnace. IEEE Transactions on Magnetics, 1998, 34, 3118-3121.	1.2	4
102	Error estimation based on a new principle of projection and reconstruction. IEEE Transactions on Magnetics, 1998, 34, 3264-3267.	1.2	15
103	On the resolution of magnetostatic and magnetodynamic mixed formulations. IEEE Transactions on Magnetics, 1997, 33, 1768-1771.	1.2	0
104	Magnetostatic and magnetodynamic mixed formulations compared with conventional formulations. IEEE Transactions on Magnetics, 1997, 33, 1302-1305.	1.2	21
105	A posteriori error estimation and adaptive meshing using error in constitutive relation. IEEE Transactions on Magnetics, 1996, 32, 1369-1372.	1.2	23
106	Error estimation and mesh optimisation using error in constitutive relation for electromagnetic field computation. IEEE Transactions on Magnetics, 1995, 31, 3587-3589.	1.2	13
107	A sinusoidal magnetic field computation in nonlinear materials. IEEE Transactions on Magnetics, 1995, 31, 3527-3529.	1.2	8
108	Transformation methods in computational electromagnetism. Journal of Applied Physics, 1994, 75, 6036-6038.	1.1	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.	2.3	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