

Stefan Kollmannsberger

List of Publications by Citations

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73
papers

1,397
citations

22
h-index

35
g-index

83
ext. papers

1,776
ext. citations

3.3
avg, IF

4.98
L-index

#	Paper	IF	Citations
73	Additive manufacturing in construction: A review on processes, applications, and digital planning methods. <i>Additive Manufacturing</i> , 2019 , 30, 100894	6.1	114
72	Geometric modeling, isogeometric analysis and the finite cell method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2012 , 249-252, 104-115	5.7	109
71	Biofabricated soft network composites for cartilage tissue engineering. <i>Biofabrication</i> , 2017 , 9, 025014	10.5	100
70	Smart octrees: Accurately integrating discontinuous functions in 3D. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016 , 306, 406-426	5.7	72
69	An Integrated Design, Material, and Fabrication Platform for Engineering Biomechanically and Biologically Functional Soft Tissues. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 29430-29437	9.5	66
68	An efficient integration technique for the voxel-based finite cell method. <i>International Journal for Numerical Methods in Engineering</i> , 2012 , 91, 457-471	2.4	60
67	Fixed-grid fluid-structure interaction in two dimensions based on a partitioned Lattice Boltzmann and p-FEM approach. <i>International Journal for Numerical Methods in Engineering</i> , 2009 , 79, 817-845	2.4	58
66	Multi-level hp-adaptivity: high-order mesh adaptivity without the difficulties of constraining hanging nodes. <i>Computational Mechanics</i> , 2015 , 55, 499-517	4	51
65	Efficient and accurate numerical quadrature for immersed boundary methods. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2015 , 2,	2.7	49
64	Shell Finite Cell Method: A high order fictitious domain approach for thin-walled structures. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011 , 200, 3200-3209	5.7	48
63	The Finite Cell Method for linear thermoelasticity. <i>Computers and Mathematics With Applications</i> , 2012 , 64, 3527-3541	2.7	46
62	The multi-level hp-method for three-dimensional problems: Dynamically changing high-order mesh refinement with arbitrary hanging nodes. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016 , 310, 252-277	5.7	40
61	Non-standard bone simulation: interactive numerical analysis by computational steering. <i>Computing and Visualization in Science</i> , 2011 , 14, 207-216	1	36
60	Parameter-free, weak imposition of Dirichlet boundary conditions and coupling of trimmed and non-conforming patches. <i>International Journal for Numerical Methods in Engineering</i> , 2015 , 101, 670-699	2.4	31
59	A hierarchical computational model for moving thermal loads and phase changes with applications to selective laser melting. <i>Computers and Mathematics With Applications</i> , 2018 , 75, 1483-1497	2.7	30
58	Phase-field modeling of brittle fracture with multi-level hp-FEM and the finite cell method. <i>Computational Mechanics</i> , 2019 , 63, 1283-1300	4	28
57	Multi-level B-spline extraction for hierarchical local refinement of Isogeometric Analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018 , 328, 147-174	5.7	27

56	Numerical integration of discontinuous functions: moment fitting and smart octree. <i>Computational Mechanics</i> , 2017 , 60, 863-881	4	26
55	Robust and parallel scalable iterative solutions for large-scale finite cell analyses. <i>Finite Elements in Analysis and Design</i> , 2019 , 163, 14-30	2.2	25
54	FCMLab: A finite cell research toolbox for MATLAB. <i>Advances in Engineering Software</i> , 2014 , 74, 49-63	3.6	25
53	From geometric design to numerical analysis: A direct approach using the Finite Cell Method on Constructive Solid Geometry. <i>Computers and Mathematics With Applications</i> , 2017 , 74, 1703-1726	2.7	24
52	Multi-level hp-finite cell method for embedded interface problems with application in biomechanics. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2018 , 34, e2951	2.6	22
51	The finite cell method for geometrically nonlinear problems of solid mechanics. <i>IOP Conference Series: Materials Science and Engineering</i> , 2010 , 10, 012170	0.4	21
50	Accurate Prediction of Melt Pool Shapes in Laser Powder Bed Fusion by the Non-Linear Temperature Equation Including Phase Changes. <i>Integrating Materials and Manufacturing Innovation</i> , 2019 , 8, 167-177	2.9	20
49	An easy treatment of hanging nodes in . <i>Finite Elements in Analysis and Design</i> , 2016 , 121, 101-117	2.2	19
48	Multi-level hp-adaptivity for cohesive fracture modeling. <i>International Journal for Numerical Methods in Engineering</i> , 2017 , 109, 1723-1755	2.4	17
47	Finite Cell Method: High-Order Structural Dynamics for Complex Geometries. <i>International Journal of Structural Stability and Dynamics</i> , 2015 , 15, 1540018	1.9	17
46	Integrating CAD and numerical analysis: Dirty geometry handling using the Finite Cell Method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019 , 351, 808-835	5.7	13
45	Image-based material characterization of complex microarchitected additively manufactured structures. <i>Computers and Mathematics With Applications</i> , 2020 , 80, 2462-2480	2.7	13
44	Image-based numerical characterization and experimental validation of tensile behavior of octet-truss lattice structures. <i>Additive Manufacturing</i> , 2021 , 41, 101949	6.1	13
43	Normal contact with high order finite elements and a fictitious contact material. <i>Computers and Mathematics With Applications</i> , 2015 , 70, 1370-1390	2.7	12
42	A Selection of Benchmark Problems in Solid Mechanics and Applied Mathematics. <i>Archives of Computational Methods in Engineering</i> , 2021 , 28, 713-751	7.8	12
41	Parallelization of the multi-level hp-adaptive finite cell method. <i>Computers and Mathematics With Applications</i> , 2017 , 74, 126-142	2.7	11
40	Bending behavior of octet-truss lattice structures: Modelling options, numerical characterization and experimental validation. <i>Materials and Design</i> , 2021 , 205, 109693	8.1	11
39	Weak imposition of frictionless contact constraints on automatically recovered high-order, embedded interfaces using the finite cell method. <i>Computational Mechanics</i> , 2018 , 61, 385-407	4	11

38	A high-order finite element model for vibration analysis of cross-laminated timber assemblies. <i>Building Acoustics</i> , 2017 , 24, 135-158	1	10
37	Hierarchically refined isogeometric analysis of trimmed shells. <i>Computational Mechanics</i> , 2020 , 66, 431-447	4	9
36	TUM.GeoFrame: automated high-order hexahedral mesh generation for shell-like structures. <i>Engineering With Computers</i> , 2014 , 30, 41-56	4.5	9
35	A 3D benchmark problem for crack propagation in brittle fracture. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020 , 364, 112905	5.7	8
34	On the natural stabilization of convection dominated problems using high order Bubnov-Galerkin finite elements. <i>Computers and Mathematics With Applications</i> , 2014 , 66, 2545-2558	2.7	8
33	Modeling and experimental validation of an immersed thermo-mechanical part-scale analysis for laser powder bed fusion processes. <i>Additive Manufacturing</i> , 2020 , 36, 101498	6.1	8
32	Numerical Evaluation of Advanced Laser Control Strategies Influence on Residual Stresses for Laser Powder Bed Fusion Systems. <i>Integrating Materials and Manufacturing Innovation</i> , 2020 , 9, 435-445	2.9	7
31	Direct structural analysis of domains defined by point clouds. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020 , 358, 112581	5.7	7
30	Thin Solids for Fluid-Structure Interaction 2006 , 294-335		7
29	Spline- and hp-basis functions of higher differentiability in the finite cell method. <i>GAMM Mitteilungen</i> , 2020 , 43, e202000004	1.8	6
28	Multi-level hp-adaptivity and explicit error estimation. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2016 , 3,	2.7	6
27	Image-based mesh generation of tubular geometries under circular motion in refractive environments. <i>Machine Vision and Applications</i> , 2018 , 29, 719-733	2.8	5
26	Residual stresses in metal deposition modeling: Discretizations of higher order. <i>Computers and Mathematics With Applications</i> , 2019 , 78, 2247-2266	2.7	5
25	A posteriori error control for the finite cell method. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2019 , 19, e201900419	0.2	4
24	An immersed boundary approach for residual stress evaluation in selective laser melting processes. <i>Additive Manufacturing</i> , 2021 , 46, 102077	6.1	3
23	A high-order enrichment strategy for the finite cell method. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2015 , 15, 207-208	0.2	2
22	Finite cell method for functionally graded materials based on V-models and homogenized microstructures. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2020 , 7,	2.7	2
21	BIM gestützte strukturdynamische Analyse mit Volumenelementen höherer Ordnung/BIM-based structural dynamic analysis using higher-order volumetric finite elements. <i>Bauingenieur</i> , 2018 , 93, 160-166	1.7	2

20	An Explicit Model for Three-Dimensional Fluid-Structure Interaction using LBM and p-FEM. <i>Lecture Notes in Computational Science and Engineering</i> , 2011 , 285-325	0.3	2
19	A mortar formulation including viscoelastic layers for vibration analysis. <i>Computational Mechanics</i> , 2019 , 63, 23-33	4	1
18	A new mortar formulation for modeling elastomer bedded structures with modal-analysis in 3D. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2014 , 1,	2.7	1
17	FSI Based on Bidirectional Coupling of High Order Solids to a Lattice-Boltzmann Method 2006 , 419		1
16	On accurate time integration for temperature evolutions in additive manufacturing. <i>GAMM Mitteilungen</i> , e202100019	1.8	1
15	Uncertainty quantification of microstructure variability and mechanical behavior of additively manufactured lattice structures. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021 , 385, 114049	5.7	1
14	Hierarchical multigrid approaches for the finite cell method on uniform and multi-level hp-refined grids. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021 , 386, 114075	5.7	1
13	Point cloud-based elastic reverse time migration for ultrasonic imaging of components with vertical surfaces. <i>Mechanical Systems and Signal Processing</i> , 2022 , 163, 108144	7.8	1
12	Multiscale Analysis of High Damping Composites Using the Finite Cell and the Mortar Method. <i>International Journal of Structural Stability and Dynamics</i> , 2150149	1.9	0
11	Physics-Informed Neural Networks. <i>Studies in Computational Intelligence</i> , 2021 , 55-84	0.8	0
10	An accurate strategy for computing reaction forces and fluxes on trimmed locally refined meshes. <i>Journal of Mechanics</i> , 2022 , 38, 60-76	1	0
9	The finite cell method with least squares stabilized Nitsche boundary conditions. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022 , 393, 114792	5.7	0
8	An Immersed Boundary Approach for the Numerical Analysis of Objects Represented by Oriented Point Clouds. <i>Lecture Notes in Computer Science</i> , 2019 , 33-41	0.9	
7	Direct Numerical Analysis of Historical Structures Represented by Point Clouds. <i>Lecture Notes in Computer Science</i> , 2018 , 64-75	0.9	
6	Numerical evaluation of high cycle fatigue life for additively manufactured stainless steel 316L lattice structures: Preliminary considerations. <i>Material Design and Processing Communications</i> , 2021 , 3, e249	0.9	
5	Deep Energy Method. <i>Studies in Computational Intelligence</i> , 2021 , 85-91	0.8	
4	Fundamental Concepts of Machine Learning. <i>Studies in Computational Intelligence</i> , 2021 , 5-18	0.8	
3	Machine Learning in Physics and Engineering. <i>Studies in Computational Intelligence</i> , 2021 , 47-54	0.8	

2	Enforcing essential boundary conditions on domains defined by point clouds. <i>Computers and Mathematics With Applications</i> , 2022 , 113, 13-23	2.7
1	The Finite Cell Method for Simulation of Additive Manufacturing. <i>Lecture Notes in Applied and Computational Mechanics</i> , 2022 , 355-375	0.3