Christian Linder

List of Publications by Year
in descending order

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66 papers	5,043 citations	185998 28 h-index	149479 56 g-index
67 all docs	67 docs citations	67 times ranked	6850 citing authors

#	Article	IF	Citations
1	Understanding thermal and mechanical effects on lithium plating in lithium-ion batteries. Journal of Power Sources, 2022, 541, 231632.	4.0	5
2	A unified finite strain gradient-enhanced micropolar continuum approach for modeling quasi-brittle failure of cohesive-frictional materials. International Journal of Solids and Structures, 2022, 254-255, 111841.	1.3	4
3	Modeling biological materials with peridynamics. , 2021, , 249-273.		1
4	Swelling-Induced Interface Crease Instabilities at Hydrogel Bilayers. Journal of Elasticity, 2021, 145, 31-47.	0.9	7
5	Strain-insensitive intrinsically stretchable transistors and circuits. Nature Electronics, 2021, 4, 143-150.	13.1	170
6	A Modified Electrochemical Model to Account for Mechanical Effects Due to Lithium Intercalation and External Pressure. Journal of the Electrochemical Society, 2021, 168, 020533.	1.3	8
7	Energy based fracture initiation criterion for strain-crystallizing rubber-like materials with pre-existing cracks. Journal of the Mechanics and Physics of Solids, 2021, 157, 104617.	2.3	8
8	Interpreting stochastic agent-based models of cell death. Computer Methods in Applied Mechanics and Engineering, 2020, 360, 112700.	3.4	8
9	An Electro-chemo-thermo-mechanical Coupled Three-dimensional Computational Framework for Lithium-ion Batteries. Journal of the Electrochemical Society, 2020, 167, 160542.	1.3	13
10	A generalized infâ€“sup test for multi-field mixed-variational methods. Computer Methods in Applied Mechanics and Engineering, 2019, 357, 112497.	3.4	8
11	Three-dimensional explicit finite element formulation for shear localization with global tracking of embedded weak discontinuities. Computer Methods in Applied Mechanics and Engineering, 2019, 353, 416-447.	3.4	9
12	Understanding the mechanical link between oriented cell division and cerebellar morphogenesis. Soft Matter, 2019, 15, 2204-2215.	1.2	22
13	Diffusion-driven swelling-induced instabilities of hydrogels. Journal of the Mechanics and Physics of Solids, 2019, 125, 38-52.	2.3	34
14	Evaluation of convective heat transfer coefficient and specific heat capacity of a lithium-ion battery using infrared camera and lumped capacitance method. Journal of Power Sources, 2019, 412, 552-558.	4.0	61
15	Area of lineal-path function for describing the pore microstructures of cement paste and their relations to the mechanical properties simulated from Î¼-CT microstructures. Cement and Concrete Composites, 2018, 89, 1-17.	4.6	51
16	Microstructural origin of resistanceâ€“strain hysteresis in carbon nanotube thin film conductors. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1986-1991.	3.3	107
17	Understanding the relationship between cell death and tissue shrinkage via a stochastic agent-based model. Journal of Biomechanics, 2018, 73, 9-17.	0.9	10
18	A non-affine micro-macro approach to strain-crystallizing rubber-like materials. Journal of the Mechanics and Physics of Solids, 2018, 111, 67-99.	2.3	30

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19	Mixed isogeometric analysis of strongly coupled diffusion in porous materials. International Journal for Numerical Methods in Engineering, 2018, 114, 28-46.	1.5	20
20	Modeling mechanical inhomogeneities in small populations of proliferating monolayers and spheroids. Biomechanics and Modeling in Mechanobiology, 2018, 17, 727-743.	1.4	10
21	Computational aspects of morphological instabilities using isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2017, 316, 261-279.	3.4	30
22	Highly stretchable polymer semiconductor films through the nanoconfinement effect. Science, 2017, 355, 59-64.	6.0	897
23	Quantifying the relationship between cell division angle and morphogenesis through computational modeling. Journal of Theoretical Biology, 2017, 418, 1-7.	0.8	20
24	Modeling tumor growth with peridynamics. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1141-1157.	1.4	23
25	A highly stretchable, transparent, and conductive polymer. Science Advances, 2017, 3, e1602076.	4.7	962
26	Phase field modeling of brittle fracture for enhanced assumed strain shells at large deformations: formulation and finite element implementation. Computational Mechanics, 2017, 59, 981-1001.	2.2	79
27	A variational framework to model diffusion induced large plastic deformation and phase field fracture during initial two-phase lithiation of silicon electrodes. Computer Methods in Applied Mechanics and Engineering, 2016, 312, 51-77.	3.4	75
28	Tri-layer wrinkling as a mechanism for anchoring center initiation in the developing cerebellum. Soft Matter, 2016, 12, 5613-5620.	1.2	48
29	A highly stretchable autonomous self-healing elastomer. Nature Chemistry, 2016, 8, 618-624.	6.6	1,133
30	Special Issue on Phase Field Approaches to Fracture. Computer Methods in Applied Mechanics and Engineering, 2016, 312, 1-2.	3.4	5
31	On the enhancement of low-order mixed finite element methods for the large deformation analysis of diffusion in solids. International Journal for Numerical Methods in Engineering, 2016, 106, 278-297.	1.5	29
32	An algorithmic approach to multi-layer wrinkling. Extreme Mechanics Letters, 2016, 7, 10-17.	2.0	38
33	Understanding geometric instabilities in thin films via a multi-layer model. Soft Matter, 2016, 12, 806-816.	1.2	46
34	Computational homogenization of nanoâ€materials accounting for size effects via surface elasticity. GAMM Mitteilungen, 2015, 38, 285-312.	2.7	27
35	The reduced basis method in all-electron calculations with finite elements. Advances in Computational Mathematics, 2015, 41, 1035-1047.	0.8	8
36	Computational aspects of growth-induced instabilities through eigenvalue analysis. Computational Mechanics, 2015, 56, 405-420.	2.2	47

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37	A reaction-controlled diffusion model for the lithiation of silicon in lithium-ion batteries. Extreme Mechanics Letters, 2015, 4, 61-75.	2.0	22
38	A micromechanical model with strong discontinuities for failure in nonwovens at finite deformations. International Journal of Solids and Structures, 2015, 75-76, 247-259.	1.3	17
39	A Complex Variable Solution Based Analysis of Electric Displacement Saturation for a Cracked Piezoelectric Material. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	1.1	9
40	Failure in anisotropic nonwoven materials at finite deformation. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 377-378.	0.2	0
41	A homogenization approach for nonwoven materials based on fiber undulations and reorientation. Journal of the Mechanics and Physics of Solids, 2014, 65, 12-34.	2.3	57
42	Three-dimensional finite elements with embedded strong discontinuities to model failure in electromechanical coupled materials. Computer Methods in Applied Mechanics and Engineering, 2014, 273, 143-160.	3.4	23
43	A thermodynamically consistent and numerically stable formulation for the description of diffusion in polymeric gels. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 487-488.	0.2	0
44	All-electron Kohnâ€“Sham density functional theory on hierarchic finite element spaces. Journal of Computational Physics, 2013, 250, 644-664.	1.9	26
45	A strong discontinuity approach on multiple levels to model solids at failure. Computer Methods in Applied Mechanics and Engineering, 2013, 253, 558-583.	3.4	57
46	Modeling reorientation phenomena in nonwoven materials with random fiber network microstructure. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 249-250.	0.2	0
47	A marching cubes based failure surface propagation concept for threeâ€dimensional finite elements with nonâ€planar embedded strong discontinuities of higherâ€order kinematics. International Journal for Numerical Methods in Engineering, 2013, 96, 339-372.	1.5	41
48	3D finite elements to model electromechanical coupled solids at failure. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 81-82.	0.2	0
49	New three-dimensional finite elements with embedded strong discontinuities to model solids at failure. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 133-134.	0.2	0
50	Modeling quasi-static crack growth with the embedded finite element method on multiple levels. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 135-136.	0.2	0
51	All-electron calculations with finite elements. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 353-354.	0.2	0
52	Homogenization of random elastic networks with non-affine kinematics. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 417-418.	0.2	0
53	The maximal advance path constraint for the homogenization of materials with random network microstructure. Philosophical Magazine, 2012, 92, 2779-2808.	0.7	55
54	Effect of electric displacement saturation on the hysteretic behavior of ferroelectric ceramics and the initiation and propagation of cracks in piezoelectric ceramics. Journal of the Mechanics and Physics of Solids, 2012, 60, 882-903.	2.3	42

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55	A micromechanically motivated diffusion-based transient network model and its incorporation into finite rubber viscoelasticity. Journal of the Mechanics and Physics of Solids, 2011, 59, 2134-2156.	2.3	104
56	A strong discontinuity based adaptive refinement approach for the modeling of crack branching. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 171-172.	0.2	1
57	Finite element solution of the Kohn-Sham equations. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 491-492.	0.2	1
58	Microstructural driven computational modeling of polymers. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 557-558.	0.2	1
59	New finite elements with embedded strong discontinuities for the modeling of failure in electromechanical coupled solids. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 141-161.	3.4	43
60	Modeling crack micro-branching using finite elements with embedded strong discontinuities. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 681-684.	0.2	4
61	Numerical simulation of dynamic fracture using finite elements with embedded discontinuities. International Journal of Fracture, 2009, 160, 119-141.	1.1	110
62	Finite elements with embedded branching. Finite Elements in Analysis and Design, 2009, 45, 280-293.	1.7	91
63	New finite elements with embedded strong discontinuities in the finite deformation range. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 3138-3170.	3.4	73
64	Recent Developments in the Formulation of Finite Elements with Embedded Strong Discontinuities. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2007, , 105-122.	0.1	0
65	Finite elements with embedded strong discontinuities for the modeling of failure in solids. International Journal for Numerical Methods in Engineering, 2007, 72, 1391-1433.	1.5	202
66	On configurational compatibility and multiscale energy momentum tensors. Journal of the Mechanics and Physics of Solids, 2007, 55, 980-1000.	2.3	11