Kerstin Weinberg

List of Publications by Year
in descending order

118 papers	1,744 citations	257450 24 h-index	315739 38 g-index
120 all docs	120 docs citations	120 times ranked	1402 citing authors

#	Article	IF	Citations
1	Thermodynamically consistent algorithms for a finite‐deformation phase‐field approach to fracture. International Journal for Numerical Methods in Engineering, 2014, 99, 906-924.	2.8	133
2	Fracture mechanics and mechanical fault detection by artificial intelligence methods: A review. Engineering Failure Analysis, 2017, 81, 270-293.	4.0	119
3	A review on split Hopkinson bar experiments on the dynamic characterisation of concrete. Construction and Building Materials, 2018, 190, 1264-1283.	7.2	111
4	Fracture studies of Ultra-High Performance Concrete using dynamic Brazilian tests. Theoretical and Applied Fracture Mechanics, 2018, 93, 302-310.	4.7	83
5	A variational constitutive model for porous metal plasticity. Computational Mechanics, 2006, 37, 142-152.	4.0	70
6	A framework for polyconvex large strain phase-field methods to fracture. Computer Methods in Applied Mechanics and Engineering, 2017, 317, 649-683.	6.6	53
7	Dynamic fracture investigations of ultra-high performance concrete by spalling tests. Engineering Structures, 2019, 201, 109844.	5.3	47
8	Effect of prestress on the stability of electrode–electrolyte interfaces during charging in lithium batteries. Journal of the Mechanics and Physics of Solids, 2016, 95, 92-111.	4.8	45
9	Characterization of sandwich composite T-joints under different ageing conditions. Composite Structures, 2018, 197, 80-88.	5.8	44
10	Application of case-based reasoning in a fault detection system on production of drippers. Applied Soft Computing Journal, 2019, 75, 227-232.	7.2	44
11	Isogeometric analysis and hierarchical refinement for higher-order phase-field models. Computer Methods in Applied Mechanics and Engineering, 2016, 303, 185-207.	6.6	43
12	Structural integrity of adhesively bonded 3D-printed joints. Polymer Testing, 2021, 100, 107262.	4.8	39
13	A dimensional analysis of front-end bending in plate rolling applications. Journal of Materials Processing Technology, 2012, 212, 1387-1398.	6.3	37
14	On the tensile resistance of UHPC at impact. European Physical Journal: Special Topics, 2018, 227, 167-177.	2.6	37
15	On the crack-driving force of phase-field models in linearized and finite elasticity. Computer Methods in Applied Mechanics and Engineering, 2019, 353, 348-372.	6.6	36
16	Prediction of dynamic properties of ultra-high performance concrete by an artificial intelligence approach. Advances in Engineering Software, 2019, 127, 51-58.	3.8	35
17	Computational modeling of phase separation and coarsening in solder alloys. International Journal of Solids and Structures, 2012, 49, 1557-1572.	2.7	34
18	Experimental investigations of the environmental effects on stability and integrity of composite sandwich T-joints. Materialwissenschaft Und Werkstofftechnik, 2017, 48, 753-759.	0.9	34

#	ARTICLE	IF	CITATIONS
19	Kirkendall voids in the intermetallic layers of solder joints in MEMS. Computational Materials Science, 2009, 45, 827-831.	3.0	32
20	Condensation and Growth of Kirkendall Voids in Intermetallic Compounds. IEEE Transactions on Components and Packaging Technologies, 2009, 32, 684-692.	1.3	32
21	A high-order finite deformation phase-field approach to fracture. Continuum Mechanics and Thermodynamics, 2017, 29, 935-945.	2.2	31
22	Influence of strain rate on fracture behavior of sandwich composite T-joints. European Journal of Mechanics, A/Solids, 2019, 78, 103821.	3.7	30
23	Isogeometric analysis of thermal diffusion in binary blends. Computational Materials Science, 2012, 52, 182-188.	3.0	26
24	Numerical simulation of diffusion induced phase separation and coarsening in binary alloys. Computational Materials Science, 2011, 50, 1359-1364.	3.0	24
25	A strategy for damage assessment of thermally stressed copper vias in microelectronic printed circuit boards. Microelectronics Reliability, 2008, 48, 68-82.	1.7	23
26	Phase-field fracture simulations of the Brazilian splitting test. International Journal of Fracture, 2019, 220, 85-98.	2.2	23
27	A phase-field approach to conchoidal fracture. Meccanica, 2018, 53, 1203-1219.	2.0	22
28	A geometrically exact thin membrane model—investigation of large deformations and wrinkling. International Journal for Numerical Methods in Engineering, 2008, 74, 871-893.	2.8	20
29	A numerical approach to the analysis of failure modes in anisotropic plates. Engineering Fracture Mechanics, 2011, 78, 2052-2069.	4.3	20
30	A micromechanical damage and fracture model for polymers based on fractional strain-gradient elasticity. Journal of the Mechanics and Physics of Solids, 2015, 74, 175-195.	4.8	20
31	A multi-level method for data-driven finite element computations. Computer Methods in Applied Mechanics and Engineering, 2021, 379, 113740.	6.6	20
32	A micromechanical model of distributed damage due to void growth in general materials and under general deformation‰histories. International Journal for Numerical Methods in Engineering, 2013, 93, 575-611.	2.8	18
33	Modeling and numerical simulation of crack growth and damage with a phase field approach. GAMM Mitteilungen, 2016, 39, 55-77.	5.5	18
34	Kidney damage in extracorporeal shock wave lithotripsy: a numerical approach for different shock profiles. Biomechanics and Modeling in Mechanobiology, 2009, 8, 285-299.	2.8	16
35	Thermophoresis in binary blends. Mechanics of Materials, 2012, 47, 33-50.	3.2	16
36	A variational approach to the decomposition of unstable viscous fluids and its consistent numerical approximation. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2011, 91, 609-629.	1.6	15

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37	Hopkinson bar experiments as a method to determine impact properties of brittle and ductile materials. GAMM Mitteilungen, 2018, 41, e201800008.	5.5	15
38	A comparison of stochastic and data-driven FEM approaches to problems with insufficient material data. Computer Methods in Applied Mechanics and Engineering, 2019, 350, 554-570.	6.6	15
39	A higher-order finite element approach to the Kuramoto-Sivashinsky equation. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2012, 92, 599-607.	1.6	13
40	Prediction of fracture in sandwich-structured composite joints using case-based reasoning approach. Procedia Structural Integrity, 2018, 13, 168-173.	0.8	13
41	Shock wave induced damage in kidney tissue. Computational Materials Science, 2005, 32, 588-593.	3.0	12
42	A numerical analysis of the fracture toughness in phase-field modelling of adhesive fracture. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 249-250.	0.2	11
43	A comparative accuracy and convergence study of eigenerosion and phase-field models of fracture. Computer Methods in Applied Mechanics and Engineering, 2021, 386, 114078.	6.6	11
44	Application of operator-scaling anisotropic random fields to binary mixtures. Philosophical Magazine, 2011, 91, 3766-3792.	1.6	10
45	The phase-field approach as a tool for experimental validations in fracture mechanics. Continuum Mechanics and Thermodynamics, 2017, 29, 947-956.	2.2	10
46	Thermomigration in SnPb solders: Material model. Mechanics of Materials, 2018, 121, 31-49.	3.2	9
47	A physico-mechanical approach to modeling of metal forming processes—part I: theoretical framework. Continuum Mechanics and Thermodynamics, 2008, 20, 231-254.	2.2	8
48	A Chemo-Mechanical Model of Diffusion in Reactive Systems. Entropy, 2018, 20, 140.	2.2	8
49	Adaptive mixed finite element method for Reissner–Mindlin plate. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 6895-6908.	6.6	7
50	Mesoscopic Modeling for Continua with Pores: Application in Biological Soft Tissue. Journal of Non-Equilibrium Thermodynamics, 2008, 33, 1-24.	4.2	7
51	Numerical modeling of diffusion induced phase transformations in mechanically stressed lead-free alloys. Computational Materials Science, 2009, 45, 837-844.	3.0	7
52	Phase-Field Fracture at Finite Strains Based on Modified Invariants: A Note on its Analysis and Simulations. GAMM Mitteilungen, 2018, 40, 207-237.	5.5	7
53	Time-dependent modeling and experimental characterization of foamed EPDM rubber. Continuum Mechanics and Thermodynamics, 2021, 33, 1747-1764.	2.2	7
54	A spatially adaptive phase-field model of fracture. Computer Methods in Applied Mechanics and Engineering, 2022, 395, 114880.	6.6	7

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55	An adaptive pNh‑technique for global‑local finite element analysis. Engineering Computations, 2002, 19, 485-500.	1.4	6
56	A detailed investigation of the model influencing parameters of the phase‑field fracture approach. GAMM Mitteilungen, 2020, 43, e202000005.	5.5	6
57	A multi-field model for charging and discharging of lithium-ion battery electrodes. Continuum Mechanics and Thermodynamics, 2021, 33, 661-685.	2.2	6
58	Determination of the high-strain rate elastic modulus of printing resins using two different split Hopkinson pressure bars. Mechanics of Time-Dependent Materials, 2022, 26, 761-773.	4.4	6
59	A phase-field approach to pneumatic fracture with anisotropic crack resistance. International Journal of Fracture, 2021, 232, 135.	2.2	6
60	Dynamic phase-field fracture with a first-order discontinuous Galerkin method for elastic waves. Computer Methods in Applied Mechanics and Engineering, 2021, 389, 114330.	6.6	6
61	On the use of peridynamics in fracture of ultra-high performance concrete. Mechanics Research Communications, 2022, 123, 103899.	1.8	6
62	Calculating the energy-norm FEM-error for Reissner-Mindlin plates without known reference solution. Computational Mechanics, 2000, 26, 566-570.	4.0	5
63	Void nucleation by vacancy condensation. Proceedings in Applied Mathematics and Mechanics, 2008, 8, 10249-10250.	0.2	5
64	Analysis and simulations for a phase‑field fracture model at finite strains based on modified invariants. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2020, 100, e201900288.	1.6	5
65	An adaptive non-conforming finite-element method for Reissner-Mindlin plates. International Journal for Numerical Methods in Engineering, 2003, 56, 2313-2330.	2.8	4
66	Mesoscopic Modeling for Continua with Pores: Dynamic Void Growth in Viscoplastic Materials. Journal of Non-Equilibrium Thermodynamics, 2008, 33, 25-45.	4.2	4
67	A physico-mechanical approach to modeling of metal forming processes‑Part II: damage analysis in processes with plastic flow of metals. Continuum Mechanics and Thermodynamics, 2009, 20, 509-521.	2.2	4
68	Numerical investigation of diffusion induced coarsening processes in binary alloys. IOP Conference Series: Materials Science and Engineering, 2010, 10, 012100.	0.6	4
69	A phase‑field approach to pneumatic fracture. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 71-74.	0.2	4
70	An adaptive finite element approach for a mixed Reissner‑Mindlin plate formulation. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 4999-5008.	6.6	3
71	A Material Model for Electroactive Polymers. Advanced Structured Materials, 2016, , 119-131.	0.5	3
72	Towards structural optimization of lithium battery anodes. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800227.	0.2	3

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73	Data‐driven diffusion with uncertainties. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000325.	0.2	3
74	An extended stochastic diffusion model for ternary mixtures. Mechanics of Materials, 2013, 56, 122-130.	3.2	2
75	Using Martensite Formation during Tube‐Forming to Optimize Fatigue Strength. Steel Research International, 2014, 85, 1355-1363.	1.8	2
76	A Thermodynamically Consistent Approach to Phase-Separating Viscous Fluids. Journal of Non-Equilibrium Thermodynamics, 2018, 43, 185-191.	4.2	2
77	Stereological transformation of pore size distributions with application to soft polymer and FDM‐printed specimens. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2019, 99, e201800287.	1.6	2
78	Effect of uncertain parameters on the deflection of beams. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900318.	0.2	2
79	Correction of Wave Signals for PMMA Split Hopkinson Pressure Bar Setups. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000143.	0.2	2
80	Cohesive Elements or Phase-Field Fracture: Which Method Is Better for Dynamic Fracture Analyses?. , 0, , .		2
81	A Higher Gradient Theory of Multiphase Solid Mixtures and its Application to Lead-Free Solder Micro-Morphology. , 2007, , .		1
82	Assessing failure in microelectronic compounds. Computational Materials Science, 2008, 43, 229-234.	3.0	1
83	Investigating a flexible wind turbine using consistent time‐stepping schemes. Engineering Computations, 2012, 29, 661-688.	1.4	1
84	Viscoelastic modelling and experimental results of a dielectric electro-active polymer diaphragm actuator. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 475-476.	0.2	1
85	Fracture toughness investigations on UHPC by spalling tests. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 139-140.	0.2	1
86	Void dynamics in lead‐free Sn‐Ag‐Cu solder joints. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 615-616.	0.2	1
87	Investigations on dynamic fracture of ultra-high performance concrete by Brazilian tests. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 251-252.	0.2	1
88	Experiments on wave propagation in soft materials. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800346.	0.2	1
89	Topological analysis of open‐pore structures. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800270.	0.2	1
90	Identification of hyper‐and viscoelastic properties of different flexible FDM printed specimens. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800382.	0.2	1

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91	Numerical Simulation of Crack Propagation in an Anisotropic Medium. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800308.	0.2	1
92	Coupled Thermal and Electrochemical Diffusion in Solid State Battery Systems. Advanced Structured Materials, 2019, , 519-535.	0.5	1
93	Ice Penetration by a Bluff-Body Melting Probe. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	2.2	1
94	Pneumatic Fracture Computations with Peridynamics. Procedia Structural Integrity, 2022, 35, 159-167.	0.8	1
95	A geometrically exact membrane model for isotropic foils and fabrics. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 4030007-4030008.	0.2	0
96	Fracture and Fragmentation of Silicon Dies. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 123-124.	0.2	0
97	Numerical and experimental investigations of phase segragation effects in binary brazing solders. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 695-696.	0.2	0
98	Deformation induced martensite transformation in a cold-worked forming process of austenitic stainless steel. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 321-324.	0.2	0
99	Application of Buckingham Î -theorem to asymmetric plate rolling processes. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 647-648.	0.2	0
100	Identification of Viscoelastic Properties and Damaging Effects of Highly Extensible Polyurea. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 343-344.	0.2	0
101	Numerical simulations of spalling tests in order to investigate material properties of UHPC. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 137-138.	0.2	0
102	Experimental and numerical investigation of PUR foam under dynamic loading. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 309-310.	0.2	0
103	Thermomigration in Snâ€Pb solder bumps: Modelling and simulation. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 483-484.	0.2	0
104	Experimental characterization of dynamic properties of honeycomb sandwich joints and plates. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 145-146.	0.2	0
105	A polyconvex strainâ€energy split for a highâ€order phaseâ€field approach to fracture. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 427-428.	0.2	0
106	A stereologic approach for the spherical void size distribution in Polyurea. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 459-460.	0.2	0
107	Diffusion induced void nucleation in SnPb solder joints. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 573-574.	0.2	0
108	Dataâ€driven approach to elastic problems. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800132.	0.2	0

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109	A juxtaposition of data driven and stochastic finite element analyses for problems with noisy material data. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900197.	0.2	0
110	Structural optimization of electrically charged anodes. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900098.	0.2	0
111	Phaseâ€Field Simulations of Cracks under Dynamic Loading. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900074.	0.2	0
112	Experiment on wave propagation in soft resins. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900187.	0.2	0
113	Experimental Investigation of Microstructural Effects in Sn-Pb Solder Accumulated During Ten Years of Service Life. Micro and Nanosystems, 2021, 13, 170-179.	0.6	0
114	Thermal Diffusion in a Polymer Blend. Lecture Notes in Applied and Computational Mechanics, 2016, , 285-307.	2.2	0
115	Vibration analysis of stochastic open-cell foam. , 2019, , 331-331.		0
116	Phaseâ€field fracture simulations of a fourâ€point bending test. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0
117	Investigation of copper lattice structures using a Split Hopkinson Pressure Bar. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0
118	A multiâ€level dataâ€driven finite element method in polymorphic uncertainty quantification. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0