Bob Svendsen

List of Publications by Citations

218 papers	3,781 citations	34 h-index	52 g-index
229 ext. papers	4,137 ext. citations	3.1 avg, IF	5.67 L-index

#	Paper	IF	Citations
218	The Melting Curve of Iron to 250 Gigapascals: A Constraint on the Temperature at Earth's Center. *Science*, **1987**, 236, 181-2	33.3	315
217	Continuum thermodynamic models for crystal plasticity including the effects of geometrically-necessary dislocations. *Journal of the Mechanics and Physics of Solids*, **2002**, 50, 1297-1329	5	107
216	Debris flow modeling: A review. *Continuum Mechanics and Thermodynamics*, **1994**, 8, 1-35	3.5	105
215	On the thermodynamics of a mixture of isotropic materials with constraints. *International Journal of Engineering Science*, **1995**, 33, 2021-2054	5.7	89
214	Simulation of chip formation during high-speed cutting. *Journal of Materials Processing Technology*, **2007**, 186, 66-76	5.3	82
213	Ab initioand atomistic study of generalized stacking fault energies in Mg and Mgâ alloys. *New Journal of Physics*, **2013**, 15, 043020	2.9	80
212	Local and non-local Gurson-based ductile damage and failure modelling at large deformation. *European Journal of Mechanics, A/Solids*, **2003**, 22, 779-792	3.7	78
211	On the modelling of anisotropic elastic and inelastic material behaviour at large deformation. *International Journal of Solids and Structures*, **2001**, 38, 9579-9599	3.1	75
210	Homogenization methods for multi-phase elastic composites with non-elliptical reinforcements: Comparisons and benchmarks. *European Journal of Mechanics, A/Solids*, **2012**, 34, 21-37	3.7	67
209	Elasto-viscoplastic phase field modelling of anisotropic cleavage fracture. *Journal of the Mechanics and Physics of Solids*, **2017**, 99, 19-34	5	67
208	On the continuum thermodynamic rate variational formulation of models for extended crystal plasticity at large deformation. *Journal of the Mechanics and Physics of Solids*, **2010**, 58, 1253-1271	5	64
207	Two-scale FEâFFT- and phase-field-based computational modeling of bulk microstructural evolution and macroscopic material behavior. *Computer Methods in Applied Mechanics and Engineering*, **2016**, 305, 89-110	5.7	61
206	On frame-indifference and form-invariance in constitutive theory. *Acta Mechanica*, **1999**, 132, 195-207	2.1	60
205	Modeling of polycrystals with gradient crystal plasticity: A comparison of strategies. *Philosophical Magazine*, **2010**, 90, 1263-1288	1.6	58
204	A non-local extension of Gurson-based ductile damage modeling. *Computational Materials Science*, **2003**, 26, 219-229	3.2	57
203	A phase field model for damage in elasto-viscoplastic materials. *Computer Methods in Applied Mechanics and Engineering*, **2016**, 312, 167-185	5.7	57
202	A new method for determining dynamic grain structure evolution during hot aluminum extrusion. *Journal of Materials Processing Technology*, **2012**, 212, 323-330	5.3	56

201	Dynamic compression of diopside and salite to 200 GPa. *Geophysical Research Letters*, **1983**, 10, 501-504	4.9	56
200	Shock-induced temperatures of MgO. *Geophysical Journal International*, **1987**, 91, 667-691	2.6	55
199	On the modeling of hardening in metals during non-proportional loading. *International Journal of Plasticity*, **2008**, 24, 1039-1070	7.6	50
198	Atomistically determined phase-field modeling of dislocation dissociation, stacking fault formation, dislocation slip, and reactions in fcc systems. *Journal of the Mechanics and Physics of Solids*, **2015**, 77, 109-122	5	48
197	Thermomechanical characterization of Portevinâ Le Châtelier bands in AlMg3 (AA5754) and modeling based on a modified Estrinâ McCormick approach. *International Journal of Plasticity*, **2015**, 67, 192-216	7.6	47
196	A thermodynamic formulation of finite-deformation elastoplasticity with hardening based on the concept of material isomorphism. *International Journal of Plasticity*, **1998**, 14, 473-488	7.6	47
195	Thermodynamic and relaxation-based modeling of the interaction between martensitic phase transformations and plasticity. *Journal of the Mechanics and Physics of Solids*, **2011**, 59, 1004-1019	5	45
194	On the thermodynamics of thermoelastic materials with additional scalar degrees of freedom. *Continuum Mechanics and Thermodynamics*, **1999**, 11, 247-262	3.5	43
193	Unveiling the Re effect in Ni-based single crystal superalloys. *Nature Communications*, **2020**, 11, 389	17.4	42
192	An extended crystal plasticity model for latent hardening in polycrystals. *Computational Mechanics*, **2011**, 48, 631-645	4	40
191	Simulation of deformation and lifetime behavior of a fcc single crystal superalloy at high temperature under low-cycle fatigue loading. *International Journal of Fatigue*, **2006**, 28, 1791-1802	5	39
190	Continuum thermodynamic formulation of models for electromagnetic thermoinelastic solids with application in electromagnetic metal forming. *Continuum Mechanics and Thermodynamics*, **2005**, 17, 1-16	3.5	38
189	Efficient and accurate two-scale FE-FFT-based prediction of the effective material behavior of elasto-viscoplastic polycrystals. *Computational Mechanics*, **2018**, 61, 751-764	4	37
188	Atomistic phase field chemomechanical modeling of dislocation-solute-precipitate interaction in Niâ Alâ Co. *Acta Materialia*, **2019**, 175, 250-261	8.4	35
187	Investigation of the deformation behavior of Feâ 3%Si sheet metal with large grains via crystal plasticity and finite-element modeling. *Computational Materials Science*, **2012**, 52, 25-32	3.2	35
186	On the large-deformation- and continuum-based formulation of models for extended crystal plasticity. *International Journal of Solids and Structures*, **2006**, 43, 7246-7267	3.1	35
185	A continuum approach for modelling induced anisotropy in glaciers and ice sheets*. *Annals of Glaciology*, **1996**, 23, 262-269	2.5	35
184	Multifield modeling of electromagnetic metal forming processes. *Journal of Materials Processing Technology*, **2006**, 177, 270-273	5.3	34

183	Algorithmic formulation and numerical implementation of coupled electromagnetic-inelastic continuum models for electromagnetic metal forming. *International Journal for Numerical Methods in Engineering*, **2006**, 68, 1301-1328	2.4	33
182	Constitutive models for granular materials including quasi-static frictional behaviour: Toward a thermodynamic theory of plasticity. *Continuum Mechanics and Thermodynamics*, **1999**, 11, 263-275	3.5	33
181	Theoretical and computational comparison of models for dislocation dissociation and stacking fault/core formation in fcc crystals. *Journal of the Mechanics and Physics of Solids*, **2016**, 95, 719-741	5	32
180	Modeling and simulation of deformation behavior, orientation gradient development and heterogeneous hardening in thin sheets with coarse texture. *International Journal of Plasticity*, **2013**, 50, 109-126	7.6	32
179	Experimental characterization and modeling of the hardening behavior of the sheet steel LH800. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing* , **2010**, 527, 2515-2526	5.3	32
178	Strategies for 3D simulation of electromagnetic forming processes. *Journal of Materials Processing Technology*, **2008**, 199, 341-362	5.3	31
177	Analysis of the Mechanical Properties of an Arc-Sprayed WC-FeCSiMn Coating: Nanoindentation and Simulation. *Journal of Thermal Spray Technology*, **2011**, 20, 328-335	2.5	30
176	On constitutive and configurational aspects of models for gradient continua with microstructure. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2009**, 89, 687-697	1	30
175	On thermodynamic- and variational-based formulations of models for inelastic continua with internal lengthscales. *Computer Methods in Applied Mechanics and Engineering*, **2004**, 193, 5429-5452	5.7	30
174	Phase-field-based calculations of the disregistry fields of static extended dislocations in FCC metals. *Philosophical Magazine*, **2019**, 99, 1400-1428	1.6	30
173	Rapid theory-guided prototyping of ductile Mg alloys: from binary to multi-component materials. *New Journal of Physics*, **2015**, 17, 093009	2.9	29
172	An image morphing method for 3D reconstruction and FE-analysis of pore networks in thermal spray coatings. *Computational Materials Science*, **2010**, 47, 881-889	3.2	28
171	Characterization of grain microstructure development in the aluminum alloy EN AW-6060 during extrusion. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2010**, 527, 6568-6573	5.3	28
170	A continuum approach for modelling induced anisotropy in glaciers and ice sheets*. *Annals of Glaciology*, **1996**, 23, 262-269	2.5	28
169	Microstructure evolution during dynamic discontinuous recrystallization in particle-containing Cu. *Computational Materials Science*, **2014**, 84, 327-338	3.2	27
168	Thermomechanical modeling and simulation of aluminum alloy behavior during extrusion and cooling. *Journal of Materials Processing Technology*, **2009**, 209, 876-883	5.3	27
167	Finite-deformation phase-field chemomechanics for multiphase, multicomponent solids. *Journal of the Mechanics and Physics of Solids*, **2018**, 112, 619-636	5	26
166	Quasi-linear versus potential-based formulations of forceâflux relations and the GENERIC for irreversible processes: comparisons and examples. *Continuum Mechanics and Thermodynamics*, **2013** , 25, 803-816	3.5	26

165	Microstructure-Based Modeling of Residual Stresses in WC-12Co-Sprayed Coatings. *Journal of Thermal Spray Technology*, **2012**, 21, 96-107	2.5	25
164	Modeling and simulation of directional hardening in metals during non-proportional loading. *Journal of Materials Processing Technology*, **2006**, 177, 430-432	5.3	25
163	A comparison of different continuum approaches in modeling mixed-type dislocations in Al. *Modelling and Simulation in Materials Science and Engineering*, **2019**, 27, 074004	2	24
162	Hyperelastic models for elastoplasticity with non-linear isotropic and kinematic hardening at large deformation. *International Journal of Solids and Structures*, **1998**, 35, 3363-3389	3.1	24
161	Modeling and finite element simulation of loading-path-dependent hardening in sheet metals during forming. *International Journal of Plasticity*, **2014**, 63, 64-93	7.6	23
160	Investigation of PLC band nucleation in AA5754. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2012**, 539, 205-210	5.3	23
159	Competitive bcc and fcc crystal nucleation from non-equilibrium liquids studied by phase-field crystal simulation. *Acta Materialia*, **2017**, 139, 196-204	8.4	23
158	From generalized stacking fault energies to dislocation properties: Five-energy-point approach and solid solution effects in magnesium. *Physical Review B*, **2015**, 92,	3.3	22
157	Comparative modeling of the disregistry and Peierls stress for dissociated edge and screw dislocations in Al. *International Journal of Plasticity*, **2020**, 129, 102689	7.6	22
156	Simulation of Fatigue Crack Propagation in Ductile Metals by Blunting and Re-sharpening. *International Journal of Fracture*, **2005**, 136, 207-220	2.3	22
155	Ideal Fe?FeS, Fe?FeO phase relations and Earth$s core. *Physics of the Earth and Planetary Interiors*, **1989**, 55, 154-186	2.3	21
154	Application of non-convex rate dependent gradient plasticity to the modeling and simulation of inelastic microstructure development and inhomogeneous material behavior. *Computational Materials Science*, **2013**, 80, 51-60	3.2	20
153	An arbitrary Lagrangian Eulerian approach to the three-dimensional simulation of electromagnetic forming. *Computer Methods in Applied Mechanics and Engineering*, **2009**, 198, 1535-1547	5.7	20
152	On interfacial transition conditions in two phase gravity flow. *Zeitschrift Fur Angewandte Mathematik Und Physik*, **1994**, 45, 746-762	1.6	20
151	Gurson-based modelling of ductile damage and failure during cyclic loading processes at large deformation. *Engineering Fracture Mechanics*, **2016**, 160, 95-123	4.2	20
150	Thermodynamic model formulation for viscoplastic solids as general equations for non-equilibrium reversibleâ€irreversible coupling. *Continuum Mechanics and Thermodynamics*, **2012**, 24, 211-227	3.5	18
149	On the continuum modeling of materials with kinematic structure. *Acta Mechanica*, **2001**, 152, 49-79	2.1	18
148	The Temperature of Shock Compressed Iron. *Geophysical Monograph Series*, **1987**, 393-402	1.1	18

147	Shock-induced melting and shear banding in single-crystal NaCl. *Journal of Applied Physics*, **1988**, 63, 99-106	2.5	18
146	Coordinate-invariant phase field modeling of ferro-electrics, part II: Application to composites and poly-crystals. *GAMM Mitteilungen*, **2015**, 38, 115-131	1.8	17
145	Phenomenological modeling of anisotropy induced by evolution of the dislocation structure on the macroscopic and microscopic scale. *International Journal of Material Forming*, **2011**, 4, 141-154	2	17
144	Experimental characterization and model identification of directional hardening effects in metals for complex strain path changes. *International Journal of Solids and Structures*, **2010**, 47, 1361-1374	3.1	17
143	Influence of manufacturing processes on material characterization with the grooved in-plane torsion test. *International Journal of Mechanical Sciences*, **2018**, 146-147, 544-555	5.5	15
142	Two models for gradient inelasticity based on non-convex energy. *Computational Materials Science*, **2012**, 64, 96-100	3.2	15
141	Debris flow modeling: A review **1994**, 8, 1		15
140	Nonlinear elastic effects in phase field crystal and amplitude equations: Comparison to ab initio simulations of bcc metals and graphene. *Physical Review B*, **2016**, 93,	3.3	14
139	On the representation of constitutive relations using structure tensors. *International Journal of Engineering Science*, **1994**, 32, 1889-1892	5.7	14
138	Phase relations in iron-rich systems and implications for the Earth's core. *Physics of the Earth and Planetary Interiors*, **1989**, 55, 208-220	2.3	14
137	Shock-induced temperatures of CaMgSi2O6. *Journal of Geophysical Research*, **1990**, 95, 6943		14
136	Shock Induced Radiation from Minerals **1986**, 261-265		14
135	Experimental characterization of microstructure development during loading path changes in bcc sheet steels. *Journal of Materials Science*, **2013**, 48, 674-689	4.3	13
134	Inverse error propagation and model identification for coupled dynamic problems with application to electromagnetic metal forming. *International Journal of Solids and Structures*, **2008**, 45, 442-459	3.1	13
133	On a new finite element technology for electromagnetic metal forming processes. *Archive of Applied Mechanics*, **2005**, 74, 834-845	2.2	13
132	Alloy design for mechanical properties: Conquering the length scales. *MRS Bulletin*, **2019**, 44, 257-265	3.2	12
131	Coordinate-invariant phase field modeling of ferro-electrics, part I: Model formulation and single-crystal simulations. *GAMM Mitteilungen*, **2015**, 38, 102-114	1.8	12
130	On the Formulation of Continuum Thermodynamic Models for Solids as General Equations for Non-equilibrium Reversible-Irreversible Coupling. *Journal of Elasticity*, **2011**, 104, 357-368	1.5	12

129	Application of the concept of evolving structure tensors to the modeling of initial and induced anisotropy at large deformation. *Computers and Structures*, **2006**, 84, 1077-1085	4.5	12
128	A simple and flexible model order reduction method for FFT-based homogenization problems using a sparse sampling technique. *Computer Methods in Applied Mechanics and Engineering*, **2019**, 347, 622-638	5.7	12
127	Modeling of a thermomechanical process chain for sheet steels. *International Journal of Mechanical Sciences*, **2013**, 74, 46-54	5.5	11
126	Modeling of dynamic microstructure evolution of EN AW-6082 alloy during hot forward extrusion. *Computational Materials Science*, **2011**, 50, 1520-1525	3.2	11
125	Nonlocal Modeling and Simulation of Ductile Damage and Failure in Metal Matrix Composites. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2008**, 130,	1.8	10
124	Formulation of balance relations and configurational fields for continua with microstructure and moving point defects via invariance. *International Journal of Solids and Structures*, **2001**, 38, 1183-1200	3.1	10
123	The concept of control points in hybrid discontinuous Galerkin methodsâAapplication to geometrically nonlinear crystal plasticity. *International Journal for Numerical Methods in Engineering* , **2018**, 114, 557-579	2.4	9
122	Tunable twin stability and an accurate magnesium interatomic potential for dislocation-twin interactions. *Materials and Design*, **2018**, 153, 232-241	8.1	9
121	Comparison of phenomenological and laminate-based models for rate-dependent switching in ferroelectric continua. *GAMM Mitteilungen*, **2015**, 38, 147-170	1.8	9
120	On the role of mechanical interactions in the steady-state gravity flow of a two-constituent mixture down an inclined plane. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **1996**, 452, 1189-1205	2.4	9
119	Efficient two-scale FE-FFT-based mechanical process simulation of elasto-viscoplastic polycrystals at finite strains. *Computer Methods in Applied Mechanics and Engineering*, **2021**, 374, 113566	5.7	9
118	Accurate Hardening Modeling As Basis For The Realistic Simulation Of Sheet Forming Processes With Complex Strain-Path Changes. *AIP Conference Proceedings*, **2007**,	0	8
117	Comparison of two models for anisotropic hardening and yield surface evolution in bcc sheet steels. *European Journal of Mechanics, A/Solids*, **2015**, 54, 120-131	3.7	7
116	Thermodynamic and rate variational formulation of models for inhomogeneous gradient materials with microstructure and application to phase field modeling. *Acta Mechanica Sinica/Lixue Xuebao*, **2015**, 31, 162-172	2	7
115	A computational approach towards modelling dislocation transmission across phase boundaries. *Philosophical Magazine*, **2019**, 99, 2126-2151	1.6	7
114	Homogenization modeling of thin-layer-type microstructures. *International Journal of Solids and Structures*, **2012**, 49, 1828-1838	3.1	7
113	Effect of surface energy on the plastic behavior of crystalline thin films under plane strain constrained shear. *International Journal of Fracture*, **2010**, 166, 173-178	2.3	7
112	Efficient Modelling and Simulation of Process Chains in Sheet Metal Forming and Processing. *Steel Research International*, **2008**, 79, 731-737	1.6	7

111	A logarithmic-exponential backward-Euler-based split of the flow rule for anisotropic inelastic behaviour at small elastic strain. *International Journal for Numerical Methods in Engineering*, **2007**, 70, 496-504	2.4	7
110	Accurate hardening modeling as basis for the realistic simulation of sheet forming processes with complex strain-path changes. *AIP Conference Proceedings*, **2007**,	0	7
109	Balance relations for classical mixtures containing a moving non-material surface with application to phase transitions. *Continuum Mechanics and Thermodynamics*, **1996**, 8, 171-187	3.5	7
108	Optical radiation from shock-compressed materials and interfaces. *Physics Reports*, **1989**, 180, 333-416	27.7	7
107	Modelling of grain boundary dynamics using amplitude equations. *Continuum Mechanics and Thermodynamics*, **2017**, 29, 895-911	3.5	6
106	Multi-component chemo-mechanics based on transport relations for the chemical potential. *Computer Methods in Applied Mechanics and Engineering*, **2020**, 365, 113029	5.7	6
105	Interaction models for mixtures with application to phase transitions. *International Journal of Engineering Science*, **1997**, 35, 55-74	5.7	6
104	Modeling of sheet metal forming processes taking into account distortional hardening. *International Journal of Material Forming*, **2008**, 1, 105-108	2	6
103	On the gravity-driven shear flow of an iceâĚŤill mixture. *Annals of Glaciology*, **1996**, 23, 124-128	2.5	6
102	The hidden structure dependence of the chemical life of dislocations. *Science Advances*, **2021**, 7,	14.3	6
101	Analysis and comparison of two finite element algorithms for dislocation density based crystal plasticity. *GAMM Mitteilungen*, **2013**, 36, 219-238	1.8	5
100	ALE-based 3D FE simulation of electromagnetic forming. *Proceedings in Applied Mathematics and Mechanics*, **2006**, 6, 459-460	0.2	5
99	On the use of evolving structure tensors to model initial and induced elastic and inelastic anisotropy at finite deformation. *European Physical Journal Special Topics*, **2003**, 105, 31-37		5
98	Reply to RIVLINS Material symmetry revisited or Much Ado About Nothing. *GAMM Mitteilungen*, **2004**, 27, 88-93	1.8	5
97	On shear flow of a saturated iceâĚŤediment mixture with thermodynamic equilibrium pressure and momentum exchange. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **1998**, 454, 71-88	2.4	5
96	Optical Radiation from Shock-Compressed Materials and Interfaces. *Geophysical Monograph Series*, **1987**, 403-423	1.1	5
95	A model order reduction method for finite strain FFT solvers using a compressed sensing technique. *Proceedings in Applied Mathematics and Mechanics*, **2019**, 19, e201900037	0.2	5
94	Investigations on enhanced FischerâBurmeister NCP functions: application to a rate-dependent model for ferroelectrics. *Archive of Applied Mechanics*, **2019**, 89, 995-1010	2.2	5

93	Laminate-based modelling of single and polycrystalline ferroelectric materials â application to tetragonal barium titanate. *Mechanics of Materials*, **2018**, 117, 235-254	3.3	4
92	Strongly non-local modelling of dislocation transport and pile-up. *Philosophical Magazine*, **2016**, 96, 1171-1187	1.6	4
91	Fast, curvature-based prediction of rolling forces for porous media based on a series of detailed simulations. *Advances in Engineering Software*, **2011**, 42, 142-150	3.6	4
90	Chemo-Mechanical Phase-Field Modeling of Iron Oxide Reduction with Hydrogen. *Acta Materialia*, **2022**, 117899	8.4	4
89	Two-dimensional elastic phase-field simulation of fcc to bcc martensitic phase transformations in polycrystals. *Proceedings in Applied Mathematics and Mechanics*, **2014**, 14, 397-398	0.2	3
88	THEORETICAL AND ALGORITHMIC FORMULATION OF MODELS FOR ENERGETIC GND-BASED HARDENING IN SINGLE CRYSTALS. *International Journal for Multiscale Computational Engineering*, **2012**, 10, 551-565	2.4	3
87	Towards the simulation of grinding processes â a thermoplastic single grain approach. *Proceedings in Applied Mathematics and Mechanics*, **2011**, 11, 385-386	0.2	3
86	Continuum Thermodynamic and Rate Variational Formulation of Models for Extended Continua. *Lecture Notes in Applied and Computational Mechanics*, **2011**, 1-18	0.3	3
85	Thermographic study of nucleation and propagation of Portevin-Le Châtelier bands. *Quantitative InfraRed Thermography Journal*, **2008**, 5, 231-248	1.1	3
84	Application of Adaptive Mesh and ALE Method in Simulation of Extrusion of Aluminum Alloys. *Key Engineering Materials*, **2008**, 367, 117-123	0.4	3
83	On the modeling and simulation of induced anisotropy in polycrystalline metals with application to springback. *Archive of Applied Mechanics*, **2005**, 74, 890-899	2.2	3
82	A local frame formulation of dual stress-strain pairs and time derivatives. *Acta Mechanica*, **1995**, 111, 13-40	2.1	3
81	A Statistical Mechanical Formulation of Continuum Fields and Balance Relations for Granular and Other Materials with Internal Degrees of Freedom **1999**, 245-308		3
80	Continuum Thermodynamic Modeling and Simulation of Additional Hardening due to Deformation Incompatibility. *Solid Mechanics and Its Applications*, **2003**, 141-150	0.4	3
79	A geometrically adapted reduced set of frequencies for a FFT-based microstructure simulation. *Computer Methods in Applied Mechanics and Engineering*, **2021**, 386, 114131	5.7	3
78	Effect of Twin Boundary Motion and Dislocation-Twin Interaction on Mechanical Behavior in Fcc Metals. *Materials*, **2020**, 13,	3.5	2
77	Comparison of two models for anisotropic hardening evolution in metals during complex loading. *International Journal of Material Forming*, **2009**, 2, 395-398	2	2
76	Effect of surface energy on dislocation-induced field in half-space with application to thin film-substrate systems. *Acta Mechanica Solida Sinica*, **2009**, 22, 436-442	2	2

75	Modelling and simulation of dynamic microstructure evolution of aluminium alloys during thermomechanically coupled extrusion process. *International Journal of Material Forming*, **2010**, 3, 363-366	2	2
74	Thermo-mechanically coupled modeling and simulation of hot metal-forming processes using adaptive remeshing method. *GAMM Mitteilungen*, **2010**, 33, 95-115	1.8	2
73	On the Constituent Structure of a Classical Mixture. *Meccanica*, **1997**, 32, 13-32	2.1	2
72	Modelling and Simulation of 3D electromagnetic metal forming processes. *International Journal of Material Forming*, **2008**, 1, 1399-1402	2	2
71	Application of extended crystal plasticity to the modeling of glide and kink bands and of crack opening in single crystals. *Computational Materials Science*, **2005**, 32, 426-434	3.2	2
70	Experimental and theoretical investigation of PLC bands. *Proceedings in Applied Mathematics and Mechanics*, **2006**, 6, 435-436	0.2	2
69	Local and non-local ductile damage and failure modelling at large deformation with applications to engineering. *Proceedings in Applied Mathematics and Mechanics*, **2003**, 3, 232-235	0.2	2
68	Continuum Thermodynamic and Variational Models for Continua with Microstructure and Material Inhomogeneity **2005**, 173-180		2
67	Phase-Field Modeling of Chemoelastic Binodal/Spinodal Relations and Solute Segregation to Defects in Binary Alloys. *Materials*, **2021**, 14,	3.5	2
66	Linking macroscopic deformation processes to microstructure evolution using an FE-FFT-based micro-macro transition and non-conserved phase-fields. *Proceedings in Applied Mathematics and Mechanics*, **2016**, 16, 535-536	0.2	2
65	Thermodynamic Model Formulations for Inhomogeneous Solids with Application to Non-isothermal Phase Field Modelling. *Journal of Non-Equilibrium Thermodynamics*, **2016**, 41,	3.8	2
64	Microstructure simulation using self-consistent clustering analysis. *Proceedings in Applied Mathematics and Mechanics*, **2021**, 20, e202000263	0.2	2
63	Efficient Multiscale FE-FFT-Based Modeling and Simulation of Macroscopic Deformation Processes with Non-linear Heterogeneous Microstructures. *Lecture Notes in Applied and Computational Mechanics*, **2018**, 129-146	0.3	2
62	Model of mismatched contact for dislocation generation during coalescence of grains. *Philosophical Magazine Letters*, **2013**, 93, 246-253	1	1
61	Formulation of strongly non-local, non-isothermal dynamics for heterogeneous solids based on the GENERIC with application to phase-field modeling. *Materials Theory*, **2017**, 1,	2.2	1
60	Modeling Dislocation-Stacking Fault Interaction Using Molecular Dynamics. *Proceedings in Applied Mathematics and Mechanics*, **2013**, 13, 11-14	0.2	1
59	Efficient and reliable finite element techniques for phase field models. *International Journal of Materials Research*, **2010**, 101, 498-502	0.5	1
58	Lengthscale-dependent modelling of ductile failure in metallic microstructures. *International Journal of Materials and Structural Integrity*, **2010**, 4, 141	0.3	1

57	Non-local modeling of thermomechanical localization in metals. *Proceedings in Applied Mathematics and Mechanics*, **2006**, 6, 369-370	0.2	1
56	Phase-Field Extension of Crystal Plasticity with Application to Hardening Modeling **2005**, 501-511		1
55	Crystal-plasticity based modeling and simulation of geometrically-necessary dislocations at a crack front in ductile single crystals. *European Physical Journal Special Topics*, **2001**, 11, Pr5-171-Pr5-177		1
54	On the gravity-driven shear flow of an iceâ□□ill mixture. *Annals of Glaciology*, **1996**, 23, 124-128	2.5	1
53	A Review of FE-FFT-Based Two-Scale Methods for Computational Modeling of Microstructure Evolution and Macroscopic Material Behavior. *Archives of Computational Methods in Engineering*,1	7.8	1
52	Modeling and simulation of microstructure in metallic systems based on multi-physics approaches. *Npj Computational Materials*, **2022**, 8,	10.9	1
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50	A grain boundary model considering the grain misorientation within a geometrically nonlinear gradient-extended crystal viscoplasticity theory. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2020**, 476, 20190581	2.4	0
49	Constitutive relations for polar continua based on statistical mechanics and spatial averaging. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2020**, 476, 20190407	2.4	0
48	High Performance Computing Techniques for the FEM Simulation in Structural Mechanics. *Proceedings in Applied Mathematics and Mechanics*, **2006**, 6, 773-774	0.2	0
47	A thermodynamic formulation of the equations of motion and buoyancy frequency for Earth□s fluid outer core **1996**, 8, 75		0
46	Non-local Thermoelasticity Based on Equilibrium Statistical Thermodynamics. *Journal of Elasticity*, **2020**, 139, 37-59	1.5	0
45	Finite-deformation phase-field microelasticity with application to dislocation core and reaction modeling in fcc crystals. *Journal of the Mechanics and Physics of Solids*, **2022**, 104897	5	0
44	A laminate-based framework for switching and microstructure evolution in polycrystalline ferroelectrics. *Proceedings in Applied Mathematics and Mechanics*, **2016**, 16, 323-324	0.2	
43	Laminate-based modelling of microstructure and switching in ferroelectrics. *Proceedings in Applied Mathematics and Mechanics*, **2014**, 14, 407-408	0.2	
42	Efficient and accurate two-scale simulation of non-linear heterogeneous microstructures. *Proceedings in Applied Mathematics and Mechanics*, **2017**, 17, 803-804	0.2	
41	A laminate-based modelling approach for rate-dependent switching in ferroelectric materials. *Proceedings in Applied Mathematics and Mechanics*, **2015**, 15, 3-6	0.2	
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