Markus HÃ¼tter

List of Publications by Year
in descending order

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88 papers	1,351 citations	430874 18 h-index	395702 33 g-index
90 all docs	90 docs citations	90 times ranked	1194 citing authors

#	Article	IF	Citations
1	Towards a rheological classification of flow induced crystallization experiments of polymer melts. Rheologica Acta, 2004, 44, 119-134.	2.4	187
2	Roadmap on multiscale materials modeling. Modelling and Simulation in Materials Science and Engineering, 2020, 28, 043001.	2.0	100
3	Local Structure Evolution in Particle Network Formation Studied by Brownian Dynamics Simulation. Journal of Colloid and Interface Science, 2000, 231, 337-350.	9.4	82
4	Parameterization of a reactive force field using a Monte Carlo algorithm. Journal of Computational Chemistry, 2013, 34, 1143-1154.	3.3	74
5	Temperature-Dependent Thermal and Elastic Properties of the Interlamellar Phase of Semicrystalline Polyethylene by Molecular Simulation. Macromolecules, 2006, 39, 439-447.	4.8	65
6	Finite anisotropic elasticity and material frame indifference from a nonequilibrium thermodynamics perspective. Journal of Non-Newtonian Fluid Mechanics, 2008, 152, 45-52.	2.4	44
7	Continuum model for the simulation of fiber spinning, with quiescent and flow-induced crystallization. Journal of Non-Newtonian Fluid Mechanics, 2008, 150, 177-195.	2.4	43
8	Fluctuation-dissipation theorem, kinetic stochastic integral and efficient simulations. Journal of the Chemical Society, Faraday Transactions, 1998, 94, 1403-1405.	1.7	37
9	Thermodynamic considerations on non-isothermal finite anisotropic elasto-viscoplasticity. Journal of Non-Newtonian Fluid Mechanics, 2008, 152, 53-65.	2.4	36
10	Polyethylene {201} crystal surface: interface stresses and thermodynamics. Polymer, 2006, 47, 5494-5504.	3.8	30
11	Automated symbolic calculations in nonequilibrium thermodynamics. Computer Physics Communications, 2010, 181, 2149-2157.	7.5	30
12	Quasi-linear versus potential-based formulations of forceâ€“flux relations and the GENERIC for irreversible processes: comparisons and examples. Continuum Mechanics and Thermodynamics, 2013, 25, 803-816.	2.2	30
13	Quantification of Microstructures in Stable and Gelated Suspensions from Cryo-SEM. Journal of Colloid and Interface Science, 2002, 248, 340-346.	9.4	27
14	Coagulation rates in concentrated colloidal suspensions studied by Brownian dynamics simulation. Physical Chemistry Chemical Physics, 1999, 1, 4429-4436.	2.8	22
15	Energy elastic effects and the concept of temperature in flowing polymeric liquids. Rheologica Acta, 2009, 48, 301-316.	2.4	22
16	Tracking a glassy polymer on its energy landscape in the course of elastic deformation. Molecular Physics, 2013, 111, 3430-3441.	1.7	21
17	Thermodynamic model formulation for viscoplastic solids as general equations for non-equilibrium reversibleâ€“irreversible coupling. Continuum Mechanics and Thermodynamics, 2012, 24, 211-227.	2.2	19
18	Microscopically derived free energy of dislocations. Journal of the Mechanics and Physics of Solids, 2015, 78, 186-209.	4.8	18

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19	Symbolic test of the Jacobi identity for given generalized â€˜Poissonâ€™ bracket. Computer Physics Communications, 2001, 137, 325-340.	7.5	17
20	Finite element formulation of fluctuating hydrodynamics for fluids filled with rigid particles using boundary fitted meshes. Journal of Computational Physics, 2016, 316, 632-651.	3.8	17
21	Thermodynamically consistent incorporation of the Schneider rate equations into two-phase models. Physical Review E, 2001, 64, 011209.	2.1	15
22	Coarse Graining in Elasto-viscoplasticity: Bridging the Gap from Microscopic Fluctuations to Dissipation. Advances in Applied Mechanics, 2009, , 253-317.	2.3	15
23	Fluctuating viscoelasticity. Journal of Non-Newtonian Fluid Mechanics, 2018, 256, 42-56.	2.4	15
24	Heterogeneity of colloidal particle networks analyzed by means of Minkowski functionals. Physical Review E, 2003, 68, 031404.	2.1	14
25	Viscoelastic fluid flow simulation using the contravariant deformation formulation. Journal of Non-Newtonian Fluid Mechanics, 2019, 270, 23-35.	2.4	14
26	Dynamic mean-field models from a nonequilibrium thermodynamics perspective. Physical Review E, 2003, 68, 016115.	2.1	13
27	Unifying kinetic approach to phoretic forces and torques onto moving and rotating convex particles. Journal of Chemical Physics, 2006, 125, 044105.	3.0	13
28	Collective behaviour of dislocations in a finite medium. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P04028.	2.3	13
29	Physical Ageing of Polystyrene: Does Tacticity Play a Role?. Macromolecules, 2019, 52, 5948-5954.	4.8	13
30	Crystal shapes and crystallization in continuum modeling. Physics of Fluids, 2005, 17, 014107.	4.0	12
31	On the Formulation of Continuum Thermodynamic Models for Solids as General Equations forÂNon-equilibrium Reversible-Irreversible Coupling. Journal of Elasticity, 2011, 104, 357-368.	1.9	12
32	Effect of lowâ€temperature physical aging on the dynamic transitions of atactic polystyrene in the glassy state. Journal of Polymer Science, Part B: Polymer Physics, 2019, 57, 1394-1401.	2.1	12
33	Two-subsystem thermodynamics for the mechanics of aging amorphous solids. Continuum Mechanics and Thermodynamics, 2017, 29, 647-663.	2.2	10
34	Effect of particle-size dynamics on properties of dense spongy-particle systems: Approach towards equilibrium. Physical Review E, 2017, 96, 012604.	2.1	10
35	Thermodynamic admissibility of the extended Pom-Pom model for branched polymers. Journal of Non-Newtonian Fluid Mechanics, 2006, 139, 209-213.	2.4	9
36	Dissipative electromagnetism from a nonequilibrium thermodynamics perspective. Physical Review E, 2006, 74, 041126.	2.1	9

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37	Continuum damage mechanics: combining thermodynamics with a thoughtful characterization of the microstructure. Acta Mechanica, 2008, 201, 297-312.	2.1	9
38	Modeling Aging and Mechanical Rejuvenation of Amorphous Solids. Journal of Non-Equilibrium Thermodynamics, 2016, 41, 79-88.	4.2	9
39	Nonlocal effects in nonisothermal hydrodynamics from the perspective of beyond-equilibrium thermodynamics. Journal of Chemical Physics, 2009, 130, 214908.	3.0	8
40	Ideal contribution to the macroscopic quasiequilibrium entropy of anisotropic fluids. Physical Review E, 2011, 83, 061713.	2.1	8
41	Comment on the use of the associated flow rule for transversely isotropic elasto-viscoplastic materials. International Journal of Plasticity, 2013, 51, 132-144.	8.8	8
42	Effect of particle-size dynamics on flow properties of dense spongy-particle systems. Journal of Rheology, 2018, 62, 543-557.	2.6	8
43	Free energy calculations by molecular simulations of deformed polymer glasses. Computer Physics Communications, 2020, 249, 107008.	7.5	8
44	Modification of linear response theory for mean-field approximations. Physical Review E, 1996, 54, 2526-2530.	2.1	7
45	Lack of Syneresis during Gelation of Dense Colloidal Suspensions. Journal of Colloid and Interface Science, 2000, 222, 46-50.	9.4	7
46	GENERIC Treatment of Compressible Two-Phase Flow: Convection Mechanism of Scalar Morphological Variables. Journal of Non-Equilibrium Thermodynamics, 2002, 27, .	4.2	7
47	Microstructural model for the plasticity of amorphous solids. Journal of Applied Polymer Science, 2012, 125, 4376-4389.	2.6	7
48	Effective mobility of dislocations from systematic coarse-graining. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P06005.	2.3	7
49	Multiscale modeling beyond equilibrium. Physics Today, 2020, 73, 36-42.	0.3	7
50	Backbone of conductivity in two-dimensional metal-insulator composites. Journal of Applied Physics, 2011, 110, 024909.	2.5	6
51	The influence of the degree of heterogeneity on the elastic properties of random sphere packings. Granular Matter, 2012, 14, 333-340.	2.2	6
52	Detecting precursors of localization by strain-field analysis. Mechanics of Materials, 2017, 110, 84-97.	3.2	6
53	Stress relaxation of dense spongy-particle systems. Journal of Rheology, 2018, 62, 831-843.	2.6	6
54	Behavior of viscoelastic models with thermal fluctuations. European Physical Journal E, 2020, 43, 24.	1.6	6

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55	Constitutive framework for rheologically complex interfaces with an application to elastoviscoplasticity. Journal of Non-Newtonian Fluid Mechanics, 2022, 301, 104726.	2.4	6
56	Crystallization under external pressure. Journal of Non-Newtonian Fluid Mechanics, 2004, 120, 55-68.	2.4	5
57	Phoretic forces on convex particles from kinetic theory and nonequilibrium thermodynamics. Journal of Chemical Physics, 2006, 124, 044511.	3.0	5
58	Kinetic model for the mechanical response of suspensions of sponge-like particles. Faraday Discussions, 2012, 158, 407.	3.2	5
59	Viscoplastic flow rule for dislocation-mediated plasticity from systematic coarse-graining. Journal of the Mechanics and Physics of Solids, 2016, 90, 77-90.	4.8	5
60	Network Topology of the States Probed by a Glassy Polymer during Physical Aging. Macromolecular Theory and Simulations, 2019, 28, 1900036.	1.4	5
61	Gauge conditions on the â€œsquare rootâ€•of the conformation tensor in rheological models. Journal of Non-Newtonian Fluid Mechanics, 2019, 271, 104145.	2.4	5
62	Structural Transitions in Glassy Atactic Polystyrene Using Transition-State Theory. Journal of Physical Chemistry B, 2021, 125, 7273-7289.	2.6	5
63	Solidification in Closed Systems: Cluster Size Distribution and Its Driving Force. Multiscale Modeling and Simulation, 2003, 1, 371-390.	1.6	4
64	What is behind the plastic strain rate?. Rheologica Acta, 2009, 48, 769-778.	2.4	4
65	Statistical-mechanics based modeling of anisotropic viscoplastic deformation. Mechanics of Materials, 2015, 80, 37-51.	3.2	4
66	Concurrent two-scale model for the viscoelastic behavior of elastomers filled with hard nanoparticles. Continuum Mechanics and Thermodynamics, 2016, 28, 1711-1739.	2.2	4
67	Modeling the shape dynamics of suspensions of permeable ellipsoidal particles. Journal of Non-Newtonian Fluid Mechanics, 2018, 259, 23-31.	2.4	4
68	Fluctuating viscoelasticity based on a finite number of dumbbells. European Physical Journal E, 2020, 43, 71.	1.6	4
69	Transient dynamics of coldâ€rolled and subsequently thermally rejuvenated atacticâ€polystyrene using broadband dielectric spectroscopy. Journal of Polymer Science, 2020, 58, 1998-2009.	3.8	4
70	Structure formation in suspensions under uniform electric or magnetic field. Multiscale and Multidisciplinary Modeling, Experiments and Design, 2021, 4, 77-97.	2.1	4
71	Monte Carlo Simulations of Semicrystalline Polyethylene: Interlamellar Domain and Crystal-Melt Interface. , 2007, , 261-284.		3
72	More on the microstructural characterization of dense particle gels. Journal of the European Ceramic Society, 2010, 30, 1237-1243.	5.7	3

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73	Thermodynamic Model Formulations for Inhomogeneous Solids with Application to Non-isothermal Phase Field Modelling. Journal of Non-Equilibrium Thermodynamics, 2016, 41, 131-139.	4.2	3
74	Free energy of dislocations in a multi-slip geometry. Journal of the Mechanics and Physics of Solids, 2016, 88, 267-273.	4.8	3
75	Characterization of structures of particles. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	3
76	Symbolic computation of the phoretic acceleration of convex particles suspended in a non-uniform gas. Computer Physics Communications, 2006, 175, 650-664.	7.5	2
77	Two-scale model for the effect of physical aging in elastomers filled with hard nanoparticles. Journal of Computational Physics, 2017, 350, 184-206.	3.8	2
78	Microscopic Carriers of Plasticity in Glassy Polystyrene. Macromolecular Theory and Simulations, 2021, 30, 2100021.	1.4	2
79	Improved associated flow rule for anisotropic viscoplasticity in thermoplastic polymer systems. Mechanics of Materials, 2021, 163, 104087.	3.2	2
80	Volume Change and Non-Local Driving Force in Crystallization. Journal of Non-Equilibrium Thermodynamics, 2006, 31, .	4.2	1
81	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, .	4.3	1
82	Structure evolution of suspensions under time-dependent electric or magnetic field. Multiscale and Multidisciplinary Modeling, Experiments and Design, 0, , 1.	2.1	1
83	On the Formulation of Continuum Thermodynamic Models for Solids as General Equations for Non-equilibrium Reversible-Irreversible Coupling. , 2011, , 357-368.		1
84	Configurational entropy of a finite number of dumbbells close to a wall. European Physical Journal E, 2022, 45, 6.	1.6	1
85	About the Proper Choice of Variables to Describe Flow-Induced Crystallization in Polymer Melts. Solid Mechanics and Its Applications, 2005, , 315-320.	0.2	0
86	Kinetic Toy Model for Crystal Plasticity. AIP Conference Proceedings, 2008, , .	0.4	0
87	Energy Elastic Effects in Flowing Polymeric Liquids, and the Concept of Nonequilibrium Temperature. AIP Conference Proceedings, 2008, , .	0.4	0
88	Viscoplasticity of metals: Comments on statistical approaches to dislocation reactions. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 1014-1019.	2.4	0