

Franz Dieter Fischer

List of Publications by Year in descending order

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210
papers

6,362
citations

76326

40
h-index

88630

70
g-index

215
all docs

215
docs citations

215
times ranked

4035
citing authors

#	ARTICLE	IF	CITATIONS
1	Strain and interface energy of ellipsoidal inclusions subjected to volumetric eigenstrains: shape factors. <i>Archive of Applied Mechanics</i> , 2022, 92, 405-411.	2.2	2
2	Physical metallurgy of high Nb-containing TiAl alloys. <i>International Journal of Materials Research</i> , 2022, 95, 585-591.	0.3	3
3	Evolution of chemically induced cracks in alkali feldspar: thermodynamic analysis. <i>Physics and Chemistry of Minerals</i> , 2022, 49, 14.	0.8	4
4	Thermodynamic trapping and diffusion model for multiple species in systems with multiple sorts of traps. <i>Acta Materialia</i> , 2022, 233, 117940.	7.9	6
5	Generalization of classical Hillert's grain growth and LSW theories to a wide family of kinetic evolution equations and stationary distribution functions. <i>Acta Materialia</i> , 2022, 235, 118085.	7.9	2
6	Role of elastic strain energy in spheroidal precipitates revisited. <i>Mechanics of Materials</i> , 2021, 155, 103781.	3.2	5
7	Surface stress of gold nanoparticles revisited. <i>International Journal of Solids and Structures</i> , 2021, 224, 111044.	2.7	9
8	On solute depletion zones along grain boundaries during segregation. <i>Acta Materialia</i> , 2020, 182, 100-107.	7.9	14
9	Driving forces on dislocations – An analytical and finite element study. <i>International Journal of Solids and Structures</i> , 2020, 190, 181-198.	2.7	7
10	Are Onsager's reciprocal relations necessary to apply Thermodynamic Extremal Principles?. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 135, 103780.	4.8	7
11	Damage tolerance of lamellar bone. <i>Bone</i> , 2020, 130, 115102.	2.9	24
12	The Emergence of Complexity from a Simple Model for Tissue Growth. <i>Journal of Statistical Physics</i> , 2020, 180, 459-473.	1.2	4
13	Constraints in thermodynamic extremal principles for non-local dissipative processes. <i>Continuum Mechanics and Thermodynamics</i> , 2020, 32, 1337-1345.	2.2	1
14	Local approach for coarsening of precipitates. <i>Scripta Materialia</i> , 2020, 178, 232-235.	5.2	1
15	On an alternative approach for simulating chemically induced crack pattern evolutions in a single crystal. <i>International Journal of Solids and Structures</i> , 2020, 202, 575-586.	2.7	2
16	Cycled hydrogen permeation through Armco iron – A joint experimental and modeling approach. <i>Corrosion Science</i> , 2020, 176, 109017.	6.6	23
17	On the treatment of non-reciprocal rate-independent kinetics via thermodynamic extremal principles. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 145, 104149.	4.8	4
18	Modelling of short-range ordering kinetics in dilute multicomponent substitutional solid solutions. <i>Philosophical Magazine</i> , 2020, 100, 1942-1961.	1.6	0

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19	Surface Energy of Au Nanoparticles Depending on Their Size and Shape. <i>Nanomaterials</i> , 2020, 10, 484.	4.1	44
20	Surface tension determines tissue shape and growth kinetics. <i>Science Advances</i> , 2019, 5, eaav9394.	10.3	80
21	Influence of misfit stress relaxation by power-law creep and plasticity on kinetics of coarsening of precipitates. <i>Scripta Materialia</i> , 2019, 168, 81-85.	5.2	1
22	An improved engineering approach to assess crack arrays: an Addendum to Arch. Appl. Mech. 84 (2014) 1325-1337. <i>Archive of Applied Mechanics</i> , 2019, 89, 731-736.	2.2	0
23	Influence of bulk energy and triple junction mobility on interface kinetics - A tool for interpretation of experiments. <i>Acta Materialia</i> , 2019, 174, 310-318.	7.9	2
24	Unification of the non-linear geometric transformation theory of martensite and crystal plasticity - Application to dislocated lath martensite in steels. <i>International Journal of Plasticity</i> , 2019, 119, 140-155.	8.8	15
25	Kinetics of interaction of impurity interstitials with dislocations revisited. <i>Progress in Materials Science</i> , 2019, 101, 172-206.	32.8	34
26	Diffusion-controlled crack propagation in alkali feldspar. <i>Physics and Chemistry of Minerals</i> , 2019, 46, 15-26.	0.8	13
27	Stress-strain analysis of the antiplane shear problem for an infinite cylindrical inclusion with eigenstrain: an addendum to Arch. Appl. Mech. 2018. <i>Archive of Applied Mechanics</i> , 2018, 88, 1209-1211.	2.2	1
28	Kinetics of grain boundary segregation in multicomponent systems - The example of a Mo-C-B-O system. <i>Scripta Materialia</i> , 2018, 150, 110-114.	5.2	22
29	Elastic stress-strain analysis of an infinite cylindrical inclusion with eigenstrain. <i>Archive of Applied Mechanics</i> , 2018, 88, 453-460.	2.2	6
30	Influence of accounting for translational motion of grains on grain growth kinetics and size distribution. <i>Scripta Materialia</i> , 2018, 146, 255-259.	5.2	2
31	An innovative concept for interstitial diffusion in stressed crystals. <i>International Journal of Solids and Structures</i> , 2018, 134, 173-180.	2.7	7
32	Surface energy of nanoparticles - influence of particle size and structure. <i>Beilstein Journal of Nanotechnology</i> , 2018, 9, 2265-2276.	2.8	130
33	Anisotropy of interstitial diffusion in bcc-crystals due to stress-induced unequal occupancies of different types of sites. <i>International Journal of Solids and Structures</i> , 2018, 152-153, 66-70.	2.7	5
34	A new approach predicting the evolution of laminated nanostructures - martensite in NiTi as an example. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2017, 25, 035004.	2.0	5
35	Intermetallic - Solidifying - Ti Al Based Alloys - From Fundamental Research to Application. <i>Advanced Engineering Materials</i> , 2017, 19, 1600735.	3.5	156
36	Calibration of phase field parameters demonstrated on kinetics of a shrinking single grain. <i>Philosophical Magazine Letters</i> , 2017, 97, 92-100.	1.2	0

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37	A variational approach to the modelling of grooving in a three-dimensional setting. Acta Materialia, 2017, 129, 331-342.	7.9	6
38	Crack driving force in twisted plywood structures. Acta Biomaterialia, 2017, 55, 349-359.	8.3	58
39	Modelling of grain refinement driven by negative grain boundary energy. Philosophical Magazine, 2017, 97, 1963-1977.	1.6	2
40	Compressed Bi-crystal micropillars showing a sigmoidal deformation state – A computational study. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 700, 168-174.	5.6	0
41	Pre- and post-buckling behavior of bi-crystalline micropillars: Origin and consequences. Acta Materialia, 2017, 124, 195-203.	7.9	18
42	Thermodynamic Treatment of Diffusive Phase Transformation (Reactive Diffusion). , 2017, , 391-434.		0
43	Couples and pairs formation – thermodynamic and kinetic modelling applied to Al–Mg–Si. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 065011.	2.0	5
44	Incorporation of vacancy generation/annihilation into reactive diffusion concept – Prediction of possible Kirkendall porosity. Computational Materials Science, 2017, 127, 136-140.	3.0	13
45	Au ₅₅ , a stable glassy cluster: results of ab initio calculations. Beilstein Journal of Nanotechnology, 2017, 8, 2221-2229.	2.8	6
46	A new treatment of transient grain growth. Acta Materialia, 2016, 115, 442-447.	7.9	14
47	A thermokinetic model for Mg–Si couple formation in Al–Mg–Si alloys. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 035021.	2.0	4
48	Experimental and theoretical evidence of displacive martensite in an intermetallic Mo-containing $\hat{\gamma}^3$ -TiAl based alloy. Acta Materialia, 2016, 115, 242-249.	7.9	55
49	Free edges at bilayered compounds – a short analytical and numerical reconsideration. Archive of Applied Mechanics, 2016, 86, 2053-2061.	2.2	2
50	A self-consistent model for thermodynamics of multicomponent solid solutions. Scripta Materialia, 2016, 123, 154-157.	5.2	2
51	Stress relaxation by power-law creep during growth of a misfitting precipitate. International Journal of Solids and Structures, 2016, 96, 74-80.	2.7	2
52	Modeling concepts for intermetallic titanium aluminides. Progress in Materials Science, 2016, 81, 55-124.	32.8	304
53	Precipitate growth in multi-component systems with stress relaxation by diffusion and creep. International Journal of Plasticity, 2016, 82, 112-126.	8.8	23
54	Improved thermodynamic treatment of vacancy-mediated diffusion and creep. Acta Materialia, 2016, 108, 347-354.	7.9	19

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55	A new self-consistent model for thermodynamics of binary solutions. Scripta Materialia, 2015, 108, 27-30.	5.2	4
56	Generalized Gaussian error functions and their applications. Acta Mechanica, 2015, 226, 2887-2897.	2.1	3
57	Relaxation of a precipitate misfit stress state by creep in the matrix. International Journal of Plasticity, 2015, 64, 164-176.	8.8	16
58	Modelling the role of compositional fluctuations in nucleation kinetics. Acta Materialia, 2015, 91, 365-376.	7.9	5
59	Stress, deformation and diffusion interactions in solids – A simulation study. Journal of the Mechanics and Physics of Solids, 2015, 78, 427-442.	4.8	13
60	Kinetics of interstitial segregation in Cottrell atmospheres and grain boundaries. Philosophical Magazine Letters, 2015, 95, 458-465.	1.2	19
61	Determination of depths of multiple traps for interstitials and their influence on diffusion kinetics. Modelling and Simulation in Materials Science and Engineering, 2014, 22, 065015.	2.0	13
62	On problems with the determination of the fracture resistance for materials with spatial variations of the Young's modulus. International Journal of Fracture, 2014, 190, 23-38.	2.2	8
63	Formation of bubbles by hydrogen attack and elastic-plastic deformation of the matrix. International Journal of Plasticity, 2014, 63, 110-123.	8.8	16
64	Chemically induced fracturing in alkali feldspar. Physics and Chemistry of Minerals, 2014, 41, 1-16.	0.8	24
65	A new view on J-integrals in elastic-plastic materials. International Journal of Fracture, 2014, 187, 77-107.	2.2	64
66	Determination of trapping parameters and the chemical diffusion coefficient from hydrogen permeation experiments. Corrosion Science, 2014, 82, 93-100.	6.6	60
67	Abnormal grain growth: a non-equilibrium thermodynamic model for multi-grain binary systems. Modelling and Simulation in Materials Science and Engineering, 2014, 22, 015013.	2.0	6
68	Improvements of strength and fracture resistance by spatial material property variations. Acta Materialia, 2014, 68, 279-294.	7.9	69
69	Diffusion of elements and vacancies in multi-component systems. Progress in Materials Science, 2014, 60, 338-367.	32.8	24
70	Thermodynamic extremal principles for irreversible processes in materials science. Acta Materialia, 2014, 67, 1-20.	7.9	111
71	Two-dimensional simulation of reactive diffusion in binary systems. Computational Materials Science, 2014, 95, 309-315.	3.0	7
72	The effect of surface contact conditions on grain boundary interdiffusion in a semi-infinite bicrystal. Philosophical Magazine, 2014, 94, 3398-3412.	1.6	2

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73	Generalization of the Lifshitz–Slyozov–Wagner coarsening theory to non-dilute multi-component systems. <i>Acta Materialia</i> , 2014, 79, 304-314.	7.9	26
74	An easy-to-use estimate of the energy-release rate for crack arrays. <i>Archive of Applied Mechanics</i> , 2014, 84, 1325-1337.	2.2	2
75	Modelling the influence of trapping on hydrogen permeation in metals. <i>Corrosion Science</i> , 2013, 76, 382-389.	6.6	39
76	A variational approach to grooving and wetting. <i>Acta Materialia</i> , 2013, 61, 1581-1591.	7.9	9
77	Elastoplastic buckling as source of misinterpretation of micropillar tests. <i>Acta Materialia</i> , 2013, 61, 4996-5007.	7.9	14
78	Modelling the role of surface stress on the kinetics of tissue growth in confined geometries. <i>Acta Biomaterialia</i> , 2013, 9, 5531-5543.	8.3	59
79	Interstitial diffusion in systems with multiple sorts of traps. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 025008.	2.0	55
80	A new computational treatment of reactive diffusion in binary systems. <i>Computational Materials Science</i> , 2013, 78, 39-46.	3.0	14
81	Diffusive and massive phase transformations in Ti–Al–Nb alloys – Modelling and experiments. <i>Intermetallics</i> , 2013, 38, 126-138.	3.9	14
82	Formation of multiple stoichiometric phases in binary systems by combined bulk and grain boundary diffusion: Experiments and model. <i>Acta Materialia</i> , 2013, 61, 32-39.	7.9	12
83	Role of vacancies in work hardening and fatigue of TiAl alloys. <i>International Journal of Plasticity</i> , 2013, 42, 83-100.	8.8	20
84	Determination of depths of traps for interstitials from thermodynamic data: a new view on carbon trapping and diffusion. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 065012.	2.0	17
85	Physicochemical Basis for Water-Actuated Movement and Stress Generation in Nonliving Plant Tissues. <i>Physical Review Letters</i> , 2013, 111, 238001.	7.8	32
86	Modeling the role of sources and sinks for vacancies on the kinetics of diffusive phase transformation in binary systems with several stoichiometric phases. <i>Philosophical Magazine Letters</i> , 2012, 92, 67-76.	1.2	4
87	Modelling the kinetics of a triple junction. <i>Acta Materialia</i> , 2012, 60, 4704-4711.	7.9	14
88	Experimental Na/K exchange between alkali feldspar and an NaCl–KCl salt melt: chemically induced fracturing and element partitioning. <i>Contributions To Mineralogy and Petrology</i> , 2012, 164, 341-358.	3.1	41
89	On configurational forces at boundaries in fracture mechanics. <i>International Journal of Fracture</i> , 2012, 174, 61-74.	2.2	19
90	Derivation of the phase field equations from the thermodynamic extremal principle. <i>Acta Materialia</i> , 2012, 60, 396-406.	7.9	18

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91	Modelling for hydrogen diffusion in metals with traps revisited. <i>Acta Materialia</i> , 2012, 60, 1211-1220.	7.9	79
92	Semi-analytical approaches to assess the crack driving force in periodically heterogeneous elastic materials. <i>International Journal of Fracture</i> , 2012, 173, 57-70.	2.2	21
93	Statistical model for ensembles undergoing phase transformations. <i>Journal of Materials Chemistry</i> , 2011, 21, 11613.	6.7	0
94	Transient solute drag in migrating grain boundaries. <i>Acta Materialia</i> , 2011, 59, 6556-6562.	7.9	17
95	Stress development during reaction of metallic nanospheres with gas. <i>Acta Materialia</i> , 2011, 59, 61-67.	7.9	16
96	Bioinspired Design Criteria for Damage-Resistant Materials with Periodically Varying Microstructure. <i>Advanced Functional Materials</i> , 2011, 21, 3634-3641.	14.9	162
97	Modelling of the influence of the vacancy source and sink activity and the stress state on diffusion in crystalline solids. <i>Acta Materialia</i> , 2011, 59, 1212-1219.	7.9	22
98	Deformation mechanisms in micron-sized PST TiAl compression samples: Experiment and model. <i>Acta Materialia</i> , 2011, 59, 3410-3421.	7.9	38
99	Modeling of excess vacancy annihilation at different types of sinks. <i>Acta Materialia</i> , 2011, 59, 3463-3472.	7.9	101
100	Diffusion processes in a migrating interface: The thick-interface model. <i>Acta Materialia</i> , 2011, 59, 4775-4786.	7.9	31
101	Chemically and mechanically driven creep due to generation and annihilation of vacancies with non-ideal sources and sinks. <i>International Journal of Plasticity</i> , 2011, 27, 1384-1390.	8.8	22
102	Fluctuations, bistability and hysteresis connected to phase transformations of nanoparticles. <i>Progress in Materials Science</i> , 2011, 56, 1030-1076.	32.8	11
103	A study on the principle of maximum dissipation for coupled and non-coupled non-isothermal processes in materials. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2011, 467, 1186-1196.	2.1	29
104	A study on the principle of maximum dissipation for coupled and non-coupled non-isothermal processes in materials. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2011, 467, 2422-2426.	2.1	13
105	A possible origin of surface cracks in rails. <i>Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit</i> , 2011, 225, 605-611.	2.0	4
106	Substitutional diffusion in multicomponent solids with non-ideal sources and sinks for vacancies. <i>Acta Materialia</i> , 2010, 58, 2698-2707.	7.9	31
107	Phase transformations of nanoparticles exposed to hydrostatic pressure. <i>Journal of Nanoparticle Research</i> , 2010, 12, 1859-1868.	1.9	3
108	Model for coarsening of intergranular precipitates in multicomponent systems. <i>Scripta Materialia</i> , 2010, 62, 754-757.	5.2	5

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109	Cracks in inhomogeneous materials: Comprehensive assessment using the configurational forces concept. <i>Engineering Fracture Mechanics</i> , 2010, 77, 2698-2711.	4.3	22
110	Reprint of "Cracks in inhomogeneous materials: Comprehensive assessment using the configurational forces concept". <i>Engineering Fracture Mechanics</i> , 2010, 77, 3611-3624.	4.3	38
111	Modeling of diffusional phase transformation in multi-component systems with stoichiometric phases. <i>Acta Materialia</i> , 2010, 58, 2905-2911.	7.9	18
112	A kinetic model of the transformation of a micropatterned amorphous precursor into a porous single crystal. <i>Acta Biomaterialia</i> , 2010, 6, 1001-1005.	8.3	33
113	Temperature fields in particles and in their environment due to sudden phase transformations. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2010, 90, 641-650.	1.6	3
114	Kinetics of Precipitation in a Complex Hot-Work Tool Steel. <i>Steel Research International</i> , 2010, 81, 64-73.	1.8	14
115	Mean-field model for the growth and coarsening of stoichiometric precipitates at grain boundaries. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2010, 18, 015011.	2.0	35
116	Stability of rod-shaped nanoparticles embedded in an elastic matrix. <i>Philosophical Magazine</i> , 2010, 90, 2027-2048.	1.6	0
117	Study of nanometer-scaled lamellar microstructure in a Ti-45Al-7.5Nb alloy " Experiments and modeling. <i>Intermetallics</i> , 2010, 18, 509-517.	3.9	26
118	Can local hot spots induce $\lambda/2$ lamellae during incomplete massive transformation of β -TiAl alloys?. <i>Intermetallics</i> , 2010, 18, 972-976.	3.9	7
119	Variational Concepts with Applications to Microstructural Evolution. <i>IUTAM Symposium on Cellular, Molecular and Tissue Mechanics</i> , 2010, , 79-90.	0.2	1
120	Phase Transformations of Nanocrystalline Martensitic Materials. <i>MRS Bulletin</i> , 2009, 34, 814-821.	3.5	128
121	Analysis of non-steady-state distribution functions for grain growth and coarsening. <i>Philosophical Magazine</i> , 2009, 89, 1425-1438.	1.6	4
122	Crack-stimulated twinning. <i>Scripta Materialia</i> , 2009, 61, 959-962.	5.2	10
123	A case study on the effect of thermal residual stresses on the crack-driving force in linear-elastic bimaterials. <i>International Journal of Mechanical Sciences</i> , 2009, 51, 531-540.	6.7	17
124	Structural fluctuations in nanoparticles. <i>Journal of Nanoparticle Research</i> , 2009, 11, 433-439.	1.9	10
125	Structural fluctuations in ensembles of nanoparticles. <i>Journal of Nanoparticle Research</i> , 2009, 11, 647-654.	1.9	6
126	Bistability, hysteresis and fluctuations in adiabatic ensembles of nanoparticles. <i>Journal of Nanoparticle Research</i> , 2009, 11, 1485-1499.	1.9	8

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127	Deformation, stress state and thermodynamic force for a growing void in an elastic-plastic material. International Journal of Plasticity, 2009, 25, 1819-1832.	8.8	33
128	Modeling of formation of binary-phase hollow nanospheres from metallic solid nanospheres. Acta Materialia, 2009, 57, 1912-1919.	7.9	28
129	Vacancy-driven stress relaxation in layers. Acta Materialia, 2009, 57, 4649-4657.	7.9	19
130	Mechanics of sheared bands - Applications to faults, twins and variants. Mechanics of Materials, 2008, 40, 195-205.	3.2	11
131	High temperature instability of hollow nanoparticles. Journal of Nanoparticle Research, 2008, 10, 255-261.	1.9	14
132	On the role of surface energy and surface stress in phase-transforming nanoparticles. Progress in Materials Science, 2008, 53, 481-527.	32.8	222
133	J-integral and crack driving force in elastic-plastic materials. Journal of the Mechanics and Physics of Solids, 2008, 56, 2876-2895.	4.8	140
134	A model for evolution of shape changing precipitates in multicomponent systems. Acta Materialia, 2008, 56, 4896-4904.	7.9	24
135	From distribution functions to evolution equations for grain growth and coarsening. Acta Materialia, 2008, 56, 5395-5400.	7.9	25
136	Deformation and damage of a crossing nose due to wheel passages. Wear, 2008, 265, 1431-1438.	3.1	54
137	Void growth due to vacancy supersaturation - A non-equilibrium thermodynamics study. Scripta Materialia, 2008, 58, 93-95.	5.2	19
138	Solute drag or diffusion processes in a migrating thick interface. Philosophical Magazine Letters, 2008, 88, 415-420.	1.2	2
139	On the relation between the principle of maximum dissipation and inelastic evolution given by dissipation potentials. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 117-132.	2.1	156
140	Computational analysis of the precipitation kinetics in a complex tool steel. International Journal of Materials Research, 2008, 99, 410-415.	0.3	10
141	Near surface deformation of rails and wheels in a curve and during acceleration and braking. Vehicle System Dynamics, 2008, 46, 71-83.	3.7	3
142	Approximate Analytical Model for Hertzian Elliptical Wheel/Rail or Wheel/Crossing Contact Problems. Journal of Tribology, 2008, 130, .	1.9	6
143	Compressive deformation of lamellar microstructures - a short review. International Journal of Materials Research, 2007, 98, 1041-1046.	0.3	9
144	A Note on the Principle of Maximum Dissipation Rate. Journal of Applied Mechanics, Transactions ASME, 2007, 74, 923-926.	2.2	11

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145	Kinetics of solute driven melting and solidification. <i>Acta Materialia</i> , 2007, 55, 2599-2607.	7.9	18
146	A new approach to modelling of non-steady grain growth. <i>Acta Materialia</i> , 2007, 55, 4467-4474.	7.9	29
147	Precipitation twinning. <i>Acta Materialia</i> , 2007, 55, 4915-4923.	7.9	36
148	Strain compensation by twinning in Au thin films: Experiment and model. <i>Acta Materialia</i> , 2007, 55, 6659-6665.	7.9	27
149	Size effects on the martensitic phase transformation of NiTi nanograins. <i>Journal of the Mechanics and Physics of Solids</i> , 2007, 55, 419-444.	4.8	267
150	Application of material forces to fracture of inhomogeneous materials: illustrative examples. <i>Archive of Applied Mechanics</i> , 2007, 77, 95-112.	2.2	11
151	On the Algorithmic Implementation of a Material Model Accounting for the Effects of Martensitic Transformation. <i>Steel Research International</i> , 2006, 77, 733-740.	1.8	5
152	Modelling of Precipitation Kinetics with Simultaneous Stress Relaxation. <i>Materials Research Society Symposia Proceedings</i> , 2006, 979, 1.	0.1	2
153	Some comments on surface cracks in rails. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2006, 29, 938-948.	3.4	22
154	The role of elastic contrast on the strain energy and the stress state of a spheroidal inclusion with a general eigenstrain state. <i>Acta Materialia</i> , 2006, 54, 151-156.	7.9	19
155	Diffusion and creep in multi-component alloys with non-ideal sources and sinks for vacancies. <i>Acta Materialia</i> , 2006, 54, 3043-3053.	7.9	117
156	Influence of diffusional stress relaxation on growth of stoichiometric precipitates in binary systems. <i>Acta Materialia</i> , 2006, 54, 4575-4581.	7.9	10
157	Shape factors in modeling of precipitation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 441, 68-72.	5.6	61
158	Phases and phase transformations in nanocrystalline ZrO ₂ . <i>Journal of Nanoparticle Research</i> , 2006, 8, 1003-1016.	1.9	38
159	On energy changes due to the formation of a circular hole in an elastic plate. <i>Archive of Applied Mechanics</i> , 2006, 76, 681-697.	2.2	11
160	Modeling of massive transformation in substitutional alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 125-132.	2.2	14
161	Modeling of kinetics of diffusive phase transformation in binary systems with multiple stoichiometric phases. <i>Journal of Phase Equilibria and Diffusion</i> , 2006, 27, 622-628.	1.4	16
162	Precipitation-Induced Nano-Twinning. <i>Materials Research Society Symposia Proceedings</i> , 2006, 980, 6.	0.1	0

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163	Continuum Mechanics of Deformation Twinning – A Review. Multidiscipline Modeling in Materials and Structures, 2006, 2, 167-187.	1.3	6
164	Modelling the Diffusional Transformation by Application of the Thermodynamic Extremal Principle. , 2005, , 26-33.		0
165	On the role of the transformation eigenstrain in the growth or shrinkage of spheroidal isotropic precipitations. Acta Materialia, 2005, 53, 367-374.	7.9	21
166	On the fracture behavior of inhomogeneous materials – A case study for elastically inhomogeneous bimerials. International Journal of Solids and Structures, 2005, 42, 605-620.	2.7	48
167	Application of the thermodynamic extremal principle to modeling of thermodynamic processes in material sciences. Philosophical Magazine, 2005, 85, 3699-3707.	1.6	137
168	Crack Tip Shielding or Anti-shielding due to Smooth and Discontinuous Material Inhomogeneities. International Journal of Fracture, 2005, 135, 73-93.	2.2	77
169	Energy Dissipation and Stability of Propagating Surfaces. Physical Review Letters, 2005, 95, 195702.	7.8	9
170	Onsager's coefficients and diffusion laws – a Monte Carlo study. Philosophical Magazine, 2005, 85, 1243-1260.	1.6	12
171	Comparison of Monte Carlo simulations and macroscopic theories of diffusion in systems with non-ideal sources and sinks for vacancies. Philosophical Magazine, 2005, 85, 2363-2389.	1.6	5
172	Relaxation of the elastic strain energy of misfitting inclusions due to diffusion of vacancies. Philosophical Magazine Letters, 2005, 85, 473-479.	1.2	18
173	Simulation of Material and Structural Instability Phenomena During the Flaring Process of Cylindrical Shells. AIP Conference Proceedings, 2004, , .	0.4	1
174	A Study of the Deformation Behavior of Lamellar β -TiAl by Numeric Modeling. Materials Research Society Symposia Proceedings, 2004, 842, 447.	0.1	2
175	Influence of material flux on the jump relations at a singular interface in a multicomponent solid. Acta Mechanica, 2004, 171, 213-223.	2.1	35
176	The temperature and stress fields developing in rolls during hot rolling. Journal of Materials Processing Technology, 2004, 150, 263-269.	6.3	25
177	Application of the thermodynamic extremal principle to the diffusional phase transformations. Acta Materialia, 2004, 52, 959-967.	7.9	67
178	Modified evolution equations for the precipitation kinetics of complex phases in multi-component systems. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2004, 28, 379-382.	1.6	113
179	Physical metallurgy of high Nb-containing TiAl alloys. International Journal of Materials Research, 2004, 95, 585-591.	0.8	19
180	Thermodynamics and Kinetics of Phase and Twin Boundaries. , 2004, , 169-201.		2

#	ARTICLE	IF	CITATIONS
181	Modelling of kinetics in multi-component multi-phase systems with spherical precipitatesII: Numerical solution and application. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004, 385, 157-165.	5.6	89
182	An energy approach to the formation of twins in TiAl. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2003, 34, 2827-2836.	2.2	28
183	Inhomogeneity effects on the crack driving force in elastic and elastic-plastic materials. <i>Journal of the Mechanics and Physics of Solids</i> , 2003, 51, 209-240.	4.8	130
184	Deformation mechanisms in TiAl intermetallics experiments and modeling. <i>International Journal of Plasticity</i> , 2003, 19, 281-321.	8.8	115
185	Mechanical twins, their development and growth. <i>European Journal of Mechanics, A/Solids</i> , 2003, 22, 709-726.	3.7	42
186	A thermodynamical model for the nucleation of mechanical twins in TiAl. <i>Acta Materialia</i> , 2003, 51, 1249-1260.	7.9	39
187	On the temperature in the wheel-rail rolling contact*. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2003, 26, 999-1006.	3.4	27
188	A thermodynamic approach to grain growth and coarsening. <i>Philosophical Magazine</i> , 2003, 83, 1075-1093.	1.6	63
189	Kinetics of Diffusional Phase Transformation in Multicomponent Elastic-Plastic Materials. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2003, 125, 266-276.	1.4	27
190	Interaction of Phase Transformation and Diffusion in Steels. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2003, 125, 22-26.	1.4	14
191	Theory, experiments and numerical modelling of phase transformations with emphasis on TRIP. <i>Steel Research = Archiv für Das Eisenhüttenwesen</i> , 2002, 73, 225-235.	0.3	11
192	Diffusional phase transformation and deformation in steels. <i>Computational Materials Science</i> , 2002, 25, 92-99.	3.0	23
193	Influence of solute segregation and drag on properties of migrating interfaces. <i>Acta Materialia</i> , 2002, 50, 967-977.	7.9	44
194	Diffusion in multi-component systems with no or dense sources and sinks for vacancies. <i>Acta Materialia</i> , 2002, 50, 1369-1381.	7.9	99
195	A micromechanical model of phase boundary movement during solid-solid phase transformations. <i>Archive of Applied Mechanics</i> , 2001, 71, 193-205.	2.2	12
196	Kinetics of interfaces during diffusional transformations I. D. Fischer dedicates this paper to Prof. D. Gross, Darmstadt, on the occasion of his 60th anniversary.1. <i>Acta Materialia</i> , 2001, 49, 1249-1259.	7.9	76
197	The Surface Temperature of a Halfplane Heated by Friction and Cooled by Convection. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2001, 81, 75-81.	1.6	15
198	Residual stress formation during the roller straightening of railway rails. <i>International Journal of Mechanical Sciences</i> , 2001, 43, 2281-2295.	6.7	79

#	ARTICLE	IF	CITATIONS
199	Buckling of Free Infinite Strips Under Residual Stresses and Global Tension. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2001, 68, 399-404.	2.2	40
200	Computational Modeling and Experimental Study of the Deformation Behavior of $\hat{\text{T}}^3\text{-TiAl}$ -Based Alloys. <i>Advanced Engineering Materials</i> , 2000, 2, 662-666.	3.5	9
201	On material immanent ratchetting of two-phase materials under cyclic purely thermal loading. <i>Archive of Applied Mechanics</i> , 1999, 69, 727-750.	2.2	11
202	Interaction energy between martensitic variants. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1999, 30, 2583-2590.	2.2	11
203	A criterion for the martensitic transformation of a microregion in an elastic-plastic material. <i>Acta Materialia</i> , 1998, 46, 2095-2102.	7.9	89
204	Residual stresses in rails due to roll straightening. <i>Steel Research = Archiv Fur Das Eisenhattenwesen</i> , 1998, 69, 272-278.	0.3	17
205	Evaluation of elastic strain energy of spheroidal inclusions with uniform volumetric and shear eigenstrains. <i>Scripta Materialia</i> , 1997, 36, 1053-1059.	5.2	19
206	Continuum mechanical aspects of phase transformations in solids. <i>Archive of Applied Mechanics</i> , 1994, 64, 54-85.	2.2	96
207	Simplified calculation of temperature field in heat treated cylinder using temperature measured at one point. <i>Materials Science and Technology</i> , 1992, 8, 468-474.	1.6	3
208	The Configurational Force Concept in Elastic-Plastic Fracture Mechanics – Instructive Examples. <i>Key Engineering Materials</i> , 0, 417-418, 297-300.	0.4	3
209	Modelling of Reaction of Metallic Nanospheres with Gas. <i>Solid State Phenomena</i> , 0, 172-174, 1028-1037.	0.3	1
210	Determination of Substitutional-Interstitial Interaction from Chemical Potentials of Interstitials in the Steel Matrix. <i>Advanced Materials Research</i> , 0, 922, 645-650.	0.3	0