David J Srolovitz

List of Publications by Year
in descending order

495	30,118	3149 92	7333 152
papers	citations	h-index	g-index

504	504	504	16627
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	High-Rate, Gas-Phase Growth of MoS2 Nested Inorganic Fullerenes and Nanotubes. Science, 1995, 267, 222-225.	6.0	1,190
2	Development of new interatomic potentials appropriate for crystalline and liquid iron. Philosophical Magazine, 2003, 83, 3977-3994.	0.7	1,113
3	Computer simulation of grain growthâ€"I. Kinetics. Acta Metallurgica, 1984, 32, 783-791.	2.1	991
4	On the stability of surfaces of stressed solids. Acta Metallurgica, 1989, 37, 621-625.	2.1	959
5	Development of an interatomic potential for phosphorus impurities in Â-iron. Journal of Physics Condensed Matter, 2004, 16, S2629-S2642.	0.7	502
6	Computer simulation of grain growthâ€"II. Grain size distribution, topology, and local dynamics. Acta Metallurgica, 1984, 32, 793-802.	2.1	464
7	Computer simulation of normal grain growth in three dimensions. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1989, 59, 293-329.	0.6	361
8	Simulation and theory of abnormal grain growthâ€"anisotropic grain boundary energies and mobilities. Acta Metallurgica, 1989, 37, 1227-1240.	2.1	334
9	Crystal-melt interfacial free energies in hcp metals: A molecular dynamics study of Mg. Physical Review B, 2006, 73, .	1.1	334
10	Computer simulation of grain growthâ€"V. Abnormal grain growth. Acta Metallurgica, 1985, 33, 2233-2247.	2.1	292
11	Capillary instabilities in thin films. I. Energetics. Journal of Applied Physics, 1986, 60, 247-254.	1.1	290
12	Computer simulation of grain growth-III. Influence of a particle dispersion. Acta Metallurgica, 1984, 32, 1429-1438.	2.1	278
13	Physical Origins of Intrinsic Stresses in Volmerâ€"Weber Thin Films. MRS Bulletin, 2002, 27, 19-25.	1.7	274
14	Structural defects in amorphous solids Statistical analysis of a computer model. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1981, 44, 847-866.	0.8	272
15	Engineering the shape and structure of materials by fractal cut. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17390-17395.	3.3	265
16	Grain-boundary kinetics: A unified approach. Progress in Materials Science, 2018, 98, 386-476.	16.0	252
17	The von Neumann relation generalized to coarsening of three-dimensional microstructures. Nature, 2007, 446, 1053-1055.	13.7	248
18	Computer simulation of recrystallizationâ€"I. Homogeneous nucleation and growth. Acta Metallurgica, 1986, 34, 1833-1845.	2.1	247

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19	Finite-temperature defect properties from free-energy minimization. Physical Review Letters, 1989, 63, 624-627.	2.9	244
20	Cracklike surface instabilities in stressed solids. Physical Review Letters, 1993, 71, 1593-1596.	2.9	244
21	Measurement of the cleavage energy of graphite. Nature Communications, 2015, 6, 7853.	5.8	240
22	Computer simulation of grain growthâ€”IV. Anisotropic grain boundary energies. Acta Metallurgica, 1985, 33, 509-520.	2.1	239
23	Strain engineering of 2D semiconductors and graphene: from strain fields to band-structure tuning and photonic applications. Light: Science and Applications, 2020, 9, 190.	7.7	239
24	Kinetics of ordering in two dimensions. II. Quenched systems. Physical Review B, 1983, 28, 2705-2716.	1.1	238
25	An atomistic study of deformation of amorphous metals. Acta Metallurgica, 1983, 31, 335-352.	2.1	227
26	Capillary instabilities in thin films. II. Kinetics. Journal of Applied Physics, 1986, 60, 255-260.	1.1	225
27	Surface stress model for intrinsic stresses in thin films. Journal of Materials Research, 2000, 15, 2468-2474.	1.2	205
28	Radial distribution function and structural relaxation in amorphous solids. Physical Review B, 1981, 24, 6936-6944.	1.1	197
29	Local structural fluctuations in amorphous and liquid metals: a simple theory of the glass transition. Journal of Physics F: Metal Physics, 1982, 12, 2141-2163.	1.6	194
30	Dislocationâ€“twin interaction mechanisms for ultrahigh strength and ductility in nanotwinned metals. Acta Materialia, 2009, 57, 4508-4518.	3.8	192
31	Twisted Bilayer Graphene: MoirÃ© with a Twist. Nano Letters, 2016, 16, 5923-5927.	4.5	175
32	Simultaneous grain boundary migration and grain rotation. Acta Materialia, 2006, 54, 1707-1719.	3.8	173
33	Diffusionally modified dislocation-particle elastic interactions. Acta Metallurgica, 1984, 32, 1079-1088.	2.1	170
34	Metal-Ceramic Adhesion and the Harris Functional. Physical Review Letters, 1994, 72, 4021-4024.	2.9	170
35	Effects of lattice anisotropy and temperature on domain growth in the two-dimensional Potts model. Physical Review A, 1991, 43, 2662-2668.	1.0	169
36	Elastic fracture in random materials. Physical Review B, 1988, 37, 5500-5507.	1.1	168

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37	Computer simulation of recrystallization in non-uniformly deformed metals. Acta Metallurgica, 1989, 37, 627-639.	2.1	166
38	Grain boundaries exhibit the dynamics of glass-forming liquids. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 7735-7740.	3.3	164
39	Computer simulation on surfaces and [001] symmetric tilt grain boundaries in Ni, Al, and Ni₃Al. Journal of Materials Research, 1989, 4, 62-77.	1.2	163
40	Domain-growth kinetics for theQ-state Potts model in two and three dimensions. Physical Review B, 1988, 38, 4752-4760.	1.1	162
41	Size-Dependent Deformation of Nanocrystalline Pt Nanopillars. Nano Letters, 2012, 12, 6385-6392.	4.5	162
42	Oscillatory Surface Relaxations in Ni, Al, and Their Ordered Alloys. Physical Review Letters, 1986, 57, 1308-1311.	2.9	156
43	Computer simulation of recrystallizationâ€”II. Heterogeneous nucleation and growth. Acta Metallurgica, 1988, 36, 2115-2128.	2.1	156
44	Columnar growth in thin films. Physical Review Letters, 1988, 60, 424-427.	2.9	152
45	The Thermodynamics and Kinetics of film agglomeration. Jom, 1995, 47, 31-36.	0.9	151
46	Oxygen Diffusion in Yttriaâ€Stabilized Zirconia: A New Simulation Model. Journal of the American Ceramic Society, 2004, 87, 1821-1830.	1.9	149
47	Misorientation dependence of intrinsic grain boundary mobility: simulation and experiment. Acta Materialia, 1999, 47, 3901-3914.	3.8	145
48	Kinetics of theQ-State Potts Model in Two Dimensions. Physical Review Letters, 1983, 50, 263-266.	2.9	140
49	Dislocation distributions in two dimensions. Scripta Metallurgica, 1989, 23, 1347-1352.	1.2	138
50	Void formation during film growth: A molecular dynamics simulation study. Journal of Applied Physics, 1996, 79, 1448-1457.	1.1	138
51	Size effect in compression of single-crystal gold microparticles. Acta Materialia, 2011, 59, 5202-5215.	3.8	136
52	Inhibition of grain growth by second phase particles: Three dimensional Monte Carlo computer simulations. Scripta Metallurgica, 1989, 23, 753-758.	1.2	134
53	Boundary Mobility and Energy Anisotropy Effects on Microstructural Evolution During Grain Growth. Journal of Materials Science, 2002, 10, 201-216.	1.2	130
54	Brittle fracture in polycrystalline microstructures with the extended finite element method. International Journal for Numerical Methods in Engineering, 2003, 56, 2015-2037.	1.5	129

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55	A kinetic Monte Carlo method for the atomic-scale simulation of chemical vapor deposition: Application to diamond. Journal of Applied Physics, 1997, 82, 6293-6300.	1.1	128
56	Reconciling grain growth and shear-coupled grain boundary migration. Nature Communications, 2017, 8, 1764.	5.8	128
57	Microstructural simulation of dynamic recrystallization. Acta Metallurgica Et Materialia, 1992, 40, 43-55.	1.9	124
58	Computer Simulation of Final-Stage Sintering: I, Model Kinetics, and Microstructure. Journal of the American Ceramic Society, 1990, 73, 2857-2864.	1.9	123
59	Theory of metalâ€"Ceramic adhesion. Acta Metallurgica Et Materialia, 1995, 43, 2721-2730.	1.9	123
60	Morphology of Nested Fullerenes. Physical Review Letters, 1995, 74, 1779-1782.	2.9	123
61	Crosshatched surface morphology in strained IIIâ€V semiconductor films. Journal of Applied Physics, 1990, 67, 4093-4098.	1.1	122
62	Stress relaxation and misfit dislocation nucleation in the growth of misfitting films: A molecular dynamics simulation study. Journal of Applied Physics, 1998, 83, 217-227.	1.1	116
63	Simultaneously enhancing the ultimate strength and ductility of high-entropy alloys via short-range ordering. Nature Communications, 2021, 12, 4953.	5.8	116
64	Computer simulation of the elastically driven migration of a flat grain boundary. Acta Materialia, 2004, 52, 2569-2576.	3.8	115
65	Grain-boundary metastability and its statistical properties. Acta Materialia, 2016, 104, 259-273.	3.8	115
66	Tracking the sliding of grain boundaries at the atomic scale. Science, 2022, 375, 1261-1265.	6.0	115
67	Effect of Fe Segregation on the Migration of a Non-Symmetric Î£5 Tilt Grain Boundary in Al. Journal of Materials Research, 2005, 20, 208-218.	1.2	114
68	Molecular dynamics simulation of triple junction migration. Acta Materialia, 2002, 50, 1405-1420.	3.8	112
69	Atomistic simulation of the deformation of gold nanopillars. Acta Materialia, 2007, 55, 2085-2099.	3.8	109
70	Thermodynamic properties of metastable Agâ€Cu alloys. Journal of Applied Physics, 1993, 74, 3144-3149.	1.1	108
71	Kinetic Monte Carlo Simulation of Chemical Vapor Deposition. Annual Review of Materials Research, 2002, 32, 297-319.	4.3	107
72	Nonlinear Geometric Effects in Mechanical Bistable Morphing Structures. Physical Review Letters, 2012, 109, 114302.	2.9	107

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73	Analytical and numerical modeling of columnar evolution in thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1988, 6, 2371-2380.	0.9	106
74	A twoâ€dimensional molecular dynamics simulation of thin film growth by oblique deposition. Journal of Applied Physics, 1996, 80, 5682-5690.	1.1	106
75	Curvature driven grain boundary migration in aluminum: molecular dynamics simulations. Acta Materialia, 2005, 53, 79-86.	3.8	106
76	Systematic Prediction of Kinetically Limited Crystal Growth Morphologies. Physical Review Letters, 2005, 95, 155503.	2.9	106
77	Impurity effects on domain-growth kinetics. I. Ising model. Physical Review B, 1985, 32, 3014-3020.	1.1	105
78	Computer simulation of grain boundaries in Ni3Al: The effect of grain boundary composition. Scripta Metallurgica, 1986, 20, 1389-1394.	1.2	105
79	Self-interstitials in V and Mo. Physical Review B, 2002, 66, .	1.1	105
80	First-principles study of graphene edge properties and flake shapes. Physical Review B, 2010, 81, .	1.1	105
81	Atomic-scale analysis of liquid-gallium embrittlement of aluminum grain boundaries. Acta Materialia, 2014, 73, 312-325.	3.8	105
82	van der Waals bilayer energetics: Generalized stacking-fault energy of graphene, boron nitride, and graphene/boron nitride bilayers. Physical Review B, 2015, 92, .	1.1	105
83	Nanowire Failure: Long = Brittle and Short = Ductile. Nano Letters, 2012, 12, 910-914.	4.5	104
84	On the volume fraction dependence of particle limited grain growth. Scripta Metallurgica, 1987, 21, 675-679.	1.2	102
85	Grain growth phenomena in films: A Monte Carlo approach. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1986, 4, 2925-2931.	0.9	101
86	Kinetics of buckling of a compressed film on a viscous substrate. Applied Physics Letters, 2001, 78, 2482-2484.	1.5	101
87	Grain growth in two dimensions. Scripta Metallurgica, 1983, 17, 241-246.	1.2	100
88	Mechanical behavior and interface design of MoSi2-based alloys and composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1992, 155, 147-158.	2.6	98
89	Simulation of faceted film growth in two-dimensions: microstructure, morphology and texture. Acta Materialia, 1999, 47, 2269-2281.	3.8	98
90	Texture development mechanisms in ion beam assisted deposition. Journal of Applied Physics, 1998, 84, 5261-5269.	1.1	97

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91	Topological framework for local structure analysis in condensed matter. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5769-76.	3.3	94
92	Atomistic Simulation of Curvature Driven Grain Boundary Migration. Journal of Materials Science, 1998, 6, 41-58.	1.2	93
93	Tunable helical ribbons. Applied Physics Letters, 2011, 98, .	1.5	93
94	Crystal-melt interfacial free energies in metals: fcc versus bcc. Physical Review B, 2004, 69, .	1.1	92
95	Nanoindentation size effect in single-crystal nanoparticles and thin films: A comparative experimental and simulation study. Acta Materialia, 2011, 59, 2309-2321.	3.8	92
96	A level set method for dislocation dynamics. Acta Materialia, 2003, 51, 5499-5518.	3.8	91
97	Simulation of faceted film growth in three dimensions: microstructure, morphology and texture. Acta Materialia, 2005, 53, 1191-1204.	3.8	89
98	Deformation mechanisms, length scales and optimizing the mechanical properties of nanotwinned metals. Acta Materialia, 2011, 59, 6890-6900.	3.8	87
99	Brittle fracture in materials with random defects. Physical Review B, 1989, 39, 9273-9281.	1.1	84
100	First-principles calculation of the thermodynamics ofInxGa1â^'xNalloys: Effect of lattice vibrations. Physical Review B, 2006, 73, .	1.1	83
101	Effects of particle size on inhibited grain growth. Scripta Metallurgica Et Materialia, 1990, 24, 101-106.	1.0	82
102	Thin Film Compressive Stresses due to Adatom Insertion into Grain Boundaries. Physical Review Letters, 2007, 99, 036102.	2.9	82
103	The effect of randomness on the strength of high-entropy alloys. Acta Materialia, 2019, 166, 424-434.	3.8	81
104	Surface morphology evolution in stressed solids: Surface diffusion controlled crack initiation. Journal of the Mechanics and Physics of Solids, 1994, 42, 1551-1574.	2.3	80
105	Level set simulations of dislocation-particle bypass mechanisms. Acta Materialia, 2004, 52, 1745-1760.	3.8	80
106	Phase field approach for simulating solid-state dewetting problems. Acta Materialia, 2012, 60, 5578-5592.	3.8	79
107	Diffusional relaxation of the dislocation-inclusion repulsion. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1983, 48, 795-809.	0.8	78
108	Grain growth in three dimensions: A lattice model. Scripta Metallurgica, 1985, 19, 225-230.	1.2	78

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109	Mechanisms of Failure in Nanoscale Metallic Glass. Nano Letters, 2014, 14, 5858-5864.	4.5	78
110	Computer simulation of recrystallizationâ€”III. Influence of a dispersion of fine particles. Acta Metallurgica Et Materialia, 1992, 40, 3475-3495.	1.9	77
111	Onset of Plasticity in Gold Nanopillar Compression. Nano Letters, 2007, 7, 101-107.	4.5	77
112	Defect interactions on solid surfaces. Surface Science, 1993, 284, 211-221.	0.8	76
113	Grain boundary migration: misorientation dependence. Current Opinion in Solid State and Materials Science, 2001, 5, 9-14.	5.6	76
114	The inverse hallâ€“petch relation in nanocrystalline metals: A discrete dislocation dynamics analysis. Journal of the Mechanics and Physics of Solids, 2016, 88, 252-266.	2.3	76
115	A highly distorted ultraelastic chemically complex Elinvar alloy. Nature, 2022, 602, 251-257.	13.7	75
116	A Monte Carlo-finite element model for strain energy controlled microstructural evolution: â€œraftingâ€•in superalloys. Acta Metallurgica, 1989, 37, 641-650.	2.1	74
117	Impurity effects on grain boundary migration. Modelling and Simulation in Materials Science and Engineering, 2002, 10, R79-R109.	0.8	74
118	Interatomic potential for vanadium suitable for radiation damage simulations. Journal of Applied Physics, 2003, 93, 3328-3335.	1.1	74
119	Abnormal grain growth induced by sub-boundary-enhanced solid-state wetting: Analysis by phase-field model simulations. Acta Materialia, 2009, 57, 838-845.	3.8	74
120	A more accurate three-dimensional grain growth algorithm. Acta Materialia, 2011, 59, 6837-6847.	3.8	74
121	Dislocation climb effects on particle bypass mechanisms. Philosophical Magazine, 2006, 86, 3937-3957.	0.7	73
122	Microstructural evolution in two-dimensional two-phase polycrystals. Acta Metallurgica Et Materialia, 1993, 41, 1119-1136.	1.9	72
123	Etching effects during the chemical vapor deposition of (100) diamond. Journal of Chemical Physics, 1999, 111, 4291-4299.	1.2	72
124	Thermal conductivity of crystalline quartz from classical simulations. Physical Review B, 2004, 70, .	1.1	71
125	Structure and evolution of quenched Ising clusters. Physical Review B, 1984, 30, 5150-5155.	1.1	70
126	Mobility of low-angle grain boundaries in pure metals. Philosophical Magazine, 2010, 90, 3107-3128.	0.7	69

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127	Shadowing effects on the microstructure of obliquely deposited films. Journal of Applied Physics, 2002, 91, 1963-1972.	1.1	68
128	Effect of material properties on liquid metal embrittlement in the Alâ€“Ga system. Acta Materialia, 2009, 57, 1546-1553.	3.8	68
129	Nanostructure and surface effects on yield in Cu nanowires. Acta Materialia, 2013, 61, 1831-1842.	3.8	68
130	Computer Simulation of Final-Stage Sintering: II, Influence of Initial Pore Size. Journal of the American Ceramic Society, 1990, 73, 2865-2872.	1.9	66
131	Abnormal grain growth in three dimensions. Scripta Metallurgica Et Materialia, 1990, 24, 661-665.	1.0	66
132	Phase separation during film growth. Journal of Applied Physics, 1992, 72, 442-446.	1.1	66
133	Adhesion in NiAl-Cr from first principles. Physical Review B, 1996, 53, 13883-13890.	1.1	65
134	Molecular dynamics simulation of single asperity contact. Acta Materialia, 2004, 52, 3983-3996.	3.8	65
135	Dislocation motion in the presence of diffusing solutes: a computer simulation study. Acta Materialia, 2000, 48, 2163-2175.	3.8	64
136	Local structure and topology of a model amorphous metal. Journal of Physics F: Metal Physics, 1981, 11, 2209-2219.	1.6	63
137	Grain boundary energy and grain growth in Al films: Comparison of experiments and simulations. Scripta Materialia, 2006, 54, 1059-1063.	2.6	63
138	Simulation of the interaction between Fe impurities and point defects in V. Physical Review B, 2007, 76, .	1.1	63
139	Influence of flexoelectric coupling on domain patterns in ferroelectrics. Physical Review B, 2014, 89, .	1.1	62
140	Machine learning determination of atomic dynamics at grain boundaries. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10943-10947.	3.3	61
141	Deep potentials for materials science. Materials Futures, 2022, 1, 022601.	3.1	61
142	Elastic field of a surface step: Atomistic simulations and anisotropic elastic theory. Physical Review B, 1996, 53, 11120-11127.	1.1	60
143	Effect of strain on the stacking fault energy of copper: A first-principles study. Physical Review B, 2013, 88, .	1.1	60
144	The grain-boundary structural unit model redux. Acta Materialia, 2017, 133, 186-199.	3.8	60

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145	Characterization of atomic motion governing grain boundary migration. Physical Review B, 2006, 74, .	1.1	59
146	Large-scale molecular dynamics simulations of wear in diamond-like carbon at the nanoscale. Applied Physics Letters, 2013, 103, .	1.5	59
147	Mechanism of texture development in ion-beam-assisted deposition. Applied Physics Letters, 1999, 75, 584-586.	1.5	58
148	Microstructure versus Flaw: Mechanisms of Failure and Strength in Nanostructures. Nano Letters, 2013, 13, 5703-5709.	4.5	58
149	Adhesion effects in material transfer in mechanical contacts. Acta Materialia, 2006, 54, 5305-5312.	3.8	57
150	Kinetics of Domain Growth: Universality of Kinetic Exponents. Physical Review Letters, 1984, 52, 1321-1324.	2.9	56
151	The mechanism of texture formation during film growth: The roles of preferential sputtering and shadowing. Applied Physics Letters, 1996, 69, 3007-3009.	1.5	56
152	Polycrystal deformation in a discrete dislocation dynamics framework. Acta Materialia, 2014, 75, 92-105.	3.8	56
153	Stress distributions in growing oxide films. Acta Materialia, 2003, 51, 2171-2190.	3.8	55
154	Edge dislocation-circular inclusion interactions at elevated temperatures. Acta Metallurgica, 1983, 31, 2151-2159.	2.1	54
155	A new method for the simulation of alloys: Application to interfacial segregation. Acta Metallurgica Et Materialia, 1991, 39, 3071-3082.	1.9	53
156	Origins of Growth Stresses in Amorphous Semiconductor Thin Films. Physical Review Letters, 2003, 91, 096101.	2.9	53
157	Clock-model description of incommensurate ferroelectric films and of nematic-liquid-crystal films. Physical Review B, 1986, 34, 1815-1819.	1.1	52
158	Effects of boundary inclination and boundary type on shear-driven grain boundary migration. Philosophical Magazine, 2008, 88, 243-256.	0.7	52
159	Monte Carlo simulation of phase separation during thinâ€film codeposition. Journal of Applied Physics, 1993, 74, 1707-1715.	1.1	51
160	Anomalous diffusion along metal/ceramic interfaces. Nature Communications, 2018, 9, 5251.	5.8	51
161	Disconnection description of triple-junction motion. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 8756-8765.	3.3	51
162	Extended ensemble molecular dynamics method for constant strain rate uniaxial deformation of polymer systems. Journal of Chemical Physics, 1997, 107, 4396-4407.	1.2	50

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163	Structure and energy of (1 1 1) low-angle twist boundaries in Al, Cu and Ni. Acta Materialia, 2013, 61, 1327-1337.	3.8	50
164	Lattice Strain Formation through Spinâ€Coupled Shells of MoS₂ on Mo₂C for Bifunctional Oxygen Reduction and Oxygen Evolution Reaction Electrocatalysts. Advanced Materials Interfaces, 2019, 6, 1900948.	1.9	50
165	Elastic step interactions on vicinal surfaces of fcc metals. Surface Science, 1994, 317, 221-234.	0.8	49
166	Three-dimensional formulation of dislocation climb. Journal of the Mechanics and Physics of Solids, 2015, 83, 319-337.	2.3	49
167	A regular solution model for impurity drag on a migrating grain boundary. Acta Materialia, 2001, 49, 589-597.	3.8	48
168	Local stress calculation in simulations of multicomponent systems. Journal of Computational Physics, 2009, 228, 8467-8479.	1.9	48
169	Twinning in thin filmsâ€"I. Elastic analysis. Acta Materialia, 1996, 44, 4085-4096.	3.8	47
170	Stress and Morphology Evolution during Island Growth. Physical Review Letters, 2006, 96, 186103.	2.9	47
171	Complete Topology of Cells, Grains, and Bubbles in Three-Dimensional Microstructures. Physical Review Letters, 2012, 109, 095505.	2.9	47
172	Geometric and topological properties of the canonical grain-growth microstructure. Physical Review E, 2015, 92, 063308.	0.8	47
173	When twins collide: Twin junctions in nanocrystalline nickel. Acta Materialia, 2016, 113, 301-310.	3.8	47
174	Equation of Motion for a Grain Boundary. Physical Review Letters, 2017, 119, 246101.	2.9	47
175	Large-area epitaxial growth of curvature-stabilized ABC trilayer graphene. Nature Communications, 2020, 11, 546.	5.8	47
176	Simulation and analysis of the migration mechanism of Î£5 tilt grain boundaries in an fcc metal. Acta Materialia, 2006, 54, 623-633.	3.8	46
177	Comparison of molecular dynamics simulation methods for the study of grain boundary migration. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 045017.	0.8	46
178	Nanocrystalline copper films are never flat. Science, 2017, 357, 397-400.	6.0	46
179	Dislocation Generation in the Two-Dimensional Frenkel-Kontorova Model at High Stresses. Physical Review Letters, 1986, 57, 2702-2705.	2.9	45
180	Effects of diffusing impurities on domain growth in the Ising model. Physical Review B, 1987, 35, 6902-6910.	1.1	45

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181	Impurity effects on adhesion: Nb, C, O, B, and S at a Mo/MoSi2interface. Physical Review B, 1993, 47, 13615-13625.	1.1	45
182	Metal / ceramic adhesion: a first principles study of MgO/Al and MgO/Ag. Journal of Adhesion Science and Technology, 1994, 8, 837-851.	1.4	45
183	MICROSTRUCTURAL STABILITY OF STRESSED LAMELLAR AND FIBER COMPOSITES. Acta Materialia, 1997, 45, 2715-2733.	3.8	45
184	Morphology evolution during the growth of strained-layer superlattices. Physical Review B, 2000, 62, 8397-8409.	1.1	45
185	First-principles study of wurtzite InN (0001) and(0001Â¯)surfaces. Physical Review B, 2006, 74, .	1.1	45
186	Chemical-Affinity Disparity and Exclusivity Drive Atomic Segregation, Short-Range Ordering, and Cluster Formation in High-Entropy Alloys. Acta Materialia, 2021, 206, 116638.	3.8	45
187	Phase separation during co-deposition of Alâ€“Ge thin films. Journal of Materials Research, 1992, 7, 653-666.	1.2	44
188	Atomic-scale simulations of chemical vapor deposition on flat and vicinal diamond substrates. Journal of Crystal Growth, 1998, 194, 353-368.	0.7	44
189	Impurity effects on domain-growth kinetics. II. Potts model. Physical Review B, 1985, 32, 3021-3025.	1.1	43
190	Nonuniform and directional grain growth caused by grain boundary mobility variations. Acta Materialia, 1998, 46, 953-964.	3.8	43
191	Misfit effects in adhesion calculations. Modelling and Simulation in Materials Science and Engineering, 1998, 6, 153-164.	0.8	43
192	Thermodynamics of solid and liquid embeddedâ€eatomâ€emethod metals: A variational study. Journal of Chemical Physics, 1991, 94, 5090-5097.	1.2	42
193	Microstructural Mechanics Model of Anisotropic-Thermal-Expansion-Induced Microcracking. Journal of the American Ceramic Society, 1994, 77, 1123-1138.	1.9	42
194	Manipulating Ferroelectric Domains in Nanostructures Under Electron Beams. Physical Review Letters, 2013, 111, 165702.	2.9	42
195	Synthesis and Physical Properties of Phase-Engineered Transition Metal Dichalcogenide Monolayer Heterostructures. ACS Nano, 2017, 11, 8619-8627.	7.3	42
196	Twinning in thin filmsâ€"II. Equilibrium microstructures. Acta Materialia, 1996, 44, 4097-4113.	3.8	41
197	First-principles study of the ?-Al2O3(0001)/Cu(111) interface. Journal of Materials Science, 1996, 3, 289.	1.2	41
198	Morphologies of diamond films from atomic-scale simulations of chemical vapor deposition. Diamond and Related Materials, 1997, 6, 1198-1206.	1.8	41

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199	Triple Junction Mobility: A Molecular Dynamics Study. Journal of Materials Science, 1999, 7, 307-319.	1.2	41
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