Alan J Ardell

List of Publications by Year
in descending order

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125 papers	5,863 citations	87843 38 h-index	74108 75 g-index
128 all docs	128 docs citations	128 times ranked	2376 citing authors

#	Article	IF	Citations
1	The (Î³ + Î³â€²)/Î³â€² phase boundary in the Niâ€“Al phase diagram from 600 to 1200 Â° C. International Journal of Materials Research, 2022, 94, 972-975.	0.1	1
2	Coarsening of skeletal microstructures: Re-examination of data on Pseudo-Skeletal Î³â€² precipitate coarsening in binary Ni-Al Alloys. Scripta Materialia, 2022, 215, 114693.	2.6	2
3	Splitting of Î³â€² Precipitates in the Context of Phase Equilibrium. Journal of Phase Equilibria and Diffusion, 2022, 43, 660-676.	0.5	1
4	Ripening of L1₂ Ni₃Ti precipitates in the framework of the trans-interface diffusion-controlled theory of particle coarsening. International Journal of Materials Research, 2022, 97, 295-303.	0.1	1
5	Coarsening of solidÎ²-Sn particles in liquid Pb-Sn alloys: Reinterpretation of experimental data in the framework of trans-interface-diffusion-controlled coarsening. Physical Review Materials, 2021, 5, .	0.9	2
6	Temperature Dependence of the Î³/Î³â€² Interfacial Energy in Binary Niâ€“Al Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 5182-5199.	1.1	10
7	Trans-interface-diffusion-controlled coarsening of Î³â€² particles in Niâ€“Al alloys: commentaries and analyses of recent data. Journal of Materials Science, 2020, 55, 14588-14610.	1.7	14
8	Disorder strengthening of ordered L1 2 alloys by face centered cubic (A1) precipitates. Intermetallics, 2017, 88, 81-90.	1.8	13
9	The roles of auxeticity and volume fraction on Î³â€² precipitate microstructures in nickel-base alloys. Philosophical Magazine Letters, 2017, 97, 35-42.	0.5	2
10	Non-integer temporal exponents in trans-interface diffusion-controlled coarsening. Journal of Materials Science, 2016, 51, 6133-6148.	1.7	12
11	Radiation-induced solute segregation in metallic alloys. Current Opinion in Solid State and Materials Science, 2016, 20, 115-139.	5.6	95
12	The effects of elastic interactions on precipitate microstructural evolution in elastically inhomogeneous nickel-base alloys. Philosophical Magazine, 2014, 94, 2101-2130.	0.7	42
13	Trans-interface-diffusion-controlled coarsening of Î³â€² precipitates in ternary Niâ€“Alâ€“Cr alloys. Acta Materialia, 2013, 61, 7828-7840.	3.8	45
14	Trans-interface-diffusion-controlled coarsening in ternary alloys. Acta Materialia, 2013, 61, 7749-7754.	3.8	27
15	Harperâ€“Dorn creep â€“ The dislocation network theory revisited. Scripta Materialia, 2013, 69, 541-544.	2.6	8
16	Gradient energy, interfacial energy and interface width. Scripta Materialia, 2012, 66, 423-426.	2.6	53
17	Coarsening of Niâ€“Ge solid-solution precipitates in â€œinverseâ€•Ni3Ge alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 550, 66-75.	2.6	10
18	The Nickel-Rich Region of the Ni-Ge Phase Diagram. Journal of Phase Equilibria and Diffusion, 2012, 33, 4-8.	0.5	8

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19	A1-L12 interfacial free energies from data on coarsening in five binary Ni alloys, informed by thermodynamic phase diagram assessments. Journal of Materials Science, 2011, 46, 4832-4849.	1.7	55
20	Quantitative predictions of the trans-interface diffusion-controlled theory of particle coarsening. Acta Materialia, 2010, 58, 4325-4331.	3.8	44
21	Chemical diffusion in hypostoichiometric Ni3Al from data on coarsening of Niâ€“Al solid solution precipitates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 516, 259-262.	2.6	8
22	Coarsening of Î³ (Niâ€“Al solid solution) precipitates in a Î³â€² (Ni3Al) matrix. Acta Materialia, 2007, 55, 4419-4427.	3.8	46
23	The elastic constants of FCC Niâ€“Ga and Niâ€“Ge alloys up to 1100K. Scripta Materialia, 2006, 54, 1327-1330.	2.6	5
24	Ripening of L12Ni3Ti precipitates in the framework of the trans-interface diffusion-controlled theory of particle coarsening. International Journal of Materials Research, 2006, 97, 295-302.	0.8	15
25	Trans-interface diffusion-controlled coarsening. Nature Materials, 2005, 4, 309-316.	13.3	230
26	Coarsening of Ni3Ge precipitates in Niâ€“Ge alloys aged under uniaxial compression. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 397, 264-270.	2.6	7
27	Coarsening behavior of Ni3Ga precipitates in Ni-Ga alloys: Dependence of microstructure and kinetics on volume fraction. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 3063-3069.	1.1	18
28	Three-dimensional phase-field simulations of coarsening kinetics of Î³â€² particles in binary Niâ€“Al alloys. Acta Materialia, 2004, 52, 2837-2845.	3.8	196
29	Retardation of the Coarsening Kinetics in Ni-Al and Ni-Ge Alloys Under Uniaxial Elastic Strain. Microscopy and Microanalysis, 2004, 10, 696-697.	0.2	1
30	Elastic constants of face-centered cubic and L12 Ni-Si alloys: Composition and temperature dependence. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2003, 34, 1863-1868.	1.1	17
31	Coarsening of Ni3Ge in binary Niâ€“Ge alloys: microstructures and volume fraction dependence of kinetics. Acta Materialia, 2003, 51, 4073-4082.	3.8	36
32	Coarsening of Î³â€² in Niâ€“Al alloys aged under uniaxial compression: II. Diffusion under stress and retardation of coarsening kinetics. Acta Materialia, 2003, 51, 5013-5019.	3.8	57
33	Coarsening of Î³â€² in Niâ€“Al alloys aged under uniaxial compression: I. Early-stage kinetics. Acta Materialia, 2003, 51, 5001-5012.	3.8	30
34	Coarsening of Î³â€² in Ni-Al alloys aged under uniaxial compression: III. Characterization of the morphology. Acta Materialia, 2003, 51, 5021-5036.	3.8	38
35	Coarsening of Î³ (Ni-Al Solid Solution) Precipitates in a Î³' (Ni₃Al) Matrix: Preliminary Results. Materials Science Forum, 2003, 442, 1-6.	0.3	2
36	The (Î³ + Î³â€²)/Î³â€² phase boundary in the Niâ€“Al phase diagram from 600 to 1200Â°C. International Journal of Materials Research, 2003, 94, 972-975.	0.8	24

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37	Precipitation of Al3Sc in binary Alâ€“Sc alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 318, 144-154.	2.6	188
38	Fracture toughness of ceramics and semi-brittle alloys using a miniaturized disk-bend test. Materials Research Innovations, 2000, 3, 250-262.	1.0	11
39	The Ni-Ni3Al phase diagram: thermodynamic modelling and the requirements of coherent equilibrium. Modelling and Simulation in Materials Science and Engineering, 2000, 8, 277-286.	0.8	18
40	Microstructural stability at elevated temperatures. Journal of the European Ceramic Society, 1999, 19, 2217-2231.	2.8	33
41	The incoherent Î³/Î³â€² solvus in Ni-Al alloys. Journal of Phase Equilibria and Diffusion, 1998, 19, 334-339.	0.3	9
42	Coarsening of Ni3Si precipitates at volume fractions from 0.03 to 0.30. Acta Materialia, 1998, 46, 5907-5916.	3.8	38
43	Fracture toughness of Tiî—¸46.5Alî—¸2.1Crî—¸3.0Nbî—¸0.2W from finite element analysis of miniaturized disk-bend test results. Intermetallics, 1998, 6, 471-477.	1.8	5
44	Latent hardening behavior of monocrystalline Al-Mg solid solution. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1997, 28, 2353-2360.	1.1	5
45	Coarsening of Ni3Si precipitates in binary Niî—¸Si alloys at intermediate to large volume fractions. Acta Materialia, 1997, 45, 1393-1400.	3.8	27
46	HARPER-DORN CREEPâ€”PREDICTIONS OF THE DISLOCATION NETWORK THEORY OF HIGH TEMPERATURE DEFORMATION. Acta Materialia, 1997, 45, 2971-2981.	3.8	24
47	Temporal behavior of the number density of particles during Ostwald ripening. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1997, 238, 108-120.	2.6	42
48	Preferential cleavage planes in biaxially stressed, vickers-indented NiAl monocrystals. Scripta Materialia, 1996, 34, 1107-1113.	2.6	0
49	Interfacial free energies and solute diffusivities from data on Ostwald ripening. Journal of Materials Science, 1995, 3, 119.	1.2	74
50	The effects of heat treatment and purity on the mechanical properties of monocrystalline NiAl. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1995, 192-193, 333-339.	2.6	4
51	Two-Dimensional Ostwald Ripening in Symmetric Diblock Copolymer Films. Physical Review Letters, 1995, 74, 4960-4960.	2.9	15
52	Coherent equilibrium in alloys containing spherical precipitates. Acta Metallurgica Et Materialia, 1995, 43, 1825-1835.	1.9	19
53	Measurement of the fracture toughness of Ni3Ge using small disk-shaped specimens. Intermetallics, 1995, 3, 397-404.	1.8	4
54	Microstructure and coarsening kinetics of Ni3Ge precipitates in aged NiGe alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1994, 183, 169-179.	2.6	19

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55	Role of volume fraction in the coarsening of Ni3Si precipitates in binary Niî—¸Si alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1994, 185, 153-163.	2.6	36
56	Coarsening kinetics and microstructure of Ni3Ga precipitates in aged Niî—¸Ga alloys. Journal of Alloys and Compounds, 1994, 205, 215-223.	2.8	13
57	The Effect of Volume Fraction on Î³â€™ (Ni3Si) Precipitate Coarsening In Ni-Si Alloys. NATO ASI Series Series B: Physics, 1994, , 215-218.	0.2	0
58	Measurement of the Fracture Toughness of Ceramic Materials Using a Miniaturized Disk-Bend Test. Journal of the American Ceramic Society, 1993, 76, 1340-1344.	1.9	17
59	Mechanical properties of individual grain boubdaries in Ni3Al using a miniaturized disk-bend test. Acta Metallurgica Et Materialia, 1993, 41, 2601-2610.	1.9	19
60	Morphological evolution of coherent misfitting precipitates in anisotropic elastic media. Physical Review Letters, 1993, 70, 2305-2308.	2.9	92
61	Optimization of Test Parameters for Quantitative Stress Measurements Using the Miniaturized Disk-Bend Test. Journal of Testing and Evaluation, 1993, 21, 263-271.	0.4	26
62	Mechanical Behavior of Monocrystalline NiAl Using A Miniaturized Disk-Bend Test. Materials Research Society Symposia Proceedings, 1992, 288, 641.	0.1	0
63	Elastic interactions and their effect on Î³' precipitate shapes in aged dilute Ni-Al alloys. Scripta Metallurgica Et Materialia, 1992, 26, 347-352.	1.0	48
64	Anomalous coarsening behavior of small volume fractions of Ni3Al precipitates in binary Niî—¸Al alloys. Acta Metallurgica Et Materialia, 1992, 40, 2661-2667.	1.9	57
65	Observation of rod-shaped T1 precipitates in an Al-Li-Cu alloy. Scripta Metallurgica Et Materialia, 1992, 26, 1759-1762.	1.0	1
66	Anomalous coarsening of small volume fractions of Ni3Al precipitates: An explanation of inhomogeneous dispersions observed at small undercoolings. Scripta Metallurgica Et Materialia, 1992, 27, 943-946.	1.0	4
67	Solute-enriched surface layers and X-ray microanalysis of thin foils of a commercial aluminium alloy. Journal of Microscopy, 1992, 165, 301-309.	0.8	3
68	Mechanical behaviour of both sides of an amorphous Fe78B14Si8 alloy ribbon as determined from miniaturized disk-bend tests. Acta Metallurgica Et Materialia, 1992, 40, 3167-3177.	1.9	12
69	Mechanical behavior of ion-irradiated ordered intermetallic compounds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1992, 152, 212-226.	2.6	8
70	Mechanical behavior of ion-irradiated ordered intermetallic compounds. , 1992, , 212-226.		1
71	Microchemical analysis of precipitate free zones in 7075-A1 in the T6, T7 and RRA tempers. Acta Metallurgica Et Materialia, 1991, 39, 591-598.	1.9	64
72	Fracture Strengths of Individual Grain Boundaries in Ni3Ai Using a Miniaturized Disk Bend Test. Materials Research Society Symposia Proceedings, 1991, 238, 375.	0.1	1

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73	Measurement of the fracture toughness of CVD-grown ZnS using a miniaturized disk-bend test. Journal of Materials Research, 1991, 6, 1950-1957.	1.2	31
74	Solid-State Phase Equilibria in the ZnS-Ga2S3 System. Journal of the American Ceramic Society, 1990, 73, 1544-1547.	1.9	13
75	Solid solution strengthening of ZnS. , 1990, , .		6
76	Late-stage two-dimensional coarsening of circular clusters. Physical Review B, 1990, 41, 2554-2556.	1.1	71
77	Observations on the effect of volume fraction on the coarsening of Î³â€² precipitates in binary Niî—¸Al alloys. Scripta Metallurgica Et Materialia, 1990, 24, 343-346.	1.0	53
78	Fractographic fingerprinting of proton-irradiation-induced disordering and amorphization of intermetallic compounds. Journal of Materials Research, 1989, 4, 565-578.	1.2	12
79	Enhanced ordering and stability of Pd8W in proton irradiated Pd-W alloys. Acta Metallurgica, 1989, 37, 1891-1902.	2.1	4
80	Scaling characteristics of dislocation link length distributions generated during the creep of crystals. Acta Metallurgica, 1989, 37, 739-748.	2.1	38
81	Correlation between microstructure and calorimetric behavior of aluminum alloy 7075 and Alî—¸Znî—¸Mg alloys in various tempers. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1989, 114, 197-203.	2.6	75
82	Addition rules and the contribution of Î″ precipitates to strengthening of aged Alî—¸Liî—¸Cu alloys. Acta Metallurgica, 1988, 36, 2995-3006.	2.1	112
83	Precipitation strengthening of binary Alî—¸Li alloys by Î´â€² precipitates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1988, 104, 149-156.	2.6	41
84	Solid-state phase equilibria in the ZnS-CdS system. Materials Research Bulletin, 1988, 23, 1667-1673.	2.7	23
85	The structure of amorphous Ni 50 Ti 50 alloys prepared by proton irradiation and mechanical alloying. Journal of Non-Crystalline Solids, 1988, 106, 81-84.	1.5	8
86	Enhanced ordering of Pd8Mo and induced solute segregation in proton-irradiated Pdî—¸Mo alloys. Journal of the Less Common Metals, 1988, 143, 251-263.	0.9	6
87	On the stability of the ordered Pd8V phase in a proton-irradiated Pd-15at.%V alloy. Journal of the Less Common Metals, 1988, 141, 45-53.	0.9	14
88	Antiphase boundary energies and the transition from shearing to looping in alloys strengthened by ordered precipitates. Philosophical Magazine Letters, 1988, 58, 189-197.	0.5	31
89	Precipitate microstructure of peak-aged 7075 Al. Scripta Metallurgica, 1988, 22, 1115-1119.	1.2	61
90	Structural comparison of amorphous Cu50Zr50 alloys prepared by proton irradiation, melt spinning, and mechanical alloying. Journal of Applied Physics, 1988, 64, 4772-4774.	1.1	26

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91	The formation of Pd8Mo in proton-irradiated Pd-Mo solid solutions. Materials Letters, 1987, 6, 67-70.	1.3	13
92	Dynamic recovery during compression testing of monocrystalline NaCl at elevated temperatures. Materials Science and Engineering, 1987, 92, 63-70.	0.1	5
93	Precipitation at grain boundaries in the commercial alloy Al 7075. Acta Metallurgica, 1986, 34, 2399-2409.	2.1	47
94	Effect of heat treatment on precipitation behaviour in a Cu-Ni-Si-P alloy. Journal of Materials Science, 1986, 21, 1357-1362.	1.7	41
95	A dislocation network theory of Harper-Dorn creepâ€"I. Steady state creep of monocrystalline Al. Acta Metallurgica, 1986, 34, 2411-2423.	2.1	55
96	Dislocation link-length statistics and elevated temperature deformation of crystals. Mechanics of Materials, 1984, 3, 319-332.	1.7	41
97	Crystallization of amorphous Ni35Zr65 and Fe40Ni40P14B6 under proton irradiation. Journal of Non-Crystalline Solids, 1984, 65, 73-86.	1.5	2
98	Irradiation damage in proton irradiated palladium-iron solid solutions. Journal of Nuclear Materials, 1983, 114, 66-74.	1.3	5
99	On the modeling of irradiation-induced homogeneous precipitation in proton-bombarded Ni-Si solid solutions. Journal of Nuclear Materials, 1981, 101, 314-325.	1.3	23
100	Order hardening: comparison between revised theory and experiment. Metal Science, 1980, 14, 221-224.	0.7	12
101	Microstructure and transient creep in an austenitic stainless steel. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1979, 39, 65-73.	0.7	29
102	A phenomenological theory of transient creep. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1979, 39, 75-90.	0.7	12
103	Antiphase domain growth in Cu3Au: Quantitative comparison between theory and experiment. Acta Metallurgica, 1979, 27, 1261-1269.	2.1	12
104	The mechanism of overaging in Cu3Au-1.5 at.% Co alloy single crystals. Materials Science and Engineering, 1978, 36, 139-143.	0.1	7
105	Void ordering in nitrogen-ion irradiated nickelâ€"aluminum solid solutions. Journal of Nuclear Materials, 1978, 75, 177-185.	1.3	24
106	Long-range order in Cu3Au and dilute Cu3Auâ€"Co alloys. Journal of Applied Crystallography, 1977, 10, 468-472.	1.9	2
107	Hardening mechanisms in underaged ordered and disordered Cu3Au-Co alloy single crystals. Acta Metallurgica, 1977, 25, 1231-1240.	2.1	6
108	The observation of multiple-layer loops in nickel base alloys under ion bombardment. Physica Status Solidi A, 1976, 34, 679-690.	1.7	8

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109	The effect of particle size distributions on the CRSS of aged Niî—¸Al alloys. Acta Metallurgica, 1976, 24, 827-833.	2.1	14
110	Precipitation hardening of Ni-12.19 at.% Al alloy single crystals. Acta Metallurgica, 1975, 23, 513-520.	2.1	48
111	The coarsening of Î³' precipitates at large volume fractions. Acta Metallurgica, 1974, 22, 577-588.	2.1	176
112	Particle range and energy deposition in materials containing voids. Radiation Effects, 1974, 22, 217-223.	0.4	9
113	On diffraction contrast effects at extrinsic grain boundary dislocations. Physica Status Solidi A, 1973, 18, 407-417.	1.7	13
114	On the coarsening of grain boundary precipitates. Acta Metallurgica, 1972, 20, 601-609.	2.1	260
115	The effect of volume fraction on particle coarsening: theoretical considerations. Acta Metallurgica, 1972, 20, 61-71.	2.1	771
116	Observations on the precipitation-hardening of a Cu3Auî—¸Co alloy. Materials Science and Engineering, 1972, 9, 163-174.	0.1	6
117	The coarsening behavior of the Î³â€² precipitate in nickel-silicon alloys. Acta Metallurgica, 1971, 19, 321-330.	2.1	159
118	The coherent solubilities of Î³â€² in Ni-Al, Ni-Si AND Ni-Ti alloys. Acta Metallurgica, 1969, 17, 595-602.	2.1	92
119	An application of the theory of particle coarsening: The Î³' precipitate in Niî—¸Al alloys. Acta Metallurgica, 1968, 16, 511-516.	2.1	192
120	Reply to â€œcomments on â€˜further applications of the theory of particle coarseningâ€™â€• Scripta Metallurgica, 1968, 2, 173-176.	1.2	4
121	On the modulated structure of aged Ni-Al alloys. Acta Metallurgica, 1966, 14, 1295-1309.	2.1	615
122	The coarsening of Î³' in Ni-Al alloys. Journal of Physics and Chemistry of Solids, 1966, 27, 1793-1794.	1.9	311
123	Dislocation Mobility and the Steadyâ€State Creep of Crystals with Special Reference to Î± Zirconium. Journal of Applied Physics, 1966, 37, 2910-2911.	1.1	5
124	Statistics of Jogs on Dislocations at Equilibrium. Journal of Applied Physics, 1965, 36, 1727-1732.	1.1	22
125	On the calculation of melting temperatures for low-temperature phases of polymorphic metals. Acta Metallurgica, 1963, 11, 591-594.	2.1	70