

Roger Reed

List of Publications by Year in descending order

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53789

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82
docs citations

82
times ranked

3364
citing authors

#	ARTICLE	IF	CITATIONS
1	A new class of alumina-forming superalloy for 3D printing. Additive Manufacturing, 2022, 52, 102608.	3.0	5
2	Alloys-by-design: A low-modulus titanium alloy for additively manufactured biomedical implants. Acta Materialia, 2022, 229, 117749.	7.9	39
3	Biomechanical Comparison of Periprosthetic Femoral Fracture Risk in Three Femoral Components in a Sawbone Model. Journal of Arthroplasty, 2021, 36, 387-394.	3.1	11
4	Profilometry-based indentation plastometry to obtain stress-strain curves from anisotropic superalloy components made by additive manufacturing. Materialia, 2021, 15, 101017.	2.7	24
5	Characterization of oxidation mechanisms in a family of polycrystalline chromia-forming nickel-base superalloys. Acta Materialia, 2021, 206, 116626.	7.9	17
6	On the assessment of creep damage evolution in nickel-based superalloys through correlative HR-EBSD and cECCI studies. Acta Materialia, 2020, 185, 13-27.	7.9	21
7	On the size and orientation effect in additive manufactured Ti-6Al-4V. Materials and Design, 2020, 186, 108235.	7.0	95
8	Modelling of the degradation of martensitic stainless steels by the Boudouard reaction. Corrosion Science, 2020, 173, 108699.	6.6	8
9	Synthetic bone: Design by additive manufacturing. Acta Biomaterialia, 2019, 97, 637-656.	8.3	169
10	Alloys-by-design: Application to titanium alloys for optimal superplasticity. Acta Materialia, 2019, 178, 275-287.	7.9	75
11	Ultrafast miniaturised assessment of high-temperature creep properties of metals. Materials Letters, 2019, 240, 287-290.	2.6	3
12	Grain boundary properties of a nickel-based superalloy: Characterisation and modelling. Acta Materialia, 2018, 151, 377-394.	7.9	42
13	A thermodynamically consistent constitutive model for diffusion-assisted plasticity in Ni-based superalloys. International Journal of Plasticity, 2018, 105, 74-98.	8.8	28
14	Critical assessment 31: On the modelling of tertiary creep in single-crystal superalloys. Materials Science and Technology, 2018, 34, 2174-2201.	1.6	8
15	Environmentally-assisted grain boundary attack as a mechanism of embrittlement in a nickel-based superalloy. Acta Materialia, 2017, 126, 361-371.	7.9	107
16	On the microtwinning mechanism in a single crystal superalloy. Acta Materialia, 2017, 135, 314-329.	7.9	102
17	On the temperature dependent strengthening of nickel by transition metal solutes. Acta Materialia, 2017, 137, 54-63.	7.9	21
18	On the breakaway oxidation of Fe9Cr1Mo steel in high pressure CO ₂ . Acta Materialia, 2017, 130, 361-374.	7.9	53

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19	An Atom Probe Tomography study of site preference and partitioning in a nickel-based superalloy. <i>Acta Materialia</i> , 2017, 125, 156-165.	7.9	113
20	Atom Probe Characterization of Oxide Layers Formed on Polycrystalline Nickel Based Superalloys. <i>Microscopy and Microanalysis</i> , 2017, 23, 700-701.	0.4	0
21	The Effect of Nb/Ti Ratio on Hardness in High-Strength Ni-Based Superalloys. <i>Metals</i> , 2017, 7, 71.	2.3	13
22	An iterative approach of hot isostatic pressing tooling design for net-shape IN718 superalloy parts. <i>International Journal of Advanced Manufacturing Technology</i> , 2016, 83, 1835-1845.	3.0	25
23	Isolation and testing of new single crystal superalloys using alloys-by-design method. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 667, 261-278.	5.6	31
24	On the mechanisms of superplasticity in Ti-6Al-4V. <i>Acta Materialia</i> , 2016, 105, 449-463.	7.9	171
25	On the effect of boron on grain boundary character in a new polycrystalline superalloy. <i>Acta Materialia</i> , 2016, 103, 688-699.	7.9	149
26	Integrated APT/ τ -EBSD for Grain Boundary Analysis of Thermally Grown Oxide on a Ni-Based Superalloy. <i>Microscopy and Microanalysis</i> , 2015, 21, 687-688.	0.4	9
27	Time-resolved synchrotron diffractometry of phase transformations in high strength nickel-based superalloys. <i>Acta Materialia</i> , 2015, 94, 244-256.	7.9	33
28	Superplasticity in Ti-6Al-4V: Characterisation, modelling and applications. <i>Acta Materialia</i> , 2015, 95, 428-442.	7.9	195
29	Isolation of optimal compositions of single crystal superalloys by mapping of a material's genome. <i>Acta Materialia</i> , 2015, 90, 330-343.	7.9	15
30	Modelling of the influence of alloy composition on flow stress in high-strength nickel-based superalloys. <i>Acta Materialia</i> , 2014, 75, 356-370.	7.9	127
31	Microstructural Characterization of a Thermal Barrier Coating System Using SEM, TEM and APT Techniques. <i>Microscopy and Microanalysis</i> , 2013, 19, 1866-1867.	0.4	0
32	A model for the creep deformation behaviour of nickel-based single crystal superalloys. <i>Acta Materialia</i> , 2012, 60, 4888-4900.	7.9	181
33	Modelling of High Temperature Oxidation of Alumina-Forming Single-Crystal Nickel-Base Superalloys. <i>Acta Materialia</i> , 2012, 60, 5468-5480.	7.9	98
34	On the modelling of the point defects in the ordered B2 phase of the Ti-Al system: Combining CALPHAD with first-principles calculations. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2012, 39, 21-26.	1.6	18
35	On the possibility of rhenium clustering in nickel-based superalloys. <i>Acta Materialia</i> , 2012, 60, 2866-2872.	7.9	78
36	Thermodynamic assessment of the ordered B2 phase in the Ti-V-Cr-Al quaternary system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2011, 35, 204-208.	1.6	11

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37	Oxidation of nickel-based single-crystal superalloys for industrial gas turbine applications. Acta Materialia, 2011, 59, 225-240.	7.9	236
38	Linear friction welding of Ti-6Al-4V: Modelling and validation. Acta Materialia, 2011, 59, 3792-3803.	7.9	128
39	Thermodynamic and kinetic modeling of bcc phase in the Ti-Al-V ternary system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 528, 622-630.	5.6	31
40	Atom probe tomography analysis of the distribution of rhenium in nickel alloys. Acta Materialia, 2010, 58, 931-942.	7.9	101
41	Phase-field modelling of as-cast microstructure evolution in nickel-based superalloys. Acta Materialia, 2009, 57, 5862-5875.	7.9	71
42	Alloys-By-Design: Application to nickel-based single crystal superalloys. Acta Materialia, 2009, 57, 5898-5913.	7.9	423
43	On the compatibility of single crystal superalloys with a thermal barrier coating system. Acta Materialia, 2008, 56, 313-323.	7.9	31
44	A model for the creep deformation behaviour of single-crystal superalloy CMSX-4. Acta Materialia, 2008, 56, 1657-1670.	7.9	140
45	A critique of rhenium clustering in Ni-Re alloys using extended X-ray absorption spectroscopy. Acta Materialia, 2008, 56, 2669-2675.	7.9	65
46	The retention of thermal barrier coating systems on single-crystal superalloys: Effects of substrate composition. Acta Materialia, 2008, 56, 3622-3629.	7.9	76
47	On the numerical simulation of diffusion-controlled reactions under local equilibrium conditions. Acta Materialia, 2008, 56, 3754-3760.	7.9	19
48	Primary creep in single crystal superalloys: Origins, mechanisms and effects. Acta Materialia, 2007, 55, 1067-1081.	7.9	253
49	Damage accumulation during creep deformation of a single crystal superalloy at 1150°C. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 448, 88-96.	5.6	152
50	The effect of TCP morphology on the development of aluminide coated superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 396, 231-239.	5.6	127
51	Diffusion rates of 3d transition metal solutes in nickel by first-principles calculations. Acta Materialia, 2005, 53, 2369-2376.	7.9	90
52	Interdiffusion of the platinum-group metals in nickel at elevated temperatures. Acta Materialia, 2003, 51, 2905-2919.	7.9	187
53	Intergranular strain accumulation in a near-alpha titanium alloy during plastic deformation. Acta Materialia, 2002, 50, 4847-4864.	7.9	54
54	Intergranular and interphase microstresses. Current Opinion in Solid State and Materials Science, 2001, 5, 31-37.	11.5	104

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55	Numerical analysis of the weldability of superalloys. <i>Acta Materialia</i> , 2001, 49, 683-697.	7.9	106
56	On the diffusion of aluminium and titanium in the Ni-rich Ni-Al-Ti system between 900 and 1200°C. <i>Acta Materialia</i> , 2001, 49, 861-875.	7.9	65
57	A two phase elastic-plastic self-consistent model for the accumulation of microstrains in Waspaloy. <i>Acta Materialia</i> , 2001, 49, 1271-1283.	7.9	45
58	The role of stacking fault shear in the primary creep of [001]-oriented single crystal superalloys at 750°C and 750 MPa. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001, 300, 125-134.	5.6	116
59	The precipitation of topologically close-packed phases in rhenium-containing superalloys. <i>Acta Materialia</i> , 2001, 49, 4113-4125.	7.9	523
60	Three-dimensional, finite deformation, rate-dependent plasticity in single-crystal nickel alloys at elevated temperatures. <i>Computers and Structures</i> , 2000, 77, 583-593.	4.4	5
61	Process modelling of grain selection during the solidification of single crystal superalloy castings. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2000, 280, 233-246.	5.6	115
62	Interdiffusion in the face-centred cubic phase of the Ni-Re, Ni-Ta and Ni-W systems between 900 and 1300°C. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2000, 281, 229-233.	5.6	227
63	On the formation of a centreline grain boundary during fusion welding. <i>Acta Materialia</i> , 2000, 48, 4191-4201.	7.9	53
64	Microstructural evolution of Inconel* 718 during ingot breakdown: process modelling and validation. <i>Materials Science and Technology</i> , 2000, 16, 14-25.	1.6	52
65	Laser transformation hardening of steel: effects of beam mode, beam size, and composition. <i>Materials Science and Technology</i> , 1999, 15, 109-118.	1.6	10
66	Creep of CMSX-4 superalloy single crystals: effects of misorientation and temperature. <i>Acta Materialia</i> , 1999, 47, 1549-1563.	7.9	186
67	On the kinetics of rafting in CMSX-4 superalloy single crystals. <i>Acta Materialia</i> , 1999, 47, 2031-2045.	7.9	213
68	Creep of CMSX-4 superalloy single crystals: effects of rafting at high temperature. <i>Acta Materialia</i> , 1999, 47, 3367-3381.	7.9	263
69	Heat treatment of UDIMET 720Li: the effect of microstructure on properties. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1999, 259, 85-97.	5.6	338
70	Determination of the precipitation kinetics of Ni ₃ Al in the Ni-Al system using differential scanning calorimetry. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1999, 264, 26-38.	5.6	27
71	On the generation of microstrains during the plastic deformation of Waspaloy. <i>Acta Materialia</i> , 1999, 47, 4435-4448.	7.9	69
72	Model for growth and coarsening of two phase systems under diffusional control. <i>Materials Science and Technology</i> , 1999, 15, 738-749.	1.6	1

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73	A coupled thermodynamic/kinetic model for diffusional processes in superalloys. <i>Acta Materialia</i> , 1998, 46, 4587-4600.	7.9	53
74	Quantification of the minor precipitates in UDIMET [®] alloy 720(LI) using electrolytic extraction and X-ray diffraction. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1998, 245, 225-232.	5.6	22
75	Determination of re-austenitisation kinetics in a Fe-0.4C steel using dilatometry and neutron diffraction. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1998, 256, 152-165.	5.6	34
76	Modelling of re-austenitization from the pearlite structure in steel. <i>Acta Materialia</i> , 1998, 46, 3949-3962.	7.9	56
77	Laser-pulse heat treatment: Application to re-austenitisation from ferrite/cementite mixtures. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1997, 232, 140-149.	5.6	4
78	X-ray measurement of residual stresses in laser surface melted Ti-6Al-4V alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1996, 208, 143-147.	5.6	39
79	Theory for re-austenitisation from ferrite/cementite mixtures in Fe-C-X steels. <i>Acta Metallurgica Et Materialia</i> , 1995, 43, 2013-2031.	1.8	68
80	A simple model for multipass steel welds. <i>Acta Metallurgica Et Materialia</i> , 1994, 42, 3663-3678.	1.8	68
81	Modelling re-austenitisation from ferrite/cementite mixtures in Fe-C steels. <i>Acta Metallurgica Et Materialia</i> , 1994, 42, 1469-1480.	1.8	48
82	Mechanisms of Superplasticity in Titanium Alloys: Measurement, & In Situ & Observations and Rationalization. <i>Defect and Diffusion Forum</i> , 0, 385, 65-71.	0.4	4