Lesley Cornish

List of Publications by Year
in descending order

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108	1,475	304743	414414
papers	citations	22 h-index	32 g-index

108	108	108	916
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hydrogen in metals. Engineering Failure Analysis, 2001, 8, 113-121.	4.0	100
2	Development of Platinum-Group-Metal Superalloys for High-Temperature Use. MRS Bulletin, 2003, 28, 632-638.	3.5	57
3	X-ray diffraction measurement of residual stress in WC-Co thermally sprayed coatings onto metal substrates. Surface and Coatings Technology, 2012, 206, 4725-4729.	4.8	57
4	Constitution and hardnesses of the Alâ€“Ir system. Journal of Alloys and Compounds, 1998, 280, 240-250.	5.5	46
5	Effect of Mo2C additions on the properties of SPS manufactured WCâ€“TiCâ€“Ni cemented carbides. International Journal of Refractory Metals and Hard Materials, 2013, 41, 12-21.	3.8	46
6	Fine Grained WCâ€“VCâ€“Co Hardmetal. Powder Metallurgy, 1996, 39, 210-212.	1.7	41
7	Investigation of the aluminium-ruthenium phase diagram above 25 at.% ruthenium. Journal of Alloys and Compounds, 1996, 234, 275-279.	5.5	37
8	Investigation of hot ductility in Al-killed boron steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 494, 263-275.	5.6	37
9	Correlation between residual stress and abrasive wear of WCâ€“17Co coatings. International Journal of Refractory Metals and Hard Materials, 2014, 44, 68-76.	3.8	37
10	An investigation of the B2 phase between AlRu and AlNi in the Alâ€“Niâ€“Ru ternary system. Journal of Alloys and Compounds, 1998, 264, 173-179.	5.5	36
11	The effects of Ti and Cr additions on the phase equilibria and properties of (Pt)/Pt3Al alloys. Journal of Alloys and Compounds, 2001, 322, 166-175.	5.5	36
12	Martensitic transformations, microstructure, and mechanical workability of TiPt. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2001, 32, 1881-1886.	2.2	34
13	Corrosion behaviour of superferritic stainless steels cathodically modified with minor additions of ruthenium in sulphuric and hydrochloric acids. Materials & Design, 2009, 30, 1451-1457.	5.1	33
14	Revised phase diagram for the Ptâ€“Ti system from 30 to 60 at.% platinum. Journal of Alloys and Compounds, 2004, 375, 120-127.	5.5	32
15	Thermodynamic assessment of the Alî—¸Ru system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2003, 27, 79-90.	1.6	29
16	Displacive transformations in Au-18 wt pct Cu-6 wt pct Al. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2000, 31, 1917-1923.	2.2	28
17	On the development and investigation of quaternary Pt-based superalloys with Ni additions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 567-575.	2.2	28
18	Predicting yield strengths of Al-Zn-Mg-Cu-(Zr) aluminium alloys based on alloy composition or hardness. Materials and Design, 2016, 99, 211-218.	7.0	26

#	Article	IF	Citations
19	Microstructure and mechanical properties of selective laser melted Ti-3Al-8V-6Cr-4Zr-4Mo compared to Ti-6Al-4V. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 747, 225-231.	5.6	26
20	Hardness and colour trends along the 76 wt.% Au (18.2 carat) line of the Auâ€“Cuâ€“Al system. Scripta Materialia, 2002, 47, 95-100.	5.2	25
21	A 500 Â°C isothermal section for the Al-Au-Cu system. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 987-993.	2.2	24
22	The effect of microstructure on hardness measurements in the aluminium-rich corner of the Alâ€“Niâ€“Cr system. Journal of Alloys and Compounds, 2001, 317-318, 372-378.	5.5	22
23	Building a Thermodynamic Database for Platinum-Based Superalloys: Part I. Platinum Metals Review, 2007, 51, 104-115.	1.2	21
24	Microstructure and material properties of PECS manufactured WC-NbC-CO and WC-TiC-Ni cemented carbides. International Journal of Refractory Metals and Hard Materials, 2015, 49, 240-248.	3.8	21
25	Investigation of the high aluminium end of the aluminium-ruthenium phase diagram. Journal of Alloys and Compounds, 1996, 233, 241-245.	5.5	20
26	An investigation of the Alâ€“Re phase diagram. Journal of Alloys and Compounds, 1999, 291, 117-129.	5.5	20
27	The third order nonlinear optical properties of gold nanoparticles in glasses, part II. Gold Bulletin, 2003, 36, 51-58.	2.7	20
28	The Platinum Development Initiative: Platinum-Based Alloys for High Temperature and Special Applications: Part I. Platinum Metals Review, 2009, 53, 2-10.	1.2	19
29	Determination of the 76 wt.% Au section of the Alâ€“Auâ€“Cu phase diagram. Journal of Alloys and Compounds, 2003, 354, 171-180.	5.5	18
30	Unexpected ordering behaviour of Pt3Al intermetallic precipitates. Journal of Alloys and Compounds, 2007, 432, 96-102.	5.5	18
31	The Platinum Development Initiative: Platinum-Based Alloys for High Temperature and Special Applications: Part IV. Platinum Metals Review, 2010, 54, 112-119.	1.2	18
32	Influence of Ru on the hardness and fracture toughness of WC-VC-Co alloys. International Journal of Refractory Metals and Hard Materials, 2018, 77, 54-60.	3.8	18
33	A metallographic study of the Alâ€“Niâ€“Re phase diagram. Journal of Alloys and Compounds, 1999, 291, 145-166.	5.5	17
34	High-temperature sliding wear, elastic modulus and transverse rupture strength of Ni bonded NbC and WC cermets. International Journal of Refractory Metals and Hard Materials, 2020, 87, 105143.	3.8	17
35	New developments in high-temperature platinum alloys. Jom, 2001, 53, 19-20.	1.9	16
36	Mechanical properties and microstructure of platinum enhanced radiopaque stainless steel (PERSS) alloys. Journal of Alloys and Compounds, 2003, 361, 187-199.	5.5	16

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37	Microstructure, mechanical and machining properties of LPS and SPS NbC cemented carbides for face-milling of grey cast iron. International Journal of Refractory Metals and Hard Materials, 2018, 73, 111-120.	3.8	16
38	The development of platinum-based alloys and their thermodynamic database. Journal of Mining and Metallurgy, Section B: Metallurgy, 2002, 38, 197-204.	0.8	16
39	Effect of substrate on the 3 body abrasion wear of HVOF WC-17wt.% Co coatings. International Journal of Refractory Metals and Hard Materials, 2012, 35, 288-294.	3.8	15
40	Constitution of the Alî—¸Niî—¸Ru ternary system above 50 at. % aluminium. Journal of Alloys and Compounds, 1997, 256, 221-227.	5.5	14
41	Constitution of the Alâ€“Irâ€“Ru system. Journal of Alloys and Compounds, 1999, 291, 130-144.	5.5	14
42	Abrasion wear, thermal shock and impact resistance of WC-cemented carbides produced by PECS and LPS. International Journal of Refractory Metals and Hard Materials, 2015, 49, 133-142.	3.8	14
43	A study of the Alî—¸Niî—¸Ru ternary system below 50 at.% aluminium. Journal of Alloys and Compounds, 1997, 256, 213-220.	5.5	13
44	Solidification phases and liquidus surface of the Alâ€“Niâ€“Ru system above 50 at.% aluminium. Journal of Alloys and Compounds, 2000, 308, 205-215.	5.5	13
45	The Platinum Development Initiative: Platinum-Based Alloys for High Temperature and Special Applications: Part II. Platinum Metals Review, 2009, 53, 69-77.	1.2	12
46	Oxidation kinetics and mechanisms of growth of alumina scale on precipitation-hardened Ptâ€“Alâ€“Crâ€“Ru alloys. Corrosion Science, 2012, 63, 119-128.	6.6	12
47	Determination of residual stress in alumina scale by photostimulated Cr3+ luminescence piezospectroscopy. Corrosion Science, 2013, 70, 276-284.	6.6	12
48	Sliding wear characteristics of WC-VC-Co alloys with various Ru additions. International Journal of Refractory Metals and Hard Materials, 2021, 95, 105429.	3.8	12
49	An investigation of the Pt-Al-Ru diagram to facilitate alloy development. Journal of Phase Equilibria and Diffusion, 2001, 22, 214-218.	0.3	11
50	The Platinum Development Initiative: Platinum-Based Alloys for High Temperature and Special Applications: Part III. Platinum Metals Review, 2009, 53, 155-163.	1.2	11
51	Polycrystalline cubic boron nitride sintered with Ti(C,N)-W-Al mechanically alloyed binders. Journal of the European Ceramic Society, 2012, 32, 3593-3601.	5.7	11
52	Derivation of the liquidus surface projection for the Alâ€“Ptâ€“Ru system from as-cast samples. Journal of Alloys and Compounds, 2005, 403, 245-257.	5.5	10
53	Mechanical behaviour of pack carburized AISI 316L austenitic stainless steel. Journal of the South African Institute of Mining and Metallurgy, 2015, 115, 1183-1191.	0.5	10
54	Building a Thermodynamic Database for Platinum-Based Superalloys: Part II. Platinum Metals Review, 2007, 51, 189-198.	1.2	9

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55	Investigation of as-cast alloys in the Ptâ€“Alâ€“Cr system. Journal of Alloys and Compounds, 2010, 490, 124-144.	5.5	8
56	Transformation and alloying mechanisms in sub-stoichiometric titanium carbonitrides - tungsten high energy ball milled powders. International Journal of Refractory Metals and Hard Materials, 2011, 29, 312-319.	3.8	8
57	Isothermal Oxidation Behaviour of a Two-Phase Î³/Î³â€² Precipitation-Hardened Quaternary Pt-Based Alloys in Air at 1,350ÂÂ°C. Oxidation of Metals, 2012, 78, 123-143.	2.1	8
58	High Temperature Oxidation of Ptâ€“Alâ€“Crâ€“Ru Alloy: Scale Morphology and Adherence. Metallography, Microstructure, and Analysis, 2012, 1, 142-149.	1.0	6
59	Assessment of the Oxidation Behavior of a Pt-Based Alloy for High Temperature Applications. Journal of Materials Engineering and Performance, 2013, 22, 3466-3475.	2.5	6
60	Magnetic and microstructural aspects of WC-VC-Co-Ru alloys. International Journal of Refractory Metals and Hard Materials, 2018, 76, 49-56.	3.8	6
61	The thinning of SpangoldTM for transmission electron microscopy studies. Journal of Materials Science Letters, 1997, 16, 674-677.	0.5	5
62	MÃ¶ssbauer Spectroscopy and SEM Characterisation of Commercial Ferrosilicon Powders. Hyperfine Interactions, 1998, 112, 261-269.	0.5	5
63	A Microstructural Study of the Al-Cr-Ru System. Microscopy and Microanalysis, 2000, 6, 370-371.	0.4	5
64	An Investigation of Al-Rich Alloys in the Al-Cr-Ru System. Microscopy and Microanalysis, 2001, 7, 1248-1249.	0.4	5
65	Investigation of as-cast alloys in the Ptâ€“Crâ€“Ru system. Journal of Alloys and Compounds, 2006, 416, 80-92.	5.5	5
66	Theoretical investigations of Pt$_{3}$X (X = Al, Sc, Hf, Zr) ground state. Turkish Journal of Physics, 2014, 38, 10-16.	1.1	5
67	Effect of Processing Route on the Microstructure and Properties of an Fe-al Alloy with Additions of Precious Metal. Materials Today: Proceedings, 2015, 2, 3932-3942.	1.8	5
68	Phase proportions, carbon equivalent, mechanical properties and their effect on material cost of railway axle steels. MRS Advances, 2018, 3, 2169-2181.	0.9	5
69	Roughing, semi-finishing and finishing of laser surface modified nickel bonded NbC and WC inserts for grey cast iron (GCI) face-milling. International Journal of Refractory Metals and Hard Materials, 2020, 86, 105128.	3.8	5
70	Investigation of isothermal sections at 1000 and 600Â°C in the Ptâ€“Crâ€“Ru system. Journal of Alloys and Compounds, 2008, 457, 310-322.	5.5	4
71	Annealing behaviour of sub-stoichiometric Ti(C,N)â€“W mechanical alloy powders. International Journal of Refractory Metals and Hard Materials, 2011, 29, 445-451.	3.8	4
72	Investigating the High Temperature Oxidation Behavior of TiAl-Based Alloys with Nickel and Ruthenium Additions. Advanced Materials Research, 0, 1019, 294-301.	0.3	4

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73	High-order additions to platinum-based alloys for high-temperature applications. Journal of the South African Institute of Mining and Metallurgy, 2015, 115, 241-250.	0.5	4
74	Formation mechanism of nanocrystalline tungstenâ€“titanium aluminides by ball milling of Ti(C,N)â€“W powders at subzero temperature. Powder Technology, 2011, 211, 221-225.	4.2	3
75	Effects of tungsten and aluminium on the oxidation and phase formation in mechanically alloyed Ti(C,N)â€“Wâ€“Al systems. Journal of the European Ceramic Society, 2012, 32, 3583-3592.	5.7	3
76	Study of Interactive Stresses in Thin WC-Co Coating of Thick Mild Steel Substrate Using High-Precision Neutron Diffraction. Materials Science Forum, 0, 772, 161-165.	0.3	3
77	Development of VC-Ni Eutectic Alloys for Wear Resistance. Advanced Materials Research, 2014, 1019, 347-354.	0.3	3
78	Experimental Solidification Projection, Liquidus Surface Projection and Isothermal Section at 1000ÂÂ°C for the Pt-Cr-V System. Journal of Phase Equilibria and Diffusion, 2014, 35, 476-489.	1.4	3
79	A MÃ¶ssbauer spectroscopy study of Fe based cemented carbides. International Journal of Refractory Metals and Hard Materials, 2020, 87, 105127.	3.8	3
80	Effects of Mo2C, Ni binder and laser surface modification on WC inserts for turning Ti-6Al-4V. International Journal of Refractory Metals and Hard Materials, 2020, 87, 105145.	3.8	3
81	PGMs: A cornucopia of possible applications. Journal of the South African Institute of Mining and Metallurgy, 2017, 117, 969-974.	0.5	3
82	Data Collection for the Calculation of Phase Equilibria. Molecular Simulation, 1999, 22, 57-80.	2.0	2
83	Development of a database for the prediction of phases in Ptâ€“Alâ€“Crâ€“Ru alloys for high-temperature and corrosive environments: Alâ€“Crâ€“Ru. Journal of Alloys and Compounds, 2009, 476, 176-186.	5.5	2
84	Characterisation of the Residual Stresses in HVOF WC-Co Coatings and Substrates. Materials Science Forum, 2013, 768-769, 280-285.	0.3	2
85	Effect of platinum group metal addition on microstructure and corrosion behaviour of Tiâ€“47Â·5 at-%Al. Corrosion Engineering Science and Technology, 2014, 49, 180-188.	1.4	2
86	Preliminary study of spark plasma sintered VC-Ni alloys. MRS Advances, 2018, 3, 2003-2008.	0.9	2
87	Investigation of the isothermal section at 1000Â°C in the Pt-Al-Cr system. Journal of Mining and Metallurgy, Section B: Metallurgy, 2012, 48, 367-374.	0.8	2
88	Platinum-Based Superalloys: Combating High Temperatures and Aggressive Environments. Minerals, Metals and Materials Series, 2022, , 1527-1538.	0.4	2
89	Revised Phase Diagram for the Ptâ€”Ti System from 30 to 60 at.% Platinum.. ChemInform, 2004, 35, no.	0.0	1
90	A Study of the Ni-Ru-Y system at 1200Â°C using SEM and EDX. Microscopy and Microanalysis, 2008, 14, 578-579.	0.4	1

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91	Measurement of the Stress in Oxide Scales Developed Upon Oxidation of a Ptâ€Based Alloy in Air at 1250Â°C. International Journal of Applied Ceramic Technology, 2014, 11, 602-610.	2.1	1
92	Liquidus Projection Surface and Isothermal Section at 1200ÂÂ°C of Ni-Ru-Y. Journal of Phase Equilibria and Diffusion, 2015, 36, 149-168.	1.4	1
93	The dislocation core misfit potential. Computational Materials Science, 2015, 100, 195-202.	3.0	1
94	Application of a Thermodynamic Database to Predict the Phases and Microstructure of Pt-Al-Cr-Ru Alloys. Materials Today: Proceedings, 2015, 2, 4090-4099.	1.8	1
95	Study of as-cast Nb-Ru samples. MRS Advances, 2018, 3, 1949-1953.	0.9	1
96	Partial Isothermal Sections of the Cu-Rich Corner of the Al-Cu-Zn System at 200 and 240ÂÂ°C. Journal of Phase Equilibria and Diffusion, 2019, 40, 588-599.	1.4	1
97	Study of Pt-Al-Nb Alloys Above 45Âat.% Pt. Journal of Phase Equilibria and Diffusion, 2020, 41, 391-417.	1.4	1
98	Effect of nitric acid contamination on mild steel corrosion in hydrofluoric acid at 25Â°C. Corrosion Engineering Science and Technology, 2020, 55, 349-359.	1.4	1
99	Experimental Liquidus Surface Projection and Isothermal Section at 1000ÂÂ°C of the V-Ni-C System. Journal of Phase Equilibria and Diffusion, 2021, 42, 42-62.	1.4	1
100	Microstructure of In situ Alloyed Ti-6Al-4V and 10Mo as a Function of Process Parameters. , 2016, , .		1
101	Kinetics of grain growth in Ti-2.7Al-5.7Fe-6Mo-6V alloy. Journal of Mining and Metallurgy, Section B: Metallurgy, 2017, 53, 263-270.	0.8	1
102	Microstructural Study of Pt-based Superalloys in the Heat Treated Condition. Microscopy and Microanalysis, 2012, 18, 1686-1687.	0.4	0
103	Derivation of the liquidus surface of the Ni-Ru-V system using SEM and EDX. Microscopy and Microanalysis, 2012, 18, 1688-1689.	0.4	0
104	Experimental Liquidus Surface Projection of the Ni-Ru-Zr System. Journal of Phase Equilibria and Diffusion, 2016, 37, 702-717.	1.4	0
105	Phase analyses of the Co-Fe-Pd ternary alloys. IOP Conference Series: Materials Science and Engineering, 2018, 430, 012023.	0.6	0
106	Corrosion map of South Africaâ€™s macro atmosphere. South African Journal of Science, 2019, 115, .	0.7	0
107	Studies of Co-Fe-Pd Alloys in the As-Cast Condition, and After Annealing at 1000 and 650ÂÂ°C. Journal of Phase Equilibria and Diffusion, 2020, 41, 567-585.	1.4	0
108	Hardness characteristics of as-cast Ni-Ru-Zr alloys. Journal of Mining and Metallurgy, Section B: Metallurgy, 2021, 57, 261-270.	0.8	0