

Lesley Cornish

List of Publications by Year in descending order

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108
papers

1,475
citations

304368

22
h-index

414034

32
g-index

108
all docs

108
docs citations

108
times ranked

916
citing authors

#	ARTICLE	IF	CITATIONS
1	Hydrogen in metals. <i>Engineering Failure Analysis</i> , 2001, 8, 113-121.	1.8	100
2	Development of Platinum-Group-Metal Superalloys for High-Temperature Use. <i>MRS Bulletin</i> , 2003, 28, 632-638.	1.7	57
3	X-ray diffraction measurement of residual stress in WC-Co thermally sprayed coatings onto metal substrates. <i>Surface and Coatings Technology</i> , 2012, 206, 4725-4729.	2.2	57
4	Constitution and hardnesses of the Al–Ir system. <i>Journal of Alloys and Compounds</i> , 1998, 280, 240-250.	2.8	46
5	Effect of Mo ₂ C additions on the properties of SPS manufactured WC–Ti–Ni cemented carbides. <i>International Journal of Refractory Metals and Hard Materials</i> , 2013, 41, 12-21.	1.7	46
6	Fine Grained WC–VC–Co Hardmetal. <i>Powder Metallurgy</i> , 1996, 39, 210-212.	0.9	41
7	Investigation of the aluminium-ruthenium phase diagram above 25 at.% ruthenium. <i>Journal of Alloys and Compounds</i> , 1996, 234, 275-279.	2.8	37
8	Investigation of hot ductility in Al-killed boron steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 494, 263-275.	2.6	37
9	Correlation between residual stress and abrasive wear of WC–17Co coatings. <i>International Journal of Refractory Metals and Hard Materials</i> , 2014, 44, 68-76.	1.7	37
10	An investigation of the B2 phase between AlRu and AlNi in the Al–Ni–Ru ternary system. <i>Journal of Alloys and Compounds</i> , 1998, 264, 173-179.	2.8	36
11	The effects of Ti and Cr additions on the phase equilibria and properties of (Pt)/Pt ₃ Al alloys. <i>Journal of Alloys and Compounds</i> , 2001, 322, 166-175.	2.8	36
12	Martensitic transformations, microstructure, and mechanical workability of TiPt. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2001, 32, 1881-1886.	1.1	34
13	Corrosion behaviour of superferritic stainless steels cathodically modified with minor additions of ruthenium in sulphuric and hydrochloric acids. <i>Materials & Design</i> , 2009, 30, 1451-1457.	5.1	33
14	Revised phase diagram for the Pt–Ti system from 30 to 60 at.% platinum. <i>Journal of Alloys and Compounds</i> , 2004, 375, 120-127.	2.8	32
15	Thermodynamic assessment of the Al–Ru system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2003, 27, 79-90.	0.7	29
16	Displacive transformations in Au-18 wt pct Cu-6 wt pct Al. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2000, 31, 1917-1923.	1.1	28
17	On the development and investigation of quaternary Pt-based superalloys with Ni additions. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2005, 36, 567-575.	1.1	28
18	Predicting yield strengths of Al-Zn-Mg-Cu-(Zr) aluminium alloys based on alloy composition or hardness. <i>Materials and Design</i> , 2016, 99, 211-218.	3.3	26

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19	Microstructure and mechanical properties of selective laser melted Ti-3Al-8V-6Cr-4Zr-4Mo compared to Ti-6Al-4V. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 747, 225-231.	2.6	26
20	Hardness and colour trends along the 76 wt.% Au (18.2 carat) line of the Au-Cu-Al system. <i>Scripta Materialia</i> , 2002, 47, 95-100.	2.6	25
21	A 500 °C isothermal section for the Al-Au-Cu system. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2002, 33, 987-993.	1.1	24
22	The effect of microstructure on hardness measurements in the aluminium-rich corner of the Al-Ni-Cr system. <i>Journal of Alloys and Compounds</i> , 2001, 317-318, 372-378.	2.8	22
23	Building a Thermodynamic Database for Platinum-Based Superalloys: Part I. <i>Platinum Metals Review</i> , 2007, 51, 104-115.	1.5	21
24	Microstructure and material properties of PECS manufactured WC-NbC-CO and WC-TiC-Ni cemented carbides. <i>International Journal of Refractory Metals and Hard Materials</i> , 2015, 49, 240-248.	1.7	21
25	Investigation of the high aluminium end of the aluminium-ruthenium phase diagram. <i>Journal of Alloys and Compounds</i> , 1996, 233, 241-245.	2.8	20
26	An investigation of the Al-Re phase diagram. <i>Journal of Alloys and Compounds</i> , 1999, 291, 117-129.	2.8	20
27	The third order nonlinear optical properties of gold nanoparticles in glasses, part II. <i>Gold Bulletin</i> , 2003, 36, 51-58.	3.2	20
28	The Platinum Development Initiative: Platinum-Based Alloys for High Temperature and Special Applications: Part I. <i>Platinum Metals Review</i> , 2009, 53, 2-10.	1.5	19
29	Determination of the 76 wt.% Au section of the Al-Au-Cu phase diagram. <i>Journal of Alloys and Compounds</i> , 2003, 354, 171-180.	2.8	18
30	Unexpected ordering behaviour of Pt ₃ Al intermetallic precipitates. <i>Journal of Alloys and Compounds</i> , 2007, 432, 96-102.	2.8	18
31	The Platinum Development Initiative: Platinum-Based Alloys for High Temperature and Special Applications: Part IV. <i>Platinum Metals Review</i> , 2010, 54, 112-119.	1.5	18
32	Influence of Ru on the hardness and fracture toughness of WC-VC-Co alloys. <i>International Journal of Refractory Metals and Hard Materials</i> , 2018, 77, 54-60.	1.7	18
33	A metallographic study of the Al-Ni-Re phase diagram. <i>Journal of Alloys and Compounds</i> , 1999, 291, 145-166.	2.8	17
34	High-temperature sliding wear, elastic modulus and transverse rupture strength of Ni bonded NbC and WC cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2020, 87, 105143.	1.7	17
35	New developments in high-temperature platinum alloys. <i>Jom</i> , 2001, 53, 19-20.	0.9	16
36	Mechanical properties and microstructure of platinum enhanced radiopaque stainless steel (PERSS) alloys. <i>Journal of Alloys and Compounds</i> , 2003, 361, 187-199.	2.8	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.	1.7	16
38	The development of platinum-based alloys and their thermodynamic database. Journal of Mining and Metallurgy, Section B: Metallurgy, 2002, 38, 197-204.	0.3	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.	1.7	15
40	Constitution of the Al ₃ Ni ₂ Ru ternary system above 50 at. % aluminium. Journal of Alloys and Compounds, 1997, 256, 221-227.	2.8	14
41	Constitution of the Al ₃ Ir ₂ Ru system. Journal of Alloys and Compounds, 1999, 291, 130-144.	2.8	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.	1.7	14
43	A study of the Al ₃ Ni ₂ Ru ternary system below 50 at.% aluminium. Journal of Alloys and Compounds, 1997, 256, 213-220.	2.8	13
44	Solidification phases and liquidus surface of the Al ₃ Ni ₂ Ru system above 50 at.% aluminium. Journal of Alloys and Compounds, 2000, 308, 205-215.	2.8	13
45	The Platinum Development Initiative: Platinum-Based Alloys for High Temperature and Special Applications: Part II. Platinum Metals Review, 2009, 53, 69-77.	1.5	12
46	Oxidation kinetics and mechanisms of growth of alumina scale on precipitation-hardened Pt ₃ Al ₂ Cr ₂ Ru alloys. Corrosion Science, 2012, 63, 119-128.	3.0	12
47	Determination of residual stress in alumina scale by photostimulated Cr ³⁺ luminescence piezospectroscopy. Corrosion Science, 2013, 70, 276-284.	3.0	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.	1.7	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.	1.5	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.	2.8	11
52	Derivation of the liquidus surface projection for the Al ₃ Pt ₂ Ru system from as-cast samples. Journal of Alloys and Compounds, 2005, 403, 245-257.	2.8	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.	1.5	9

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55	Investigation of as-cast alloys in the Pt-Al-Cr system. Journal of Alloys and Compounds, 2010, 490, 124-144.	2.8	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.	1.7	8
57	Isothermal Oxidation Behaviour of a Two-Phase β/β^2 Precipitation-Hardened Quaternary Pt-Based Alloys in Air at 1,350°C. Oxidation of Metals, 2012, 78, 123-143.	1.0	8
58	High Temperature Oxidation of Pt-Al-Cr-Ru Alloy: Scale Morphology and Adherence. Metallography, Microstructure, and Analysis, 2012, 1, 142-149.	0.5	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.	1.2	6
60	Magnetic and microstructural aspects of WC-VC-Co-Ru alloys. International Journal of Refractory Metals and Hard Materials, 2018, 76, 49-56.	1.7	6
61	The thinning of Spangold TM for transmission electron microscopy studies. Journal of Materials Science Letters, 1997, 16, 674-677.	0.5	5
62	Mössbauer Spectroscopy and SEM Characterisation of Commercial Ferrosilicon Powders. Hyperfine Interactions, 1998, 112, 261-269.	0.2	5
63	A Microstructural Study of the Al-Cr-Ru System. Microscopy and Microanalysis, 2000, 6, 370-371.	0.2	5
64	An Investigation of Al-Rich Alloys in the Al-Cr-Ru System. Microscopy and Microanalysis, 2001, 7, 1248-1249.	0.2	5
65	Investigation of as-cast alloys in the Pt-Cr-Ru system. Journal of Alloys and Compounds, 2006, 416, 80-92.	2.8	5
66	Theoretical investigations of Pt ₃ X (X = Al, Sc, Hf, Zr) ground state. Turkish Journal of Physics, 2014, 38, 10-16.	0.5	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.	0.9	5
68	Phase proportions, carbon equivalent, mechanical properties and their effect on material cost of railway axle steels. MRS Advances, 2018, 3, 2169-2181.	0.5	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.	1.7	5
70	Investigation of isothermal sections at 1000 and 600°C in the Pt-Cr-Ru system. Journal of Alloys and Compounds, 2008, 457, 310-322.	2.8	4
71	Annealing behaviour of sub-stoichiometric Ti(C,N)-W mechanical alloy powders. International Journal of Refractory Metals and Hard Materials, 2011, 29, 445-451.	1.7	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 tungsten-titanium aluminides by ball milling of Ti(C,N)-W powders at subzero temperature. Powder Technology, 2011, 211, 221-225.	2.1	3
75	Effects of tungsten and aluminium on the oxidation and phase formation in mechanically alloyed Ti(C,N)-W-Al systems. Journal of the European Ceramic Society, 2012, 32, 3583-3592.	2.8	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 1000°C for the Pt-Cr-V System. Journal of Phase Equilibria and Diffusion, 2014, 35, 476-489.	0.5	3
79	A Mössbauer spectroscopy study of Fe based cemented carbides. International Journal of Refractory Metals and Hard Materials, 2020, 87, 105127.	1.7	3
80	Effects of Mo ₂ C, 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.	1.7	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.	0.9	2
83	Development of a database for the prediction of phases in Pt-Al-Cr-Ru alloys for high-temperature and corrosive environments: Al-Cr-Ru. Journal of Alloys and Compounds, 2009, 476, 176-186.	2.8	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 Ti-47.5 at-%Al. Corrosion Engineering Science and Technology, 2014, 49, 180-188.	0.7	2
86	Preliminary study of spark plasma sintered VC-Ni alloys. MRS Advances, 2018, 3, 2003-2008.	0.5	2
87	Investigation of the isothermal section at 1000°C in the Pt-Al-Cr system. Journal of Mining and Metallurgy, Section B: Metallurgy, 2012, 48, 367-374.	0.3	2
88	Platinum-Based Superalloys: Combating High Temperatures and Aggressive Environments. Minerals, Metals and Materials Series, 2022, , 1527-1538.	0.3	2
89	Revised Phase Diagram for the Pt-Ti System from 30 to 60 at.% Platinum.. ChemInform, 2004, 35, no.	0.1	1
90	A Study of the Ni-Ru-Y system at 1200°C using SEM and EDX. Microscopy and Microanalysis, 2008, 14, 578-579.	0.2	1

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91	Measurement of the Stress in Oxide Scales Developed Upon Oxidation of a Pt-Based Alloy in Air at 1250°C. International Journal of Applied Ceramic Technology, 2014, 11, 602-610.	1.1	1
92	Liquidus Projection Surface and Isothermal Section at 1200°C of Ni-Ru-Y. Journal of Phase Equilibria and Diffusion, 2015, 36, 149-168.	0.5	1
93	The dislocation core misfit potential. Computational Materials Science, 2015, 100, 195-202.	1.4	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.	0.9	1
95	Study of as-cast Nb-Ru samples. MRS Advances, 2018, 3, 1949-1953.	0.5	1
96	Partial Isothermal Sections of the Cu-Rich Corner of the Al-Cu-Zn System at 200 and 240°C. Journal of Phase Equilibria and Diffusion, 2019, 40, 588-599.	0.5	1
97	Study of Pt-Al-Nb Alloys Above 45 at.% Pt. Journal of Phase Equilibria and Diffusion, 2020, 41, 391-417.	0.5	1
98	Effect of nitric acid contamination on mild steel corrosion in hydrofluoric acid at 25°C. Corrosion Engineering Science and Technology, 2020, 55, 349-359.	0.7	1
99	Experimental Liquidus Surface Projection and Isothermal Section at 1000°C of the V-Ni-C System. Journal of Phase Equilibria and Diffusion, 2021, 42, 42-62.	0.5	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.	0.3	1
102	Microstructural Study of Pt-based Superalloys in the Heat Treated Condition. Microscopy and Microanalysis, 2012, 18, 1686-1687.	0.2	0
103	Derivation of the liquidus surface of the Ni-Ru-V system using SEM and EDX. Microscopy and Microanalysis, 2012, 18, 1688-1689.	0.2	0
104	Experimental Liquidus Surface Projection of the Ni-Ru-Zr System. Journal of Phase Equilibria and Diffusion, 2016, 37, 702-717.	0.5	0
105	Phase analyses of the Co-Fe-Pd ternary alloys. IOP Conference Series: Materials Science and Engineering, 2018, 430, 012023.	0.3	0
106	Corrosion map of South Africa's macro atmosphere. South African Journal of Science, 2019, 115, .	0.3	0
107	Studies of Co-Fe-Pd Alloys in the As-Cast Condition, and After Annealing at 1000 and 650°C. Journal of Phase Equilibria and Diffusion, 2020, 41, 567-585.	0.5	0
108	Hardness characteristics of as-cast Ni-Ru-Zr alloys. Journal of Mining and Metallurgy, Section B: Metallurgy, 2021, 57, 261-270.	0.3	0