

Walter Lengauer

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

109
papers

3,286
citations

29
h-index

53
g-index

114
ext. papers

3,635
ext. citations

4.1
avg, IF

5.05
L-index

#	Paper	IF	Citations
109	On the use of TiO ₂ in Ti(C,N)-WC/Mo ₂ C-(Ta,Nb)C-Co/Ni cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2020 , 91, 105274	4.1	0
108	Sintering of Ti(C,N)-WC/Mo ₂ C-(Ta,Nb)C-Co/Ni Cermets Investigated by CO and N ₂ Outgassing. <i>Metals</i> , 2019 , 9, 427	2.3	4
107	Characterisation and Performance Optimisation of WC-MC/M(C,N)-Co Hardmetals. <i>Metals</i> , 2019 , 9, 435	2.3	3
106	Fabrication and properties of extrusion-based 3D-printed hardmetal and cermet components. <i>International Journal of Refractory Metals and Hard Materials</i> , 2019 , 82, 141-149	4.1	54
105	Morphology of β phase in cemented carbides with Fe-based binders influenced by carbon content and nitrogen atmosphere. <i>Ceramics International</i> , 2019 , 45, 20774-20779	5.1	7
104	Thermochemical Basis of the Preparation of Well-Defined Transition Metal Carbide, Nitride and Carbonitride Reference Materials for Electron-Probe Microanalysis (EPMA). <i>Solid State Phenomena</i> , 2018 , 274, 20-42	0.4	6
103	Ti(C,N)-Based Cermets: Critical Review of Achievements and Recent Developments. <i>Solid State Phenomena</i> , 2018 , 274, 53-100	0.4	46
102	Investigation of the main influencing parameters on the degassing behavior of titanium carbonitrides using mass spectrometry. <i>International Journal of Refractory Metals and Hard Materials</i> , 2017 , 63, 38-46	4.1	11
101	Experimental investigation and thermodynamic assessment of the Co-Be-Ni-W system. <i>International Journal of Refractory Metals and Hard Materials</i> , 2016 , 54, 60-69	4.1	19
100	Solubilities of grain-growth inhibitors in WC-Co-based cemented carbides: Thermodynamic calculations compared to experimental data. <i>International Journal of Refractory Metals and Hard Materials</i> , 2016 , 61, 121-127	4.1	21
99	Sintering Mechanisms of Functionally Graded Cemented Carbides. <i>Materials Science Forum</i> , 2016 , 835, 116-198	0.4	7
98	Solid-state solubilities of grain-growth inhibitors in WC-Co and WC-MC-Co hardmetals. <i>Journal of Alloys and Compounds</i> , 2016 , 675, 407-415	5.7	36
97	Diffusion parameters of grain-growth inhibitors in WC based hardmetals with Co, Fe/Ni and Fe/Co/Ni binder alloys. <i>International Journal of Refractory Metals and Hard Materials</i> , 2015 , 49, 67-74	4.1	22
96	Nitrides: Transition Metal Solid-State Chemistry 2015 , 1-24		5
95	Metallurgy and thermochemistry of cermet/hardmetal laminates. <i>International Journal of Refractory Metals and Hard Materials</i> , 2015 , 50, 282-289	4.1	5
94	Thermal dependence of elastic properties of polycrystalline TiC _{0.97} and TiC _{0.40} N _{0.60} alloys studied by surface Brillouin scattering. <i>International Journal of Refractory Metals and Hard Materials</i> , 2014 , 45, 212-217	4.1	9
93	Functionally graded WC ₁₀ (C,N) ₁₀ (Ta,Nb)C ₁₀ Co hardmetals: Metallurgy and performance. <i>International Journal of Refractory Metals and Hard Materials</i> , 2013 , 36, 38-45	4.1	22

92	Nitridation sintering of WC/Ti(C,N)/Ta,Nb/Co hardmetals. <i>International Journal of Refractory Metals and Hard Materials</i> , 2013 , 36, 22-30	4.1	20
91	Diffusion Behaviour of the Grain-Growth Inhibitor Vc in Hardmetals. <i>Defect and Diffusion Forum</i> , 2012 , 323-325, 509-514	0.7	10
90	Carbides: Transition-Metal Solid-State Chemistry Update based on the original article by Walter Lengauer, Encyclopedia of Inorganic Chemistry Second Edition © 2005, John Wiley & Sons, Ltd. 2012 ,		1
89	Effect of submicron Ti(C,N) on the microstructure and the mechanical properties of Ti(C,N)-based cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2011 , 29, 716-723	4.1	50
88	Diffusion and solubility of Cr in WC. <i>Journal of Alloys and Compounds</i> , 2010 , 489, 408-414	5.7	37
87	A straightforward method for analysing the grain-size distribution in tungsten carbide - cobalt hardmetals. <i>Mikrochimica Acta</i> , 2010 , 168, 309-316	5.8	11
86	Novel fine-grained hardmetals by use of multiphase powder precursors and reactive nitrogen sintering. <i>International Journal of Refractory Metals and Hard Materials</i> , 2010 , 28, 362-369	4.1	4
85	Cobalt capping: Why is sintered hardmetal sometimes covered with binder?. <i>International Journal of Refractory Metals and Hard Materials</i> , 2010 , 28, 466-471	4.1	21
84	Alloyed W(Co,Ni,Fe)C phases for reaction sintering of hardmetals. <i>International Journal of Refractory Metals and Hard Materials</i> , 2010 , 28, 638-645	4.1	16
83	Analysis of local composition gradients in the hard-phase grains of cermets using a combination of X-ray diffraction and electron microscopy. <i>International Journal of Refractory Metals and Hard Materials</i> , 2008 , 26, 263-275	4.1	9
82	Sintering, characterisation, and analysis of functional gradient hardmetals. <i>International Journal of Refractory Metals and Hard Materials</i> , 2008 , 26, 179-189	4.1	14
81	Tailoring hardness and toughness gradients in functional gradient hardmetals (FGHMs). <i>International Journal of Refractory Metals and Hard Materials</i> , 2006 , 24, 155-161	4.1	34
80	Carbides: Transition Metal Solid-State Chemistry Based in part on the article Carbides: Transition Metal Solid State Chemistry by Peter Ettmayer & Walter Lengauer which appeared in the Encyclopedia of Inorganic Chemistry, First Edition. 2006 ,		1
79	Formation of boride layers at the Fe/5% Cr alloy/Boron interface. <i>Journal of Materials Science</i> , 2006 , 41, 4948-4960	4.3	27
78	Interfacial interaction of solid nickel with liquid bismuth and Bi/Al base alloys. <i>Journal of Alloys and Compounds</i> , 2005 , 389, 61-74	5.7	16
77	Formation of boride layers at the Fe/10% Cr alloy/Boron interface. <i>Journal of Alloys and Compounds</i> , 2005 , 398, 113-122	5.7	63
76	Solid-state properties of hot-pressed TiB ₂ ceramics. <i>International Journal of Refractory Metals and Hard Materials</i> , 2005 , 23, 350-357	4.1	56
75	Diffusional control of the near-surface microstructure in functional gradient hardmetals. <i>Materialwissenschaft Und Werkstofftechnik</i> , 2005 , 36, 460-466	0.9	15

74	Nitrogen-Induced Formation of Nano-Structured Precipitations in the Ti-W-C-N System. <i>Defect and Diffusion Forum</i> , 2005 , 237-240, 1121-1128	0.7	1
73	e-TaN as a Reference Material for the Determination of High Nitrogen Contents. <i>Mikrochimica Acta</i> , 2004 , 146, 1-6	5.8	12
72	Growth of the graded zone and its impact on cutting performance in high-pressure nitrogen modified functionally gradient hardmetals. <i>Journal of Alloys and Compounds</i> , 2004 , 366, 228-232	5.7	14
71	Near-surface microstructural modification of (Ti,W)(C,N)/Co hardmetals by nitridation. <i>International Journal of Refractory Metals and Hard Materials</i> , 2002 , 20, 195-200	4.1	22
70	X-ray mapping of microstructures in hardmetals and cermets. <i>Surface and Interface Analysis</i> , 2002 , 34, 343-345	1.5	2
69	Functionally graded hardmetals. <i>Journal of Alloys and Compounds</i> , 2002 , 338, 194-212	5.7	85
68	Quantitative Mass Spectrometry of Decarburisation and Denitridation of Cemented Carbonitrides During Sintering. <i>Mikrochimica Acta</i> , 2001 , 136, 83-89	5.8	20
67	Layer-Growth of Tantalum Nitrides by Nitridation of Ta Metal: the Basis of the Preparation of a Well-Characterised Nitrogen Standard Material. <i>Defect and Diffusion Forum</i> , 2001 , 194-199, 1613-1618	0.7	2
66	Formation of Molybdenum Nitrides by Ammonia Nitridation of Mo Powder and Sheet. <i>Defect and Diffusion Forum</i> , 2001 , 194-199, 1607-1612	0.7	1
65	EPMA of spinodal-like decomposition patterns in (Ti _x Nb _{1-x})N. <i>Surface and Interface Analysis</i> , 2000 , 30, 368-371	1.5	4
64	Phase reactions in the Nb-N system below 1400°C. <i>Acta Materialia</i> , 2000 , 48, 2633-2638	8.4	46
63	Advances in modern nitrogen-containing hardmetals and cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2000 , 18, 153-161	4.1	98
62	Fundamentals of liquid phase sintering for modern cermets and functionally graded cemented carbonitrides (FGCC). <i>International Journal of Refractory Metals and Hard Materials</i> , 2000 , 18, 307-322	4.1	98
61	EPMA and GDOES in Functional-Gradient Hardmetal Systems. <i>Mikrochimica Acta</i> , 2000 , 133, 223-231	5.8	4
60	Hardness and elastic properties of Ti(C _x N _{1-x}), Zr(C _x N _{1-x}) and Hf(C _x N _{1-x}). <i>Journal of Alloys and Compounds</i> , 2000 , 309, L5-L9	5.7	113
59	Preparation of thick GaN layers by chemical vapour deposition for contact reaction investigations. <i>Diamond and Related Materials</i> , 2000 , 9, 464-466	3.5	
58	Phase transformations in non-stoichiometric vanadium carbide. <i>Journal of Physics Condensed Matter</i> , 1999 , 11, 163-184	1.8	57
57	Order-disorder phase transformations and specific heat of nonstoichiometric vanadium carbide. <i>Physics of the Solid State</i> , 1999 , 41, 474-480	0.8	15

56	Phase equilibria and multiphase reaction diffusion in the Cr-C and Cr-N systems. <i>Journal of Phase Equilibria and Diffusion</i> , 1999 , 20, 35-44		48
55	High-temperature nitridation of NbTi alloys in nitrogen. <i>Journal of Alloys and Compounds</i> , 1999 , 283, 241-259	5.7	9
54	Reactive diffusion and phase equilibria in the V ₂ C, Nb ₂ C, Ta ₂ C and Ta ₂ N systems. <i>Acta Materialia</i> , 1998 , 46, 651-666	8.4	79
53	Combined refinement of diffusion coefficients applied on the Nb-C and Nb-N systems. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1998 , 29, 439-446	2.3	10
52	Non-metal diffusion coefficients for the Ta ₂ C and Ta ₂ N systems. <i>Acta Materialia</i> , 1998 , 46, 3477-3483	8.4	14
51	Critical review on the elastic properties of transition metal carbides, nitrides and carbonitrides. <i>Journal of Alloys and Compounds</i> , 1998 , 265, 215-233	5.7	148
50	Rietveld analysis of the ordering in V ₈ C ₇ . <i>Journal of Alloys and Compounds</i> , 1998 , 269, 60-62	5.7	40
49	High-temperature reactive phase formation in the Nb-N system. <i>Journal of Alloys and Compounds</i> , 1998 , 269, 233-237	5.7	20
48	Simulation of diffusion-controlled layer growth using the FFD method. <i>Modelling and Simulation in Materials Science and Engineering</i> , 1998 , 6, 141-152	2	4
47	Multiphase Reaction Diffusion in the Cr-C and the Cr-N Systems. <i>Defect and Diffusion Forum</i> , 1997 , 143-147, 569-574	0.7	4
46	The Nb ₄ N ₃ ↔ NbN phase transition. <i>Journal of Alloys and Compounds</i> , 1997 , 259, L9-L13	5.7	11
45	Effects of vacancy ordering on structure and properties of vanadium carbide. <i>Journal of Alloys and Compounds</i> , 1997 , 261, 192-197	5.7	74
44	Electron-probe microanalysis of light elements in multiphase diffusion couples. <i>Mikrochimica Acta</i> , 1997 , 126, 279-288	5.8	23
43	The hafnium-nitrogen system: Phase equilibria and nitrogen diffusivities obtained from diffusion couples. <i>Acta Materialia</i> , 1996 , 44, 3331-3338	8.4	25
42	Multiphase layer growth kinetics in finite gas/solid diffusion couples. <i>Acta Materialia</i> , 1996 , 44, 4835-4844	8.4	18
41	Ti(C,N) cermets Metallurgy and properties. <i>International Journal of Refractory Metals and Hard Materials</i> , 1995 , 13, 343-351	4.1	484
40	Vacancy-induced fine structure in the K edges of sub-stoichiometric titanium and vanadium nitrides. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1995 , 97, 123-126	1.2	3
39	The Ti ₂ Mo ₂ C ₂ N system: Stability of the (Ti, Mo)(C, N) _{1-x} phase. <i>Journal of Alloys and Compounds</i> , 1995 , 228, 96-101	5.7	20

38	Multiphase reaction diffusion in transition metal-carbon and transition metal-nitrogen systems. <i>Journal of Alloys and Compounds</i> , 1995 , 229, 80-92	5-7	27
37	Reaction of compact carbonitrides with liquid binder metals. <i>Journal of Alloys and Compounds</i> , 1995 , 230, 53-57	5-7	13
36	Phase equilibria in the systems Ti-C-N, Zr-C-N and Hf-C-N. <i>Journal of Alloys and Compounds</i> , 1995 , 217, 128-136	5-7	36
35	Solid state properties of group IVb carbonitrides. <i>Journal of Alloys and Compounds</i> , 1995 , 217, 137-147	5-7	163
34	Diffusion in the Hf-N System. <i>Materials Science Forum</i> , 1994 , 155-156, 549-552	0.4	1
33	Lattice parameters and thermal expansion of Ti(C _x N _{1-x}), Zr(C _x N _{1-x}), Hf(C _x N _{1-x}) and TiN _{1-x} from 298 to 1473 K as investigated by high-temperature X-ray diffraction. <i>Journal of Alloys and Compounds</i> , 1994 , 215, 121-126	5-7	131
32	Preparation of binary single-phase line compounds via diffusion couples: The subnitride phases Hf ₃ N ₂ and Hf ₄ N ₃ . <i>Acta Metallurgica Et Materialia</i> , 1993 , 41, 3505-3514		33
31	Phase diagram imaging by means of temperature-gradient diffusion couples. <i>Journal of Phase Equilibria and Diffusion</i> , 1993 , 14, 162-166		9
30	Direct representation of phase equilibria in binary transition metal-nitrogen systems by means of temperature gradient diffusion couples. <i>Journal of Alloys and Compounds</i> , 1992 , 178, 205-209	5-7	
29	A study of TiN _{1-x} formation in temperature gradient diffusion couples. <i>Journal of Alloys and Compounds</i> , 1992 , 179, 289-297	5-7	10
28	Properties of bulk TiN _{1-x} prepared by nitrogen diffusion into titanium metal. <i>Journal of Alloys and Compounds</i> , 1992 , 186, 293-307	5-7	57
27	Phase identification in Ti/TiN diffusion couples with the Kossel technique. <i>Mikrochimica Acta</i> , 1992 , 109, 233-242	5.8	2
26	WDS-EPMA nitrogen profile determination in TiN/Ti diffusion couples using homotypic standard materials. <i>Mikrochimica Acta</i> , 1992 , 107, 303-310	5.8	16
25	Determination of nitrogen and carbon in refractory nitrides and carbonitrides by means of Dumas gas chromatography. <i>Mikrochimica Acta</i> , 1992 , 107, 337-343	5.8	15
24	Thermochemistry of the formation of nitrogen-rich surface layers on transition metal nitrides: A study of the VN _{1-x} N ₂ couple. <i>Journal of Physics and Chemistry of Solids</i> , 1991 , 52, 393-399	3-9	6
23	The temperature gradient diffusion couple technique: An application of solid-solid phase reactions for phase diagram imaging. <i>Journal of Solid State Chemistry</i> , 1991 , 91, 279-285	3-3	14
22	The Ti-N-Ni system: investigations relevant for cermet sintering. <i>Journal of Alloys and Compounds</i> , 1991 , 177, 119-127	5-7	9
21	Low-temperature thermal expansion of refractory nitrides. <i>Journal of the Less Common Metals</i> , 1991 , 168, L7-L9		10

20	On the application of the Dumas technique for the determination of nitrogen in refractory nitrides. <i>Talanta</i> , 1991 , 38, 659-63	6.2	4
19	The titanium-nitrogen system: A study of phase reactions in the subnitride region by means of diffusion couples. <i>Acta Metallurgica Et Materialia</i> , 1991 , 39, 2985-2996		65
18	Characterization of nitrogen distribution profiles in fcc transition metal nitrides by means of Tc measurements. <i>Surface and Interface Analysis</i> , 1990 , 15, 377-382	1.5	21
17	Vacancy-induced modifications to the local densities of states of VN _x . <i>Physica Scripta</i> , 1990 , 41, 584-587	2.6	4
16	Non-stoichiometry and twinning in NbN _{1-x} : A study of synthesis and structure in a defect NaCl-type solid. <i>Journal of the Less Common Metals</i> , 1990 , 160, 193-196		7
15	Electronic structure of stoichiometric and substoichiometric vanadium nitride from photoelectron spectroscopy. <i>Solid State Communications</i> , 1989 , 72, 419-423	1.6	23
14	The crystal structure of ScNbN _{1-x} and comparisons with related nitride and carbide structures. <i>Journal of Solid State Chemistry</i> , 1989 , 82, 186-191	3.3	10
13	Thermal Vibrations in Vanadium Nitride Studied by X-Ray Diffraction. <i>Physica Status Solidi A</i> , 1989 , 112, K81-K84		1
12	Formation of molybdenum nitrides by ammonia nitridation of MoCl ₅ . <i>Journal of Crystal Growth</i> , 1988 , 87, 295-298	1.6	30
11	Interdependency of composition and Tc, of VN _{1-x} and the influence and determination of its nitrogen surface diffusion layers. <i>Journal of Physics and Chemistry of Solids</i> , 1988 , 49, 59-63	3.9	14
10	Investigations in the scandium-nitrogen system. <i>Journal of Solid State Chemistry</i> , 1988 , 76, 412-415	3.3	45
9	Structural phase transition at 205 K in stoichiometric vanadium nitride. <i>Physical Review B</i> , 1988 , 38, 12903-12912	3.3	125
8	The crystal structure of ScTaN _{1-x} . <i>Journal of the Less Common Metals</i> , 1988 , 141, 157-162		12
7	Investigations in the ternary system Ti-Mo-N by means of EPMA and XRD. <i>Mikrochimica Acta</i> , 1987 , 91, 211-218	5.8	4
6	Lattice parameters and thermal expansion of VN _{1-x} from 298-1000 K. <i>Monatshefte Für Chemie</i> , 1986 , 117, 713-719	1.4	26
5	Preparation and properties of compact cubic NbN _{1-x} . <i>Monatshefte Für Chemie</i> , 1986 , 117, 275-286	1.4	29
4	The crystal structure of Ti ₃ N ₂ : An additional new phase in the Ti-N system. <i>Journal of the Less Common Metals</i> , 1986 , 125, 127-134		21
3	The crystal structure of a new phase in the titanium-nitrogen system. <i>Journal of the Less Common Metals</i> , 1986 , 120, 153-159		26

- 2 Ferrometric determination of vanadium in VN1 $\bar{4}$ using visible and potentiometric equivalence point detection. *Fresenius Zeitschrift für Analytische Chemie*, **1985**, 322, 23-25 3
- 1 Physical and mechanical properties of cubic VN1 $\bar{4}$. *Journal of the Less Common Metals*, **1985**, 109, 351-359 34