Natalia Sobczak

List of Publications by Year in descending order

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128 papers	2,267 citations	304602 22 h-index	276775 41 g-index
134 all docs	134 docs citations	134 times ranked	1927 citing authors

#	Article	IF	Citations
1	Wettability and interfacial phenomena in the liquidâ€phase bonding of refractory diboride ceramics: Recent developments. International Journal of Applied Ceramic Technology, 2022, 19, 1029-1049.	1.1	5
2	Bonding effect of liquid magnesium with open-celled carbon foam in interpenetrating phase composite. Journal of Magnesium and Alloys, 2021, 9, 156-165.	5.5	9
3	Improved methodological concepts for processing liquid Mg at high temperature. Journal of Magnesium and Alloys, 2021, 9, 183-191.	5.5	8
4	Wetting and interfacial reactivity of Niâ€“Al alloys with Al2O3 and ZrO2 ceramics. Journal of Materials Science, 2021, 56, 7849-7861.	1.7	6
5	Interface Design in Lightweight SiC/TiSi2 Composites Fabricated by Reactive Infiltration Process: Interaction Phenomena between Liquid Si-Rich Si-Ti Alloys and Glassy Carbon. Materials, 2021, 14, 3746.	1.3	1
6	Solid/liquid interaction between Si-based phase change materials and refractories. , 2021, , 113-137.		0
7	Silicon-Boron Alloys as New Ultra-High Temperature Phase-Change Materials: Solid/Liquid State Interaction with the h-BN Composite. Silicon, 2020, 12, 1639-1649.	1.8	4
8	Wetting and interfacial phenomena in Ni-Cr-Hf/sapphire systems. Journal of the European Ceramic Society, 2020, 40, 521-528.	2.8	4
9	Design of refractory SiC/ZrSi2 composites: Wettability and spreading behavior of liquid Si-10Zr alloy in contact with SiC at high temperatures. Journal of the European Ceramic Society, 2020, 40, 953-960.	2.8	19
10	Studies of the Joining-Relevant Interfacial Properties in the Si-Ti/C and Si-Ti/SiC Systems. Journal of Materials Engineering and Performance, 2020, 29, 4864-4871.	1.2	3
11	Ultra-high temperature energy storage and conversion: A review of the AMADEUS project results. AIP Conference Proceedings, 2020, , .	0.3	6
12	The 73rd World Foundry Congress. Journal of Materials Engineering and Performance, 2019, 28, 3817-3818.	1.2	0
13	Wetting and Spreading Behavior of Liquid Si-Ti Eutectic Alloy in Contact with Glassy Carbon and SiC at T = 1450 Â°C. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 4814-4826.	1.1	10
14	Measurements of temperature and heat of phase transformation of pure silicon by using differential scanning calorimetry. Journal of Thermal Analysis and Calorimetry, 2019, 138, 4215-4221.	2.0	12
15	Studying the Wettability and Reactivity of Liquid Si-Ti Eutectic Alloy on Glassy Carbon. Journal of Materials Engineering and Performance, 2019, 28, 3460-3467.	1.2	7
16	Experimental study on the feasibility of using liquid-assisted processing in fabrication of Mo-Si-B alloys. Materials Letters, 2019, 253, 13-17.	1.3	6
17	The Effect of Surface Condition on Wetting of HASTELLOYÂ® X by Brazing Filler Metal of Ni-Pd-Cr-B-Si System. Journal of Materials Engineering and Performance, 2019, 28, 3950-3959.	1.2	9
18	High-Temperature Interaction of Liquid Gd with Y2O3. Journal of Materials Engineering and Performance, 2019, 28, 3912-3921.	1.2	3

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19	Silicon as a Phase Change Material: Performance of h-BN Ceramic During Multi-Cycle Melting/Solidification of Silicon. Jom, 2019, 71, 1492-1498.	0.9	12
20	Influence of the Wetting Behavior on the Aluminum Melt Filtration. Minerals, Metals and Materials Series, 2019, , 1071-1079.	0.3	1
21	Ultra-High Temperature Interaction Between h-BN-Based Composite and Molten Silicon. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 997-1008.	1.1	8
22	The Effect of Boron Content on Wetting Kinetics in Si-B Alloy/h-BN System. Journal of Materials Engineering and Performance, 2019, 28, 3819-3825.	1.2	10
23	Experimental and thermodynamic assessment of the Gd-Ti-Zr phase diagram. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2018, 61, 237-245.	0.7	1
24	Steam oxidation resistance and performance of newly developed coatings for HaynesÂ® 282Â® Ni-based alloy. Corrosion Science, 2018, 138, 326-339.	3.0	7
25	Wettability of AlSi7Mg alloy on alumina, spinel, mullite and rutile and its influence on the aluminum melt filtration efficiency. Materials and Design, 2018, 150, 75-85.	3.3	27
26	Interaction Between Graphene-Coated SiC Single Crystal and Liquid Copper. Journal of Materials Engineering and Performance, 2018, 27, 2317-2329.	1.2	7
27	Wetting Behavior and Reactivity of Molten Silicon with h-BN Substrate at Ultrahigh Temperatures up to 1750ÂÂ°C. Journal of Materials Engineering and Performance, 2018, 27, 5040-5053.	1.2	25
28	Lightweight, free-standing 3D interconnected carbon nanotube foam as a flexible sulfur host for high performance lithium-sulfur battery cathodes. Energy Storage Materials, 2018, 10, 206-215.	9.5	91
29	Wetting, reactivity, and phase formation at interfaces between Niâ€“Al melts and TiB₂ ultrahighâ€temperature ceramic. Journal of the American Ceramic Society, 2018, 101, 911-918.	1.9	15
30	AMADEUS: Next generation materials and solid state devices for ultra high temperature energy storage and conversion. AIP Conference Proceedings, 2018, , .	0.3	29
31	Improvements in experimental investigation of molten Mg-based materials. Materials and Design, 2018, 160, 915-917.	3.3	7
32	Graphene Translucency and Interfacial Interactions in the Gold/Graphene/SiC System. Journal of Physical Chemistry Letters, 2018, 9, 3850-3855.	2.1	19
33	Interaction Between Liquid Silver and Graphene-Coated SiC Substrate. Journal of Materials Engineering and Performance, 2018, 27, 4140-4149.	1.2	10
34	Steam Oxidation Behavior of Advanced Steels and Ni-Based Alloys at 800ÂÂ°C. Journal of Materials Engineering and Performance, 2017, 26, 1044-1056.	1.2	16
35	Microstructural Aspects of Fatigue Parameters of Lead-Free Sn-Zn Solders with Various Zn Content. Archives of Foundry Engineering, 2017, 17, 131-136.	0.4	3
36	Phase Investigations Under Steam Oxidation Process at 800ÂÂ°C for 1000Âh of Advanced Steels and Ni-Based Alloys. Oxidation of Metals, 2017, 87, 139-158.	1.0	34

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37	The Influence of Fabrication Process on the Initial Stages of Steam Oxidation Performed on HaynesÂ® 282Â® Alloy at 760ÂÂ°C. Journal of Materials Engineering and Performance, 2017, 26, 239-249.	1.2	4
38	Wetting behaviour and reactivity between liquid Gd and ZrO2 substrate. Journal of Mining and Metallurgy, Section B: Metallurgy, 2017, 53, 285-293.	0.3	2
39	Comparative Studies of Microstructure and Fatigue Life of Selected Lead-free Alloys. Archives of Foundry Engineering, 2017, 17, 111-116.	0.4	1
40	Wettability and Reactivity of ZrB2 Substrates with Liquid Al. Journal of Materials Engineering and Performance, 2016, 25, 3310-3316.	1.2	10
41	Thermophysical Properties of Cu-Matrix Composites Manufactured Using Cu Powder Coated with Graphene. Journal of Materials Engineering and Performance, 2016, 25, 3146-3151.	1.2	15
42	Wettability of Low Weight Borides by Commercial Aluminum Alloys â^' A Basis for Metal Matrix Composite Fabrication. Advanced Engineering Materials, 2016, 18, 1884-1888.	1.6	3
43	Effect of HNT on the Microstructure, Thermal and Mechanical Properties of Al/FACS-HNT Composites Produced by GPI. Journal of Materials Engineering and Performance, 2016, 25, 3194-3203.	1.2	3
44	Fatigue Life and Microstructure after Multiple Remelting of A359 Matrix Composites Reinforced with SiC Particles. Archives of Metallurgy and Materials, 2016, 61, 2123-2128.	0.6	1
45	Investigation of Ni-B Alloys for Joining of TiB2 Ultra-High-Temperature Ceramic. Journal of Materials Engineering and Performance, 2016, 25, 3204-3210.	1.2	10
46	Thermodynamic, surface and structural properties of liquid Co-Si alloys. Journal of Molecular Liquids, 2016, 221, 346-353.	2.3	21
47	Wetting Behavior and Reactivity Between AlTi6 Alloy and Carbon Nanotubes. Journal of Materials Engineering and Performance, 2016, 25, 3317-3329.	1.2	2
48	High-Temperature Interaction Between Molten AlSr10 Alloy and Glass-Like Carbon Substrate. Journal of Materials Engineering and Performance, 2016, 25, 3348-3357.	1.2	2
49	Wear Resistance of Aluminum Matrix Composites Reinforced with Al2O3 Particles After Multiple Remelting. Journal of Materials Engineering and Performance, 2016, 25, 3084-3090.	1.2	8
50	Interfacial interactions between liquid Tiâ€“Al alloys and TiB2 ceramic. Journal of Materials Science, 2016, 51, 1779-1787.	1.7	12
51	Wettability and work of adhesion of liquid sulfur on carbon materials for electrical energy storage applications. Carbon, 2016, 98, 702-707.	5.4	8
52	Effects of Carbon Allotropic Forms on Microstructure and Thermal Properties of Cu-C Composites Produced by SPS. Journal of Materials Engineering and Performance, 2016, 25, 3077-3083.	1.2	11
53	High-temperature reactivity and wetting characteristics of Al/ZnO system related to the zinc oxide single crystal orientation. Journal of Materials Science, 2016, 51, 1692-1700.	1.7	2
54	Making Artificial Heart Components â€“ Selected Aspects Of Casting Technology. Archives of Metallurgy and Materials, 2015, 60, 2191-2208.	0.6	0

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55	High-temperature wetting and interfacial interaction between liquid Al and TiB2 ceramic. Journal of Materials Science, 2015, 50, 2682-2690.	1.7	45
56	First stage of reaction of molten Al with MgO substrate. Materials Characterization, 2015, 103, 133-139.	1.9	9
57	Effects of PCB Substrate Surface Finish, Flux, and Phosphorus Content on Ionic Contamination. Journal of Materials Engineering and Performance, 2015, 24, 754-758.	1.2	11
58	Preparation and characterization of CVD-TiN-coated carbon fibers for applications in metal matrix composites. Thin Solid Films, 2015, 589, 479-486.	0.8	25
59	Surface tension and density of Si-Ge melts. Journal of Chemical Physics, 2014, 140, 214704.	1.2	11
60	Thermodynamic and surface properties of liquid Geâ€“Si alloys. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2014, 44, 95-101.	0.7	17
61	Microstructure, chemistry and thermodynamics of Al/NiO couples obtained at 1273K. Journal of Alloys and Compounds, 2014, 615, S178-S182.	2.8	2
62	Experimental and thermodynamic assessment of the Gdâ€“Ti system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2013, 42, 19-26.	0.7	10
63	Further Development of Testing Procedures for High Temperature Surface Tension Measurements. Journal of Materials Engineering and Performance, 2013, 22, 3381-3388.	1.2	19
64	Effects of PCB Substrate Surface Finish and Flux on Solderability of Lead-Free SAC305 Alloy. Journal of Materials Engineering and Performance, 2013, 22, 2247-2252.	1.2	19
65	Microstructure and chemistry of the SAC/ENIG interconnections. Materials Chemistry and Physics, 2013, 139, 276-280.	2.0	19
66	Metallic Functionally Graded Materials: A Specific Class of Advanced Composites. Journal of Materials Science and Technology, 2013, 29, 297-316.	5.6	159
67	Tem Investigation of Phases Formed During Aluminium Wetting of MgO at [100], [110] and [111] Orientations. Archives of Metallurgy and Materials, 2013, 58, 497-500.	0.6	5
68	Phase separation in ternary Coâ€“Gdâ€“Ti liquids. Journal of Physics Condensed Matter, 2013, 25, 245104.	0.7	6
69	Gas evolution from heated bentonite bonded moulding sand. International Journal of Cast Metals Research, 2013, 26, 58-63.	0.5	6
70	Nomograms for rapid assessment of particle sedimentation behaviour in liquid phase processing of particle reinforced metal composites. International Journal of Cast Metals Research, 2013, 26, 122-128.	0.5	1
71	Microstructural Characterization of the Reaction Product Region Formed Due to the High Temperature Interaction of ZnO[0001] Single Crystal with Liquid Aluminum. Archives of Metallurgy and Materials, 2013, 58, 351-355.	0.6	2
72	Phase separation in monotectic alloys as a route for liquid state fabrication of composite materials. Journal of Materials Science, 2012, 47, 8360-8366.	1.7	26

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73	Sessile drop study of Gdâ€“Ti monotectic alloys on ceramic substrates: phase transformations, wetting, and reactivity. Journal of Materials Science, 2012, 47, 8381-8386.	1.7	5
74	TEM characterization of the reaction products formed in Alâ€“Cu/SiO2 couples due to high temperature interaction. Journal of Materials Science, 2012, 47, 8464-8471.	1.7	2
75	Effect of pressure on solidification of metallic materials. International Journal of Cast Metals Research, 2012, 25, 1-14.	0.5	85
76	Effect of pH of Sulfate Solution on Electrochemical Behavior of Pb-Free Solder Candidates of SnZn and SnZnCu Systems. Journal of Materials Engineering and Performance, 2012, 21, 614-619.	1.2	7
77	Relationship Between Mechanical Properties of Lead-Free Solders and Their Heat Treatment Parameters. Journal of Materials Engineering and Performance, 2012, 21, 620-628.	1.2	5
78	Structural Aspects of the Behavior of Lead-Free Solder in the Corrosive Solution. Journal of Materials Engineering and Performance, 2012, 21, 648-654.	1.2	8
79	Changes in properties of aluminium matrix composite reinforced with SiC particles after multiple remelting. Materials Research Innovations, 2011, 15, s249-s252.	1.0	8
80	Thermophysical Properties of Liquid AlTi-Based Alloys. International Journal of Thermophysics, 2010, 31, 949-965.	1.0	48
81	Thermophysical Properties of Ag and Agâ€“Cu Liquid Alloys at 1098K to 1573K. International Journal of Thermophysics, 2010, 31, 1165-1174.	1.0	24
82	Effect of metal purity and testing procedure on surface tension measurements of liquid tin. Journal of Materials Science, 2010, 45, 2009-2014.	1.7	17
83	Surface tension of Î³-TiAl-based alloys. Journal of Materials Science, 2010, 45, 1993-2001.	1.7	40
84	Interaction between liquid aluminum and yttria substrate: microstructure characterization and thermodynamic considerations. Journal of Materials Science, 2010, 45, 2042-2050.	1.7	12
85	Reactivity of molten aluminium with polycrystalline ZnO substrate. Journal of Materials Science, 2010, 45, 4291-4298.	1.7	5
86	Wetting behavior and interfacial microstructure of palladium- and silver-based braze alloys with Câ€“C and SiCâ€“SiC composites. Journal of Materials Science, 2010, 45, 4276-4290.	1.7	44
87	Wetting in high-temperature materials processing: The case of Ni/MgO and NiW10/MgO. Scripta Materialia, 2010, 62, 949-954.	2.6	11
88	Interactions between molten aluminum and Y₂O₃ studied with TEM techniques. Journal of Microscopy, 2010, 237, 253-257.	0.8	14
89	TEM investigation of reaction zone products formed between molten Al and CoO monocrystalline substrate. Journal of Microscopy, 2010, 237, 299-303.	0.8	1
90	Overview on Wetting and Joining in Transition Metals Diborides. Advances in Science and Technology, 2010, 64, 98-107.	0.2	16

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91	Wetting and interfacial phenomena in Niâ€“HfB2 systems. Acta Materialia, 2009, 57, 356-364.	3.8	47
92	Experimental complex for investigations of high temperature capillarity phenomena. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 495, 43-49.	2.6	75
93	Factors affecting wettability and bond strength of solder joint couples. Pure and Applied Chemistry, 2007, 79, 1755-1769.	0.9	38
94	A comprehensive model of ordered porosity formation. Acta Materialia, 2007, 55, 6459-6471.	3.8	29
95	Fabrication of Nanosized Alumina Powders by a Simple Polymer Solution Route. Journal of Nanoscience and Nanotechnology, 2006, 6, 3633-3636.	0.9	2
96	Gasars: a class of metallic materials with ordered porosity. Materials Science and Technology, 2006, 22, 1135-1147.	0.8	31
97	Modelling of structural formation in ordered porosity metal materials. Modelling and Simulation in Materials Science and Engineering, 2006, 14, 663-675.	0.8	11
98	Discussion of ?A theoretical study of Gasarite eutectic growth?. Scripta Materialia, 2005, 52, 799-801.	2.6	9
99	Measurement of contact angle and work of adhesion at high temperature. Journal of Materials Science, 2005, 40, 2271-2280.	1.7	162
100	Interaction between liquid aluminum and NiO single crystals. Journal of Materials Science, 2005, 40, 2313-2318.	1.7	11
101	Influence of surface modification of alumina on bond strength in Al2O3/Al/Al2O3 joints. Journal of Materials Science, 2005, 40, 2513-2517.	1.7	9
102	Mathematical model for simultaneous growth of gas and solid phases in gas-eutectic reaction. Journal of Materials Science, 2005, 40, 2525-2529.	1.7	6
103	Application of push-off shear test for evaluation of wetting-interface structure-bonding relationship of solder joints. Journal of Materials Science, 2005, 40, 2547-2551.	1.7	8
104	Wettability and Reactivity between Molten Aluminum and Selected Oxides. Solid State Phenomena, 2005, 101-102, 221-226.	0.3	16
105	High-temperature wettability measurements in metal/ceramic systems â€“ Some methodological issues. Current Opinion in Solid State and Materials Science, 2005, 9, 241-253.	5.6	120
106	Infiltration Processing of Ceramic-Metal Composites: The Role of Wettability, Reaction, and Capillary Flow. Journal of the Korean Ceramic Society, 2005, 42, 703-717.	1.1	6
107	The effect of temperature, matrix alloying and substrate coatings on wettability and shear strength of Al/Al2O3 couples. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 911-923.	1.1	29
108	Bond strength and microstructure investigation on Al2O3/Al/Al2O3 joints. Surface and Interface Analysis, 2004, 36, 673-676.	0.8	1

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109	Wettability and interfacial reactions in Al/TiO2. Surface and Interface Analysis, 2004, 36, 1067-1070.	0.8	23
110	Mathematical modelling and numerical simulation of ordered porosity metal materials formation. Journal of Computer-Aided Materials Design, 2003, 10, 35-54.	0.7	17
111	TEM examination of the effect of titanium on the Al/C interface structure. Materials Chemistry and Physics, 2003, 81, 319-322.	2.0	16
112	TEM characterization of the reaction products in aluminiumâ€“fly ash couples. Materials Chemistry and Physics, 2003, 81, 296-300.	2.0	16
113	Numerical simulation of macrostructure formation in centrifugal casting of particle reinforced metal matrix composites. Part 2: simulations and practical applications. Modelling and Simulation in Materials Science and Engineering, 2003, 11, 651-674.	0.8	15
114	Numerical simulation of macrostructure formation in centrifugal casting of particle reinforced metal matrix composites. Part 1: model description. Modelling and Simulation in Materials Science and Engineering, 2003, 11, 635-649.	0.8	21
115	Sedimentation phenomenon and viscosity of waterâ€“SiC suspension under gravity conditionsâ€”a water model study for composites synthesis. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2002, 197, 203-211.	2.3	19
116	Wetting and bonding strength in Al/Al2O3 system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 324, 162-167.	2.6	89
117	Thermal Fatigue Resistance of Discontinuously Reinforced Cast Aluminum-Matrix Composites. Journal of Materials Engineering and Performance, 2002, 11, 595-602.	1.2	11
118	Effect of deposition temperature on the morphology, structure, surface chemistry and mechanical properties of magnetron sputtered Ti70â€“Al30 thin films on steel substrate. Surface and Coatings Technology, 2001, 141, 252-261.	2.2	10
119	A scanning photoemission microscope (SPEM) to study the interface chemistry of AlTi/C system. Journal of Materials Science Letters, 2000, 19, 123-126.	0.5	7
120	Microscopy and electron spectroscopic study of the interfacial chemistry in Alâ€“Ti alloy/graphite systems. Journal of Materials Science, 1998, 33, 4147-4158.	1.7	21
121	Inhomogeneities in silicon carbide distribution in stirred liquidsâ€”a water model study for synthesis of composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1998, 252, 98-108.	2.6	36
122	X-ray photoelectron spectroscopy study of the chemical interaction between BN and Ti/TiN. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1997, 15, 505-512.	0.9	22
123	Interaction Between Porous Graphite Substrate and Liquid or Semi-Liquid Aluminium Alloys Containing Titanium. Materials Science Forum, 1996, 217-222, 153-158.	0.3	15
124	The Role of Wetting and Reactivity in Infiltration of Ceramic-Metal Composites. Ceramic Engineering and Science Proceedings, 0, , 248-261.	0.1	2
125	Microstructure Characteristics of the Reaction Product Region Formed due to the High Temperature Contact of Molten Aluminium and ZnO Single Crystal. Solid State Phenomena, 0, 172-174, 1267-1272.	0.3	3
126	Structural Characterization of Reaction Product Region in Al/MgO and Al/MgAl₂O₄ Systems. Solid State Phenomena, 0, 172-174, 1273-1278.	0.3	11

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127	On Design of Metal-Matrix Composites Lighter than Air. Materials Science Forum, 0, 736, 55-71.	0.3	1
128	Effects of Titanium on Wettability and Interfaces in Aluminum/Ceramic Systems. Ceramic Transactions, 0, , 81-91.	0.1	1