Ping Shen

List of Publications by Year
in descending order

131 papers	2,639 citations	172457 29 h-index	265206 42 g-index
133 all docs	133 docs citations	133 times ranked	1533 citing authors

#	Article	IF	Citations
1	Wetting of TiC by molten Al at 1123â€“1323K. Acta Materialia, 2011, 59, 1898-1911.	7.9	86
2	Wetting of polycrystalline SiC by molten Al and Alâ^'Si alloys. Applied Surface Science, 2014, 317, 140-146.	6.1	76
3	Wetting of (0001) Î±-Al2O3 single crystals by molten Al. Scripta Materialia, 2003, 48, 779-784.	5.2	73
4	Critical Factors Affecting the Wettability of Î±â€Alumina by Molten Aluminum. Journal of the American Ceramic Society, 2004, 87, 2151-2159.	3.8	72
5	Effect of Cr on the wetting in Cu/graphite system. Applied Surface Science, 2011, 257, 6276-6281.	6.1	70
6	The influence of surface structure on wetting of Î±-Al2O3 by aluminum in a reduced atmosphere. Acta Materialia, 2003, 51, 4897-4906.	7.9	69
7	Lamellar-interpenetrated Alâ€"Siâ€"Mg/SiC composites fabricated by freeze casting and pressureless infiltration. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 630, 78-84.	5.6	68
8	Wetting and evaporation behaviors of waterâ€“ethanol sessile drops on PTFE surfaces. Surface and Interface Analysis, 2009, 41, 951-955.	1.8	55
9	Wetting of polycrystalline B4C by molten Al at 1173â€“1473K. Scripta Materialia, 2009, 60, 960-963.	5.2	51
10	Roles of alloying elements in wetting of SiC by Al. Journal of Alloys and Compounds, 2019, 784, 1212-1220.	5.5	51
11	Influence of SiC surface polarity on the wettability and reactivity in an Al/SiC system. Applied Surface Science, 2015, 355, 930-938.	6.1	49
12	Effects of direct current on the wetting behavior and interfacial morphology between molten Sn and Cu substrate. Journal of Alloys and Compounds, 2014, 586, 80-86.	5.5	48
13	Ultrafast high-temperature sintering of bulk oxides. Scripta Materialia, 2021, 193, 103-107.	5.2	48
14	Effects of oxide addition on the microstructure and mechanical properties of lamellar SiC scaffolds and Alâ€"Siâ€"Mg/SiC composites prepared by freeze casting and pressureless infiltration. Ceramics International, 2016, 42, 9653-9659.	4.8	44
15	Wetting and reaction of MgO single crystals by molten Al at 1073â€"1473 K. Acta Materialia, 2004, 52, 887-898.	7.9	43
16	Developing high toughness and strength Al/TiC composites using ice-templating and pressure infiltration. Ceramics International, 2017, 43, 3831-3838.	4.8	43
17	Growth Mechanism of TiC_{<i>x</i>} during Self-Propagating High-Temperature Synthesis in an Alâ^'Tiâ^'C System. Crystal Growth and Design, 2010, 10, 1590-1597.	3.0	41
18	A Common Regularity of Stoichiometry-Induced Morphology Evolution of Transition Metal Carbides, Nitrides, and Diborides during Self-Propagating High-Temperature Synthesis. Crystal Growth and Design, 2012, 12, 2814-2824.	3.0	41

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19	Ultrafast densification of high-entropy oxide (La0.2Nd0.2Sm0.2Eu0.2Gd0.2)2Zr2O7 by reactive flash sintering. Journal of the European Ceramic Society, 2021, 41, 2855-2860.	5.7	41
20	Wetting of B4C, TiC and graphite substrates by molten Mg. Materials Chemistry and Physics, 2011, 130, 665-671.	4.0	39
21	Reactive wetting of SiO2 substrates by molten Al. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 583-588.	2.2	38
22	Reaction synthesis of TiCâ€“TiB2/Al composites from an Alâ€“Tiâ€“B4C system. Journal of Materials Science, 2007, 42, 9927-9933.	3.7	38
23	Microstructures and mechanical characterizations of high-performance nacre-inspired Al/Al2O3 composites. Composites Part A: Applied Science and Manufacturing, 2019, 121, 465-473.	7.6	38
24	Role of ion substitution and lattice water in the densification of cold-sintered hydroxyapatite. Scripta Materialia, 2020, 177, 141-145.	5.2	34
25	Wettability of some refractory materials by molten SiO2â€“MnOâ€“TiO2â€“FeOx slag. Materials Chemistry and Physics, 2009, 114, 681-686.	4.0	33
26	Reactive wetting and infiltration of polycrystalline WC by molten Zr2Cu alloy. Scripta Materialia, 2011, 64, 229-232.	5.2	33
27	Processing and mechanical properties of lamellar-structured Alâ€“7Siâ€“5Cu/TiC composites. Materials and Design, 2016, 106, 446-453.	7.0	33
28	Ultrafast high-temperature synthesis and densification of high-entropy carbides. Journal of the European Ceramic Society, 2022, 42, 4053-4065.	5.7	33
29	High damage-tolerance bio-inspired ZL205A/SiC composites with a lamellar-interpenetrated structure. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 708, 199-207.	5.6	30
30	Wetting of Polycrystalline Î±-Al2O3 by Molten Zr55Cu30Al10Ni5 Metallic Glass Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 444-449.	2.2	29
31	Preparation of nacre-like composites by reactive infiltration of a magnesium alloy into porous silicon carbide derived from ice template. Materials Letters, 2016, 183, 299-302.	2.6	29
32	Critical Factors Affecting the Wettability of Î±-Alumina by Molten Aluminum. Journal of the American Ceramic Society, 2004, 87, 1265-1273.	3.8	28
33	Reactive wetting in liquid magnesium/silica and magnesium/silicon systems. Applied Surface Science, 2013, 274, 124-130.	6.1	28
34	Wettability in reactive Sn-base alloy/Ni-base metallic glass systems. Applied Surface Science, 2013, 276, 424-432.	6.1	27
35	Developing high-performance laminated Cu/TiC composites through melt infiltration of Ni-doped freeze-cast preforms. Ceramics International, 2019, 45, 11686-11693.	4.8	27
36	Synthesis and mechanical properties of TiC-reinforced Cu-based bulk metallic glass composites. Scripta Materialia, 2009, 60, 84-87.	5.2	25

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37	The role of CuOâ€“TiO2 additives in the preparation of high-strength porous alumina scaffolds using directional freeze casting. Journal of Porous Materials, 2016, 23, 539-547.	2.6	25
38	Cold sintering of NaNO3/MgO heat-storage composite. Ceramics International, 2020, 46, 28955-28960.	4.8	25
39	Fabrication of TiC and TiB2 locally reinforced steel matrix composites using a Feâ€“Tiâ€“B4Câ€“C system by an SHS-casting route. Journal of Materials Science, 2007, 42, 8350-8356.	3.7	24
40	Strong work-hardening effect in a multiphase ZrCuAlNiO alloy. Applied Physics Letters, 2008, 92, .	3.3	23
41	Preparation of High-Strength Alâ€“Mgâ€“Si/Al2O3 Composites with Lamellar Structures Using Freeze Casting and Pressureless Infiltration Techniques. Acta Metallurgica Sinica (English Letters), 2014, 27, 944-950.	2.9	22
42	Lamellar-interpenetrated Alâˆ’Siâˆ’Mg/Al2O3âˆ’ZrO2 composites prepared by freeze casting and pressureless infiltration. Ceramics International, 2017, 43, 3292-3297.	4.8	22
43	Synthesis of damage-tolerant Cu-matrix composites with nacre-inspired laminate-reticular hierarchical architecture via tuning compositional wettability. Scripta Materialia, 2020, 186, 312-316.	5.2	22
44	The role of TiO2 incorporation in the preparation of B4C/Al laminated composites with high strength and toughness. Ceramics International, 2018, 44, 15219-15227.	4.8	21
45	Optimization of the properties in Al/SiC composites by tailoring microstructure through gelatin freeze casting. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 748, 286-293.	5.6	21
46	Wetting and evaporation behaviors of molten Mg on partially oxidized SiC substrates. Applied Surface Science, 2010, 256, 7043-7047.	6.1	19
47	Wetting and evaporation behaviors of molten Mgâ€“Al alloy drops on partially oxidized Î±-SiC substrates. Materials Chemistry and Physics, 2011, 130, 1125-1133.	4.0	19
48	Effects of composition and sintering temperature on the structure and compressive property of the lamellar Al2O3â€“ZrO2 scaffolds prepared by freeze casting. Journal of Materials Science, 2015, 50, 5039-5046.	3.7	19
49	Significant improvement in the wettability of ZrO2 by molten Al under the application of a direct current. Materials and Design, 2016, 111, 158-163.	7.0	19
50	Electrochemically-driven direct joining of Ni and ZrO2. Scripta Materialia, 2017, 141, 41-44.	5.2	19
51	A novel approach to the fabrication of lamellar Al2O3/6061Al composites with high-volume fractions of hard phases. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 754, 75-84.	5.6	19
52	Influence of matrix property and interfacial reaction on the mechanical performance and fracture mechanism of TiC reinforced Al matrix lamellar composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 775, 138956.	5.6	19
53	Mo2C intermediate layers for graphiteâ€“Cu system using the molten salt method. Fusion Engineering and Design, 2011, 86, 2965-2970.	1.9	18
54	Effects of Fabrication Parameters on Interface of Zirconia and Ti-6Al-4V Joints Using Zr55Cu30Al10Ni5 Amorphous Filler. Journal of Materials Engineering and Performance, 2013, 22, 2602-2609.	2.5	18

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55	A novel strategy for fabricating biomimetic gradient metal-ceramic composites by dynamic freeze casting and pressure infiltration. Scripta Materialia, 2019, 167, 101-104.	5.2	18
56	Wetting, Adhesion and Adsorption in Al-Si/(0112) α-Alumina System at 1723 K. Materials Transactions, 2004, 45, 2857-2863.	1.2	17
57	Effect of substrate surface orientation on the wettability and adhesion of Î±â€“Al2O3 single crystals by molten Cu. Journal of Materials Research, 2005, 20, 940-951.	2.6	17
58	Reactive wetting of polycrystalline TiC by molten Zr₅₅Cu₃₀Al₁₀Ni₅ metallic glass alloy. Journal of Materials Research, 2009, 24, 2420-2427.	2.6	17
59	3D long-range ordered porous ceramics prepared by a novel bidirectional freeze-casting technique. Ceramics International, 2018, 44, 5803-5806.	4.8	17
60	Electrically induced spreading of EGaIn on Cu substrate in an alkali solution under wetting and non-wetting conditions. Applied Surface Science, 2019, 490, 598-603.	6.1	17
61	Effects of ceramic lamellae compactness and interfacial reaction on the mechanical properties of nacre-inspired Al/Al2O3â€“ZrO2 composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 718, 326-334.	5.6	16
62	Polarity effects on the wettability and interfacial chemistry at Cuâ€“YSZ interface by applying a direct current. Journal of the European Ceramic Society, 2018, 38, 1790-1795.	5.7	16
63	Effect of components on the microstructures and properties of rare-earth zirconate ceramics prepared by ultrafast high-throughput sintering. Journal of the European Ceramic Society, 2021, 41, 5768-5773.	5.7	16
64	Surface Orientation and Wetting Phenomena in Si/alpha-Alumina System at 1723 K. Journal of the American Ceramic Society, 2005, 88, 912-917.	3.8	15
65	Effect of temperature and surface roughness on the wettability of boron nitride by molten Al. Journal of Materials Science, 2007, 42, 3564-3568.	3.7	15
66	Wetting of polycrystalline W by molten Zr55Al10Ni5Cu30 alloy. Materials Chemistry and Physics, 2009, 115, 322-327.	4.0	15
67	Hydrated precursor-assisted densification of hydroxyapatite and its composites by cold sintering. Ceramics International, 2021, 47, 14348-14353.	4.8	15
68	Wetting of polycrystalline MgO by molten Mg under evaporation. Materials Chemistry and Physics, 2010, 122, 290-294.	4.0	14
69	Synthesis of spherical NbB2â^'x particles by controlling the stoichiometry. CrystEngComm, 2012, 14, 1925.	2.6	14
70	Wettability and reactivity between B4C and molten Zr55Cu30Al10Ni5 metallic glass alloy. Materials Chemistry and Physics, 2009, 117, 377-383.	4.0	13
71	Pinningâ€“depinning behavior in the wetting of (0 0 0 1) Î±-Al2O3 single crystal by molten Mg. Applied Surface Science, 2011, 257, 10743-10747.	6.1	13
72	Wetting and adhesion at Mg/MgO interfaces. Journal of Materials Science, 2013, 48, 6008-6017.	3.7	13

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73	Influence of Grain Refiners on the Wettability of Al2O3 Substrate by Aluminum Melt. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 382-392.	2.1	13
74	Synthesis and densification of hydroxyapatite by mechanochemically-activated reactive cold sintering. Scripta Materialia, 2021, 194, 113717.	5.2	13
75	One-step synthesis and densification of BaTiO3 by reactive cold sintering. Scripta Materialia, 2022, 213, 114628.	5.2	13
76	A study on laser sintering of Fe-Cu powder compacts. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1999, 30, 2229-2235.	2.2	12
77	Wetting of WC by a Zr-base metallic glass-forming alloy. Materials Chemistry and Physics, 2013, 139, 646-653.	4.0	12
78	High compressive strength in nacre-inspired Alâˆ'7Siâˆ'5Cu/Al 2 O 3 â€"ZrO 2 composites at room and elevated temperatures by regulating interfacial reaction. Ceramics International, 2017, 43, 7369-7373.	4.8	12
79	Wettability of $$hbox{R}(01ar{1}2)$$ single crystalline and polycrystalline $$alphahbox{-}hbox{Al}_{2}hbox{O}_{3}$$ substrates by Alâ€"Si alloys over wide composition and temperature ranges. Journal of Materials Science, 2006, 41, 7159-7164.	3.7	11
80	Flash joining of 3YSZ and 430 SS using Agâ€"CuO filler. Ceramics International, 2022, 48, 4005-4014.	4.8	11
81	Temperature Dependence of the Wettability between Glassâ€Forming Alloy Zr₅₅Cu₃₀Al₁₀Ni₅ and Polycrystalline ZrO₂. Journal of the American Ceramic Society, 2011, 94, 2162-2170.	3.8	10
82	Influences of electric current on the wettability and interfacial microstructure in Sn/Fe system. Applied Surface Science, 2015, 328, 380-386.	6.1	10
83	Nacre-inspired lightweight and high-strength AZ91D/Mg2B2O5w composites prepared by ice templating and pressureless infiltration. Journal of Materials Science, 2018, 53, 12167-12177.	3.7	10
84	Fabrication and characterization of robust freeze-cast alumina scaffolds with dense ceramic walls and controllable pore sizes. Journal of Materials Science, 2019, 54, 5224-5235.	3.7	10
85	Preparation and characterization of high damage-tolerance nacre-inspired magnesium alloy matrix composites with high carbon nanotube contents. Carbon, 2020, 162, 382-391.	10.3	10
86	Construction of nacre-mimetic composites with a â€œbrick-and-mortarâ€•architecture based on structural defects in ice-templating. Materials and Design, 2021, 204, 109668.	7.0	10
87	Reactive wetting of amorphous silica by molten Alâ€"Mg alloys and their interfacial structures. Applied Surface Science, 2016, 377, 340-348.	6.1	9
88	Evaporation-coupled wetting of ZrO2 by molten Mg inÂArÂatmosphere. Applied Physics A: Materials Science and Processing, 2010, 98, 601-607.	2.3	8
89	Formation mechanism and control of a large-scale lamellar structure in freeze-cast Al 2 O 3 ceramics under dual temperature gradients. Journal of the European Ceramic Society, 2018, 38, 2605-2611.	5.7	8
90	3D highly oriented metal foam: a competitive self-supporting anode for high-performance lithium-ion batteries. Journal of Materials Science, 2020, 55, 11462-11476.	3.7	8

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91	Wetting of microcrystalline and nanocrystalline Ni substrates by molten Snâ€“3.5Agâ€“0.7Cu alloy. Materials Letters, 2010, 64, 2454-2457.	2.6	7
92	Warping of triple line in the wetting of B₄C by a Cuâ€1 at.% Cr alloy. Surface and Interface Analysis, 2011, 43, 1360-1364.	1.8	7
93	DC-assisted rapid wetting of 3Y-PSZ by molten 72Agâ€“28Cu and its application in joining. Journal of the European Ceramic Society, 2019, 39, 2132-2139.	5.7	7
94	Effect of freeze speed on the microstructure and damage-tolerance behavior of bio-inspired ZL205A/silicon carbide composites. Materials Characterization, 2019, 147, 207-214.	4.4	7
95	Exploiting bio-inspired high energy-absorbent metal/ceramic composites through emulsion-ice-templating and melt infiltration. Materialia, 2020, 14, 100884.	2.7	7
96	Flash sintering of 3YSZ and in-situ joining with 304 stainless steel using copper as an interlayer. Scripta Materialia, 2021, 194, 113709.	5.2	7
97	Reaction Behavior and Mechanism during Self-Propagating High-Temperature Synthesis Reaction in an Al-TiO2-B4C System. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2008, 39, 613-618.	2.1	6
98	Wetting of Polycrystalline Î±-Al2O3 by Molten Mg in Ar Atmosphere. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 1621-1626.	2.2	6
99	Wettability of amorphous and nanocrystalline Fe78B13Si9 substrates by molten Sn and Bi. Nanoscale Research Letters, 2011, 6, 318.	5.7	6
100	Wetting of (0001) Î±-alumina single crystals by molten Mgâ€“Al alloys in the presence of evaporation. Journal of Materials Science, 2012, 47, 8372-8380.	3.7	6
101	Wireâ€“powderâ€“arc additive manufacturing: A viable strategy to fabricate carbide ceramic/aluminum alloy multi-material structures. Additive Manufacturing, 2022, 51, 102637.	3.0	6
102	Effect of reactant C/Ti ratio on the stoichiometry of Combustion-synthesized TiCx in Ti-C system. Journal of the Ceramic Society of Japan, 2009, 117, 525-528.	1.1	5
103	Wetting of Cu substrates with micrometer and nanometer grains by molten Snâ€3.5Agâ€0.7Cu alloy. Surface and Interface Analysis, 2010, 42, 1681-1684.	1.8	5
104	Wetting and reaction of molten La with poly- and mono-crystalline MgO at 1323Â K. Journal of Materials Science, 2013, 48, 960-966.	3.7	5
105	Electrochemically driven rapid wetting of 3YSZ by 60Cuâ€“40Ag and its robust joining to 304 stainless steel. Journal of the European Ceramic Society, 2020, 40, 4281-4289.	5.7	5
106	Bio-inspired lamellar hydroxyapatite/magnesium composites prepared by directional freezing and pressureless infiltration. Ceramics International, 2021, 47, 11183-11192.	4.8	5
107	Ultrafast and robust joining of 3YSZ and GH3128 superalloy using Cu interlayer under an electric field. Journal of Alloys and Compounds, 2022, 890, 161893.	5.5	5
108	Effect of substrate annealing on the wetting of metastable BNi-2 ribbons by molten Sn. Journal of Applied Physics, 2010, 107, 094901.	2.5	4

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109	Current-driven spontaneous infiltration of molten Al into a porous PSZ preform with a lamellar structure. Materials Letters, 2018, 216, 212-215.	2.6	4
110	High Wear-Resistant Aluminum Matrix Composite Layer Fabricated by MIG Welding with Lateral B4C Powder Injection. Journal of Materials Engineering and Performance, 2018, 27, 5700-5708.	2.5	4
111	Alâ€"7Siâ€"5Cu/Al₂O₃â€"ZrO₂ Laminated Composites with Excellent and Anisotropic Wear Resistance. Advanced Engineering Materials, 2018, 20, 1800540.	3.5	4
112	Surface hydrate-assisted low- and medium-temperature sintering of MgO. Scripta Materialia, 2022, 206, 114258.	5.2	4
113	Pulsed current-driven wetting of 3YSZ by liquid Cu and its mechanisms. Journal of the European Ceramic Society, 2022, 42, 552-560.	5.7	4
114	Lamellar and interpenetrated Al/(Al2O3â€"TiC) composites prepared by bidirectional freeze casting and melt infiltration. Ceramics International, 2022, , .	4.8	4
115	Effect of TiO2 addition on the combustion synthesis in the Tiâ€"B4C system. Journal of Materials Research, 2008, 23, 1327-1333.	2.6	3
116	Wetting of amorphous and nanocrystalline Ni₇₅B₁₅Si₁₀ substrates by molten Sn. Surface and Interface Analysis, 2013, 45, 854-858.	1.8	3
117	The influence of surface orientation on the wetting and reaction at the Al/MgAl2O4 interfaces. Ceramics International, 2019, 45, 24031-24036.	4.8	3
118	Influences of Si and Ti on the wettability and reactivity of Al/graphite system at 900 Â°C. Materialia, 2021, 16, 101060.	2.7	3
119	Cold sintering of chitosan/hydroxyapatite composites. Materialia, 2022, 21, 101294.	2.7	3
120	Roles of direct current in ultrafast wetting of 3YSZ by Sn3.0Ag0.5Cu and joining to Ni. Materialia, 2019, 7, 100399.	2.7	2
121	Wettability and reactivity between molten aluminum and randomly aligned carbon nanotubes. Journal of Materials Science, 2021, 56, 7799-7810.	3.7	2
122	Role of Si in the wetting of TiC by Al. Journal of Materials Science, 2021, 56, 7791-7798.	3.7	2
123	Reactive wetting of high-entropy (La0.2Nd0.2Sm0.2Eu0.2Gd0.2)2Zr2O7 ceramic by molten 71Agâ€"27Cuâ€"2Ti alloy at 1073â€"1273 K. Journal of the European Ceramic Society, 2021, 41, 5644-5649.	5.7	2
124	Electrochemical wetting of 3YSZ by Cu and ultrafast joining with a Ni-based superalloy. Journal of the European Ceramic Society, 2022, 42, 1113-1120.	5.7	2
125	DCâ€driven ultrafast transient liquid phase bonding of 3YSZ and GH3128 superalloy using Ni interlayer. Journal of the American Ceramic Society, 2022, 105, 5649-5663.	3.8	2
126	Role of Fe incorporation in the self-propagating high-temperature synthesis reaction in an Alâ€"Tiâ€"B₄C system. Journal of Materials Research, 2009, 24, 2066-2078.	2.6	1

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127	Effect of structural transition in an amorphous Ni80P20 alloy on the wetting by a eutectic Snâ€“Bi solder. Journal of Materials Science, 2014, 49, 2932-2942.	3.7	1
128	EFFECT OF Al CONTENT ON THE COMBUSTION SYNTHESIS OF (TiB₂-Al₂O₃)/Al PRODUCTS FROM AN Al-TiO₂-B₂O₃ SYSTEM. International Journal of Modern Physics B, 2010, 24, 3203-3208.	2.0	0
129	Effect of Tempering on Microstructure and Mechanical Properties in a Multiphase ZrCuAlNiO Alloy. ISIJ International, 2008, 48, 984-987.	1.4	0
130	Intrinsic Wettability and Wetting Dynamics in the Al/a-Al₂ O₃ System. Ceramic Transactions, 0, , 113-119.	0.1	0
131	Role of Si in the Wetting of Î±-SiC by Al. , 2013, , 1493-1500.		0