

Petrus C Pistorius

List of Publications by Year in descending order

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201385

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143
times ranked

2325
citing authors

#	ARTICLE	IF	CITATIONS
1	Kinetics of Nitrogen Removal from Liquid Third Generation Advanced High-Strength Steel by Tank Degassing. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2022, 53, 1383-1395.	1.0	7
2	Build Surface Roughness and Internal Oxide Concentration for Laser Powder Bed Fusion of IN718. Journal of Manufacturing and Materials Processing, 2022, 6, 25.	1.0	0
3	Investigation into the Temperature of Metallic High-Temperature Confocal Scanning Laser Microscope Samples. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2022, 53, 2153-2165.	1.0	4
4	Isotope Exchange Measurements of the Interfacial Reaction Rate Constant of Nitrogen on Fe-Mn alloys and an Advanced High-Strength Steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 51-58.	1.0	10
5	Ferrosilicon-Based Calcium Treatment of Aluminum-Killed and Silicomanganese-Killed Steels. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 6-16.	1.0	17
6	Catalytic graphitization of Glassy Carbon by Molten Fe-Csat. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 1-5.	1.0	3
7	Calcium Transfer to Oxide Inclusions in Al-Killed Steel Without Calcium Treatment. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 163-177.	1.0	5
8	Non-metallic Inclusion Evolution in a Liquid Third-Generation Advanced High-Strength Steel in Contact with Double-Saturated Slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 580-585.	1.0	12
9	Interfacial Reaction Rate Constant of Nitrogen with Liquid Cobalt Measured by Nitrogen Isotope Exchange. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 594-597.	1.0	2
10	The effect of flux chemistry on element transfer in Submerged Arc Welding: application of thermochemical modelling. Journal of Materials Research and Technology, 2021, 11, 2021-2036.	2.6	40
11	Interface-Resolved Simulation of Bubblesâ€“Metalâ€“Slag Multiphase System in a Gas-Stirred Ladle. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 1532-1549.	1.0	12
12	Recycling of Chromium-Containing Waste Oxide as Alloying Addition in Ladle Metallurgy. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 2612-2618.	1.0	4
13	Aluminum-Free Steelmaking: Desulfurization and Nonmetallic Inclusion Evolution of Si-Killed Steel in Contact with CaO-SiO ₂ -CaF ₂ -MgO Slag. Processes, 2021, 9, 1258.	1.3	2
14	Chemical Composition Modification of Inclusions in Steels by Controlled Ca Treatment. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 2837-2841.	1.0	14
15	Toward Multiscale Model Development for Multiphase Flow: Direct Numerical Simulation of Dispersed Phases and Multiscale Interfaces in a Gas-Stirred Ladle. Jom, 2021, 73, 2888-2899.	0.9	7
16	Liquid Inclusion Collision and Agglomeration in Calcium-Treated Aluminum-Killed Steel. Frontiers in Materials, 2021, 8, .	1.2	2
17	High speed synchrotron X-ray diffraction experiments resolve microstructure and phase transformation in laser processed Ti-6Al-4V. Materials Research Letters, 2021, 9, 429-436.	4.1	27
18	Thermodynamic calculations for the chemical vapor deposition of hexagonal boron nitride using triethylboron, ammonia, and hydrogen. Journal of Crystal Growth, 2021, 572, 126283.	0.7	3

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19	Investigation into the dephosphorization of ferromanganese alloys for the production of advanced high-strength steel. Journal of the Southern African Institute of Mining and Metallurgy, 2021, 121, 1-9.	0.1	1
20	Strength of Direct Reduced Iron Following Gas-Based Reduction and Carburization. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2020, 51, 2628-2641.	1.0	6
21	A Review of Steel Processing Considerations for Oxide Cleanliness. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2020, 51, 2437-2452.	1.0	29
22	Dissolution behavior of TiN in liquid cobalt. International Journal of Refractory Metals and Hard Materials, 2020, 92, 105271.	1.7	3
23	MgO Refractory Attack by Transient Non-saturated EAF Slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2020, 51, 891-897.	1.0	18
24	Calcium Modification of Inclusions via Slag/Metal Reactions. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2020, 51, 529-542.	1.0	23
25	In Situ Observation of Reaction Fronts During the Initial Stages of Iron Surface Oxidation at 1150°C. Oxidation of Metals, 2020, 93, 449-463.	1.0	3
26	Origin of Oxides and Oxide-Related Pores in Laser Powder Bed Fusion Parts. , 2020, , 45-60.		2
27	Carbon Bonding State Has a Small Effect on Melting of Direct-Reduced Iron. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 2508-2516.	1.0	7
28	Liquid Inclusion Distortion by Lens Shape Effect: In Situ Observation and Quantification on LCAK Steels Using HT-CSLM. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 2498-2501.	1.0	1
29	Formation of Hematite Whiskers during Magnetite Concentrate Oxidation. ISIJ International, 2019, 59, 1765-1769.	0.6	6
30	Development of a Reliable Kinetic Model for Ladle Refining. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 2163-2174.	1.0	15
31	Use of improved cold-finger technique to assess effects of basicity on heat transfer through solidified mold flux. Journal of Iron and Steel Research International, 2019, 26, 393-402.	1.4	1
32	Fatigue life prediction for AlSi10Mg components produced by selective laser melting. International Journal of Fatigue, 2019, 125, 479-490.	2.8	59
33	Application of Plasma FIB to Analyze a Single Oxide Inclusion in Steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 1124-1127.	1.0	2
34	Increased Use of Natural Gas in Blast Furnace Ironmaking: Mass and Energy Balance Calculations. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 1290-1299.	1.0	39
35	Rate of MgO Pickup in Alumina Inclusions in Aluminum-Killed Steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 181-191.	1.0	18
36	Build Rate Optimization for Powder Bed Fusion. Journal of Materials Engineering and Performance, 2019, 28, 641-647.	1.2	12

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37	Mass Transfer in High-Temperature Laser Confocal Microscopy. Minerals, Metals and Materials Series, 2018, , 193-200.	0.3	3
38	Numerical modeling and experimental validation of thermal history and microstructure for additive manufacturing of an Inconel 718 product. Progress in Additive Manufacturing, 2018, 3, 15-32.	2.5	53
39	Improved cold-finger measurement of heat flux through solidified mould flux. Ironmaking and Steelmaking, 2018, 45, 502-508.	1.1	10
40	Synthesis of Titanium Oxycarbide from Titanium Slag by Methane-Containing Gas. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 123-131.	1.0	21
41	The Scrap Collection per Industry Sector and the Circulation Times of Steel in the U.S. between 1900 and 2016, Calculated Based on the Volume Correlation Model. Metals, 2018, 8, 338.	1.0	7
42	Quantitative and Qualitative Aspects of Gasâ€œMetalâ€œOxide Mass Transfer in High-Temperature Confocal Scanning Laser Microscopy. Jom, 2018, 70, 1193-1198.	0.9	3
43	Polydopamine Nanomembranes as Adhesion Layers for Improved Corrosion Resistance in Low Carbon Steel. Advanced Engineering Materials, 2018, 20, 1800621.	1.6	13
44	Modeling Manganese Silicate Inclusion Composition Changes during Ladle Treatment Using FactSage Macros. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 37-45.	1.0	35
45	Prediction of lack-of-fusion porosity for powder bed fusion. Additive Manufacturing, 2017, 14, 39-48.	1.7	316
46	Anisotropic Mechanical Behavior of AlSi10Mg Parts Produced by Selective Laser Melting. Jom, 2017, 69, 516-522.	0.9	98
47	Impurity Removal from Titanium Oxycarbide. Minerals, Metals and Materials Series, 2017, , 629-636.	0.3	3
48	Comparison of Methods for Electrochemical Iron Removal from Titanium Ores. Journal of Sustainable Metallurgy, 2017, 3, 711-719.	1.1	3
49	Structure of Solidified Films of Mold Flux for Peritectic Steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 1652-1658.	1.0	13
50	Use of slag (CaO-Al ₂ O ₃ -SiO ₂ -MgO) droplet as a catalyst to grow MgO whiskers through VLS mechanism. Ceramics International, 2017, 43, 15478-15485.	2.3	6
51	Transformation of Oxide Inclusions in Type 304 Stainless Steels during Heat Treatment. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 2281-2292.	1.0	79
52	Synthesis of Titanium Oxycarbide from Concentrates of Natural Ilmenite (Weathered and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 147 Td Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 2440-2446.	1.0	16
53	Automated Inclusion Microanalysis in Steel by Computer-Based Scanning Electron Microscopy: Accelerating Voltage, Backscattered Electron Image Quality, and Analysis Time. Microscopy and Microanalysis, 2017, 23, 1082-1090.	0.2	31
54	Phase Characterization of High Basicity Manganese Slags. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 1463-1485.	1.0	6

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55	Structure Evolution of Slag Films of Ultrahigh-Basicity Mold Flux During Solidification. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 1938-1942.	1.0	10
56	Oxides, porosity and fatigue performance of AlSi10Mg parts produced by selective laser melting. International Journal of Fatigue, 2017, 94, 192-201.	2.8	343
57	A Comprehensive Comparison of the Analytical and Numerical Prediction of the Thermal History and Solidification Microstructure of Inconel 718 Products Made by Laser Powder-Bed Fusion. Engineering, 2017, 3, 685-694.	3.2	164
58	Natural Gas Utilization in Blast Furnace Ironmaking: TuyÃre Injection, Shaft Injection and Prereduction. Minerals, Metals and Materials Series, 2017, , 283-292.	0.3	16
59	Real time and in situ observation of graphene growth on liquid metal surfaces via a carbon segregation method using high-temperature confocal laser scanning microscopy. RSC Advances, 2016, 6, 101235-101241.	1.7	9
60	Study on Reduction of MoO ₂ Powders with CO to Produce Mo ₂ C. Journal of the American Ceramic Society, 2016, 99, 819-824.	1.9	19
61	Rapid Solidification: Selective Laser Melting of AlSi10Mg. Jom, 2016, 68, 960-966.	0.9	167
62	Laboratory Carburization of Direct-Reduced Iron in CH ₄ -H ₂ -N ₂ Gas Mixtures, and Comparison with Industrial Samples. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 1538-1541.	1.0	10
63	Effect of Ladle Furnace Slag Composition in Si-Mn Killed Steel Transient Inclusion Changes. , 2016, , 117-125.		5
64	A Study on Calcium Transfer from Slag to Steel and its Effect on Modification of Alumina and Spinel Inclusions. , 2016, , 145-153.		5
65	Upgrading of Iron-Rich Titanium Minerals Using a Molten Salt Process. , 2016, , 19-26.		0
66	Modeling of Manganese Ferroalloy Slag Properties and Flow During Tapping. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 2639-2651.	1.0	16
67	Wear Mechanisms of Carbon-Based Refractory Materials in SiMn Tap-HolesâPart II: In Situ Observation of Chemical Reactions. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 668-679.	1.0	4
68	Wear Mechanisms of Carbon-Based Refractory Materials in Silicomanganese Tap HolesâPart I: Equilibrium Calculations and Slag and Refractory Characterization. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 653-667.	1.0	10
69	Reduction Mechanisms in Manganese Ore Reduction. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 2534-2552.	1.0	16
70	Nature of MgO and Al ₂ O ₃ Dissolution in Metallurgical Slags. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 2414-2418.	1.0	31
71	Effect of Mass Transfer Conditions on Double-Loop EPR Sensitization Testing of Austenitic Stainless Steel. ECS Electrochemistry Letters, 2015, 4, C27-C29.	1.9	1
72	Comment on âStable phase domains of the TiO ₂ âTi ₃ O ₅ âTi ₂ O ₃ âTiOâTi(C _x O _y) system examined experimentally and via first principles calculationsâby J. Kim and S. Kang, J. Mater. Chem. A, 2014, 2, 2641. Journal of Materials Chemistry A, 2015, 3, 912-913.	5.2	0

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73	Production of Titanium Oxycarbide from Titania-Rich Mineral Sands. , 2015, , 297-304.		3
74	Prediction of Non-Isothermal Oxidation of Magnetite Pellets. , 2015, , 203-208.		1
75	Bubbles in Process Metallurgy. , 2014, , 179-196.		6
76	On the Eutectoid Reaction in a Quaternary Fe-C-Mn-Al Alloy: Austenite+Ferrite+Kappa-Carbide+M ₂₃ C ₆ Carbide. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 1199-1216.	1.1	44
77	Magnetite Particle Size Distribution and Pellet Oxidation. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2014, 45, 1213-1220.	1.0	19
78	Early Gaseous Oxygen Enrichment to Enhance Magnetite Pellet Oxidation. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2014, 45, 1304-1314.	1.0	22
79	Ladle Metallurgy Kinetics: Inclusion-Inclusion Reactions. , 2014, , 341-346.		1
80	Examples of How Fundamental Knowledge can Improve Steelmaking: Desulphurisation Kinetics Calcium and Modification. Transactions of the Indian Institute of Metals, 2013, 66, 519-523.	0.7	5
81	Effect of Silicon on the Desulfurization of Al-Killed Steels: Part I. Mathematical Model. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2013, 44, 1086-1094.	1.0	46
82	Effect of Silicon on the Desulfurization of Al-Killed Steels: Part II. Experimental Results and Plant Trials. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2013, 44, 1095-1104.	1.0	31
83	Formation of Copper Sulfide Artifacts During Electrolytic Dissolution of Steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2013, 44, 483-486.	1.0	4
84	Nitrogen in SL/RN direct reduced iron: origin and effect on nitrogen control in EAF steelmaking. Ironmaking and Steelmaking, 2012, 39, 336-341.	1.1	5
85	Effects of Thiocyanate on Anodic Dissolution of Iron, Chromium, Nickel and Type 304 Stainless Steel. Journal of the Electrochemical Society, 2012, 159, C519-C524.	1.3	2
86	Effects of Thiocyanate on Anodic Dissolution of Iron, Chromium, Nickel and Type 304 Stainless Steel. Journal of the Electrochemical Society, 2012, 159, C513-C518.	1.3	4
87	Effects of Thiocyanate on Anodic Dissolution of Iron, Chromium and Type 430 Stainless Steel. Journal of the Electrochemical Society, 2012, 159, C114-C122.	1.3	4
88	Calcium Modification of Spinel Inclusions in Aluminum-Killed Steel: Reaction Steps. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2012, 43, 830-840.	1.0	134
89	Matrix Effects in the Energy Dispersive X-Ray Analysis of CaO-Al ₂ O ₃ -MgO Inclusions in Steel. Microscopy and Microanalysis, 2011, 17, 963-971.	0.2	25
90	Transient Inclusion Evolution During Modification of Alumina Inclusions by Calcium in Liquid Steel: Part I. Background, Experimental Techniques and Analysis Methods. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2011, 42, 711-719.	1.0	119

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91	Transient Inclusion Evolution During Modification of Alumina Inclusions by Calcium in Liquid Steel: Part II. Results and Discussion. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2011, 42, 720-729.	1.0	115
92	Behaviour of coal mineral matter in sintering and slagging of ash during the gasification process. Fuel Processing Technology, 2011, 92, 1426-1433.	3.7	86
93	Partial slag solidification within ilmenite smelter. Institutions of Mining and Metallurgy Transactions Section C: Mineral Processing and Extractive Metallurgy, 2011, 120, 211-217.	0.6	2
94	Filler selection for weldments in type 316L stainless steel, for hot organic acid service. Corrosion Engineering Science and Technology, 2011, 46, 24-31.	0.7	3
95	Nickel, copper and cobalt distribution and equilibria in Anglo Platinum furnace slags. Institutions of Mining and Metallurgy Transactions Section C: Mineral Processing and Extractive Metallurgy, 2010, 119, 52-59.	0.6	3
96	Mould flux residues aid descaling of reheated austenitic stainless steel. Ironmaking and Steelmaking, 2010, 37, 57-62.	1.1	2
97	Comparison of heat treatment response of semisolid metal processed alloys A356 and F357. International Journal of Cast Metals Research, 2010, 23, 37-43.	0.5	32
98	Reduction in packed bed of iron ore and coal under one-dimensional heating: experimental results and modelling. Ironmaking and Steelmaking, 2009, 36, 363-370.	1.1	1
99	Disintegration of Northern Cape iron ores under reducing conditions. Ironmaking and Steelmaking, 2009, 36, 354-362.	1.1	4
100	Measurement of reduction in packed bed of iron ore and carbon under one-dimensional heating. Ironmaking and Steelmaking, 2009, 36, 402-408.	1.1	0
101	Control of open slag bath furnaces at Highveld Steel and Vanadium Ltd: development of operator guidance tables. Ironmaking and Steelmaking, 2009, 36, 500-504.	1.1	9
102	Role of silicate phases during comminution of titania slag. Minerals Engineering, 2009, 22, 182-189.	1.8	10
103	Shielding Gas Oxygen Additions as a Means of Curbing Nitrogen Degassing During the Autogenous Arc Welding of Nitrogen-Alloyed Stainless Steel. Welding in the World, Le Soudage Dans Le Monde, 2009, 53, 38-47.	1.3	6
104	Heat transfer through mould flux with titanium oxide additions. Ironmaking and Steelmaking, 2007, 34, 513-520.	1.1	17
105	Oxidation of high-titanium slags in the presence of water vapour. Minerals Engineering, 2006, 19, 232-236.	1.8	27
106	Modelling of an ilmenite-smelting DC arc furnace process. Minerals Engineering, 2006, 19, 262-279.	1.8	31
107	Kinetics of carbothermic reduction reactions under heat transfer control: modelling results. Scandinavian Journal of Metallurgy, 2005, 34, 122-130.	0.3	3
108	Physicochemical aspects of titanium slag production and solidification. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2003, 34, 581-588.	1.0	64

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109	Gauge and Tension Control during the Acceleration Phase of a Steckel Hot Rolling Mill. ISIJ International, 2003, 43, 1562-1571.	0.6	3
110	The relationship between FeO and Ti ₂ O ₃ in ilmenite smelter slags. Scandinavian Journal of Metallurgy, 2002, 31, 120-125.	0.3	27
111	Modelling of the Off-gas Exit Temperature and Slag Foam Depth of an Electric Arc Furnace.. ISIJ International, 2001, 41, 399-401.	0.6	17
112	Speed Disturbance Compensation in the Secondary Cooling Zone in Continuous Casting.. ISIJ International, 2000, 40, 469-477.	0.6	24
113	Equilibrium slag losses in ferrovanadium production. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2000, 31, 1091-1097.	1.0	11
114	Modelling for Control of a Steckel Hot Rolling Mill.. ISIJ International, 2000, 40, 1003-1012.	0.6	4
115	Localized Corrosion of Carbon Steel Weldments. Corrosion, 2000, 56, 1272-1279.	0.5	16
116	Significance of Pressure, Temperature and Reaction Rate Events in a Blast Furnace Simulation Test.. ISIJ International, 2000, 40, 1067-1072.	0.6	0
117	Evaluation of a process that uses phosphate additions to upgrade titania slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 1999, 30, 823-829.	1.0	17
118	Modeling and Simulation of an Electric Arc Furnace Process.. ISIJ International, 1999, 39, 23-32.	0.6	85
119	Melting point determinations of -rich slag. Measurement Science and Technology, 1998, 9, 1728-1736.	1.4	1
120	Specification Framework for Control of the Secondary Cooling Zone in Continuous Casting.. ISIJ International, 1998, 38, 447-453.	0.6	32
121	Design Aspects of Electrochemical Noise Measurements for Uncoated Metals: Electrode Size and Sampling Rate. Corrosion, 1997, 53, 273-283.	0.5	60
122	The Possibility of Using Elemental Analysis to Identify Debris from the Cutting of Mild Steel. Journal of Forensic Sciences, 1996, 41, 998-1004.	0.9	7
123	Surface Roughness and the Metastable Pitting of Stainless Steel in Chloride Solutions. Corrosion, 1995, 51, 380-385.	0.5	198
124	Ladle Metallurgy Kinetics: Inclusion-Inclusion Reactions. , 0, , 341-346.		0
125	Flux-Mediated Wetting of Alumina by Liquid Fe-Ti-C sat. Steel Research International, 0, , 2100068.	1.0	1
126	Steelmaking Decarbonization Options with Current Technology. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 0, , 1.	1.0	0