

Cheng-Bin Shi

List of Publications by Year in descending order

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88
papers

2,086
citations

201385

27
h-index

288905

40
g-index

92
all docs

92
docs citations

92
times ranked

479
citing authors

#	ARTICLE	IF	CITATIONS
1	Assessment of Oxygen Control and Its Effect on Inclusion Characteristics during Electroslag Remelting of Die Steel. <i>Steel Research International</i> , 2012, 83, 472-486.	1.0	91
2	A Thermodynamic Model of Phosphorus Distribution Ratio between CaO-SiO ₂ -MgO-FeO-Fe ₂ O ₃ -MnO-Al ₂ O ₃ -P ₂ O ₅ Slags and Molten Steel during a Topâ€“Bottom Combined Blown Converter Steelmaking Process Based on the Ion and Molecule Coexistence Theory. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2011, 42, 738-770.	1.0	84
3	Crystallization Characteristics of CaO-Al ₂ O ₃ -Based Mold Flux and Their Effects on In-Mold Performance during High-Aluminum TRIP Steels Continuous Casting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2014, 45, 1081-1097.	1.0	82
4	A Sulphide Capacity Prediction Model of CaOâ€“SiO ₂ â€“MgOâ€“Al ₂ O ₃ Ironmaking Slags Based on the Ion and Molecule Coexistence Theory. <i>ISIJ International</i> , 2010, 50, 1362-1372.	0.6	73
5	A Thermodynamic Model for Calculating Sulphur Distribution Ratio between CaOâ€“SiO ₂ â€“MgOâ€“Al ₂ O ₃ Ironmaking Slags and Carbon Saturated Hot Metal Based on the Ion and Molecule Coexistence Theory. <i>ISIJ International</i> , 2009, 49, 1828-1837.	0.6	72
6	Investigation of Oxide Inclusions and Primary Carbonitrides in Inconel 718 Superalloy Refined through Electroslag Remelting Process. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2012, 43, 1596-1607.	1.0	70
7	A Thermodynamic Model of Sulfur Distribution Ratio between CaOâ€“SiO ₂ â€“MgOâ€“FeOâ€“MnOâ€“Al ₂ O ₃ Slags and Molten Steel during LF Refining Process Based on the Ion and Molecule Coexistence Theory. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2011, 42, 1150-1180.	1.0	69
8	A Thermodynamic Model of Phosphate Capacity for CaO-SiO ₂ -MgO-FeO-Fe ₂ O ₃ -MnO-Al ₂ O ₃ -P ₂ O ₅ Slags Equilibrated with Molten Steel during a Topâ€“Bottom Combined Blown Converter Steelmaking Process Based on the Ion and Molecule Coexistence Theory. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2011, 42, 951-977.	1.0	59
9	Crystallization Behaviors of CaO-SiO ₂ -Al ₂ O ₃ -Na ₂ O-CaF ₂ -(Li ₂ O-B ₂ O ₃) Mold Fluxes. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2014, 45, 1874-1886.	1.0	59
10	A Thermodynamic Model for Prediction of Iron Oxide Activity in Some FeOâ€“Containing Slag Systems. <i>Steel Research International</i> , 2012, 83, 244-258.	1.0	56
11	Control of MgO-Al ₂ O ₃ Spinel Inclusions during Protective Gas Electroslag Remelting of Die Steel. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2013, 44, 378-389.	1.0	56
12	Effect of SiO ₂ on the Crystallization Behaviors and In-Mold Performance of CaF ₂ -CaO-Al ₂ O ₃ Slags for Drawing-Ingot-Type Electroslag Remelting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2015, 46, 2110-2120.	1.0	55
13	Simultaneous Modification of Alumina and MgO-Al ₂ O ₃ Inclusions by Calcium Treatment During Electroslag Remelting of Stainless Tool Steel. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2017, 48, 146-161.	1.0	44
14	Evolution of Al ₂ O ₃ inclusions by magnesium treatment in H13 hot work die steel. <i>Ironmaking and Steelmaking</i> , 2017, 44, 128-133.	1.1	39
15	Effect of directional solidification of electroslag remelting on the microstructure and primary carbides in an austenitic hot-work die steel. <i>Journal of Materials Processing Technology</i> , 2017, 249, 32-38.	3.1	36
16	Growth and agglomeration behaviors of eutectic M ₇ C ₃ carbide in electroslag remelted martensitic stainless steel. <i>Journal of Materials Research and Technology</i> , 2021, 11, 1490-1505.	2.6	36
17	Effect of trace magnesium on carbide improvement in H13 steel. <i>Canadian Metallurgical Quarterly</i> , 2016, 55, 321-327.	0.4	35
18	Effects of Reoxidation of Liquid Steel and Slag Composition on the Chemistry Evolution of Inclusions During Electroslag Remelting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2018, 49, 1675-1689.	1.0	34

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19	Characteristics of inclusions in high-Al steel during electroslag remelting process. International Journal of Minerals, Metallurgy and Materials, 2012, 19, 295-302.	2.4	33
20	A Sulfide Capacity Prediction Model of CaO-SiO ₂ -MgO-FeO-MnO-Al ₂ O ₃ Slags during the LF Refining Process Based on the Ion and Molecule Coexistence Theory. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2012, 43, 241-266.	1.0	32
21	Crystallization Kinetics and Mechanism of CaO-Al ₂ O ₃ -Based Mold Flux for Casting High-Aluminum TRIP Steels. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 345-356.	1.0	32
22	Fluoride evaporation and crystallization behavior of CaF ₂ -CaO-Al ₂ O ₃ -(TiO ₂) slag for electroslag remelting of Ti-containing steels. International Journal of Minerals, Metallurgy and Materials, 2016, 23, 627-636.	2.4	32
23	Evolution of Oxide Inclusions in Si-Mn-Killed Steel During Protective Atmosphere Electroslag Remelting. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 1139-1147.	1.0	32
24	Deoxidation of Electroslag Remelting (ESR) – A Review. ISIJ International, 2020, 60, 1083-1096.	0.6	32
25	Effect of TiO ₂ on the viscosity and structure of low-fluoride slag used for electroslag remelting of Ti-containing steels. International Journal of Minerals, Metallurgy and Materials, 2017, 24, 18-24.	2.4	30
26	Review on desulfurization in electroslag remelting. International Journal of Minerals, Metallurgy and Materials, 2021, 28, 18-29.	2.4	30
27	Non-isothermal melt crystallization of cuspidine in CaO-SiO ₂ -CaF ₂ based glasses. Journal of Non-Crystalline Solids, 2015, 412, 58-65.	1.5	29
28	Evolution of Oxide-Sulfide Complex Inclusions and Its Correlation with Steel Cleanliness During Electroslag Rapid Remelting (ESRR) of Tool Steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 3390-3402.	1.0	29
29	Kinetics of Isothermal Melt Crystallization in CaO-SiO ₂ -CaF ₂ -Based Mold Fluxes. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 2374-2383.	1.0	28
30	Effect of Quenching Process on the Microstructure and Hardness of High-Carbon Martensitic Stainless Steel. Journal of Materials Engineering and Performance, 2015, 24, 4313-4321.	1.2	27
31	Effect of Oxide Inclusions Modification During Electroslag Remelting on Primary Carbides and Toughness of a High-Carbon 17% Cr Tool Steel. Journal of Materials Engineering and Performance, 2016, 25, 4785-4795.	1.2	27
32	Precipitation Mechanism and Reduction of Amount of Primary Carbides During Electroslag Remelting of 8Cr13MoV Stainless Steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 1365-1377.	1.0	26
33	Development of Low-Fluoride Slag for Electroslag Remelting: Role of Li ₂ O on the Viscosity and Structure of the Slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 3343-3349.	1.0	25
34	Effect of Magnesium Addition on Behavior of Collision and Agglomeration between Solid Inclusion Particles on H13 Steel Melts. Steel Research International, 2017, 88, 1600185.	1.0	25
35	Effect of electroslag remelting on carbides in 8Cr13MoV martensitic stainless steel. International Journal of Minerals, Metallurgy and Materials, 2015, 22, 1149-1156.	2.4	22
36	Formation and Evolution of Non-Metallic Inclusions in Calcium Treatment H13 Steel during Electroslag Remelting Process. ISIJ International, 2019, 59, 828-838.	0.6	22

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37	Evolution of Inclusions with Ce Addition and Ca Treatment in Al-killed Steel during RH Refining Process. ISIJ International, 2021, 61, 1506-1513.	0.6	22
38	Effect of Spheroidizing Annealing on Microstructure and Mechanical Properties of High-Carbon Martensitic Stainless Steel 8Cr13MoV. Journal of Materials Engineering and Performance, 2017, 26, 478-487.	1.2	20
39	Influence of cerium treatment on inclusion modification and as-cast microstructure of high-strength low-alloy steel. Journal of Iron and Steel Research International, 2022, 29, 1659-1668.	1.4	20
40	Effect of magnesium addition on inclusions in H13 die steel. International Journal of Minerals, Metallurgy and Materials, 2014, 21, 1062-1067.	2.4	19
41	Effect of Electroslag Remelting Parameters on Primary Carbides in Stainless Steel 8Cr13MoV. Materials Transactions, 2016, 57, 1547-1551.	0.4	19
42	Effect of Directional Solidification in Electroslag Remelting on the Microstructure and Cleanliness of an Austenitic Hot-work Die Steel. ISIJ International, 2018, 58, 1275-1284.	0.6	19
43	Precipitation behavior of carbides in high-carbon martensitic stainless steel. International Journal of Materials Research, 2017, 108, 20-28.	0.1	18
44	Effect of Primary Carbides on the Sharpness of Kitchen Knives Made of 8Cr13MoV Steel. Journal of Materials Engineering and Performance, 2019, 28, 4511-4521.	1.2	18
45	Control of Crystal Morphology for Mold Flux During High-Aluminum AHSS Continuous Casting Process. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 2211-2221.	1.0	17
46	Evolution of Carbides in H13 Steel in Heat Treatment Process. Materials Transactions, 2017, 58, 152-156.	0.4	17
47	Effect of Titanium on the Microstructure and Mechanical Properties of High-Carbon Martensitic Stainless Steel 8Cr13MoV. Metals, 2016, 6, 193.	1.0	16
48	Evolution of $\text{CaO}\cdot\text{MgO}\cdot\text{Al}_2\text{O}_3\cdot\text{SiO}_2$ inclusions in H13 die steel during electroslag remelting process. Ironmaking and Steelmaking, 2018, 45, 6-16.	1.1	16
49	Effect of SiO_2 substitution with Al_2O_3 during high-Al TRIP steel casting on crystallization and structure of low-basicity $\text{CaO}\cdot\text{SiO}_2$ -based mold flux. Journal of Iron and Steel Research International, 2020, 27, 33-41.	1.4	16
50	Crystallization Characteristics and In-Mold Performance of Electroslag Remelting-Type TiO_2 -Bearing Slag. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 1148-1160.	1.0	15
51	Effect of Melting Rate of Electroslag Rapid Remelting on the Microstructure and Carbides in a Hot Work Tool Steel. Metals and Materials International, 2021, 27, 3603-3616.	1.8	15
52	Dependence of Temperature and Slag Composition on Dephosphorization at the First Deslagging in BOF Steelmaking Process. High Temperature Materials and Processes, 2016, 35, 433-440.	0.6	14
53	Effect of TiO_2 on the crystallisation behaviour of $\text{CaF}_2\cdot\text{CaO}\cdot\text{Al}_2\text{O}_3\cdot\text{MgO}$ slag for electroslag remelting of Ti-containing tool steel. Ironmaking and Steelmaking, 2018, 45, 135-144.	1.1	14
54	Supergravity-Induced Separation of Oxide and Nitride Inclusions from Inconel 718 Superalloy Melt. ISIJ International, 2020, 60, 205-211.	0.6	14

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55	Evolution of TiN and Oxide Inclusions in Ti-containing Fe-25Ni-15Cr Alloy during Electroslag Remelting. <i>ISIJ International</i> , 2020, 60, 1577-1585.	0.6	14
56	Non-metallic inclusions in electroslag remelting: a review. <i>Journal of Iron and Steel Research International</i> , 2021, 28, 1483-1503.	1.4	14
57	Characterization on Microstructure and Carbides in an Austenitic Hot-work Die Steel during ESR Solidification Process. <i>ISIJ International</i> , 2018, 58, 2079-2087.	0.6	13
58	Development of Low-fluoride Slag for Electroslag Remelting: Role of Li_2O on the Crystallization and Evaporation of the Slag. <i>ISIJ International</i> , 2020, 60, 840-847.	0.6	13
59	Effect of Heat Treatment on the Microstructure and Mechanical Properties of Nitrogen-Alloyed High-Mn Austenitic Hot Work Die Steel. <i>Metals</i> , 2017, 7, 94.	1.0	12
60	Effect of Mg addition on carbides in H13 steel during electroslag remelting process. <i>Metallurgical Research and Technology</i> , 2018, 115, 501.	0.4	12
61	Effect of Micro-alloying Element Boron on the Strengthening of High-Strength Steel Q690D. <i>Metallography, Microstructure, and Analysis</i> , 2015, 4, 102-108.	0.5	11
62	Evolution of Calcium Aluminate Inclusions by Cerium Treatment in Al-Killed Steel during Ruhrstahl-Heraeus Refining Process. <i>Steel Research International</i> , 2020, 91, 2000117.	1.0	11
63	Effect of Ce on inclusion evolution and HAZ mechanical properties of Al-killed high-strength steel. <i>Ironmaking and Steelmaking</i> , 2021, 48, 796-802.	1.1	11
64	Hot deformation characteristics and microstructure evolution of electroslag remelted 15Cr-22Ni-1Nb austenitic heat-resistant steel. <i>Materials Characterization</i> , 2021, 182, 111564.	1.9	9
65	Effect of Solution Treatment on Grain Growth and Precipitates in Electroslag Remelted 15Cr-22Ni Iron-Base Superalloy. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2022, 53, 877-894.	1.0	9
66	Evolution and Formation of Non-metallic Inclusions During Electroslag Remelting of a Heat-Resistant Steel for Ultra-supercritical Power Plants. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2022, 53, 3095-3114.	1.0	8
67	Effect of Boron on the Hot Ductility of Low-Carbon Nb-Ti-Microalloyed Steel. <i>Materials Transactions</i> , 2016, 57, 647-653.	0.4	7
68	The Effect of Al-Mg Deoxidation on the Cleanliness of Steel during the Electroslag Remelting Process. <i>Steel Research International</i> , 2019, 90, 1900185.	1.0	7
69	Precipitation and growth of MnS inclusion in an austenitic hot-work die steel during ESR solidification process. <i>Metallurgical Research and Technology</i> , 2019, 116, 322.	0.4	7
70	Dephosphorization of high silicon hot metal based on double slag converter steelmaking technology. <i>Ironmaking and Steelmaking</i> , 2021, 48, 447-456.	1.1	7
71	Evolution of Eutectic Carbide during $\text{M}_{>7}\text{C}_{>3}/\text{M}_{>23}\text{C}_{>6}$ in-situ Transformation in Martensitic Stainless Steel. <i>Steel Research International</i> , 2022, 93, .	1.0	7
72	Evaluation of Matusita Equation and Its Modified Expression for Determining Activation Energy Associated with Melt Crystallization. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2014, 45, 1987-1991.	1.0	5

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73	Influence of Boron Addition on the Hot Ductility of Low-Carbon Aluminum-Killed Steel. Materials Transactions, 2015, 56, 1133-1139.	0.4	5
74	Effect of Boron and Titanium Addition on the Hot Ductility of Low-Carbon Nb-Containing Steel. High Temperature Materials and Processes, 2015, 34, 813-820.	0.6	5
75	Effect of SiO ₂ and B ₂ O ₃ on crystallization and structure of CaF ₂ -CaO-Al ₂ O ₃ -based slag for electroslag remelting of ultra-supercritical rotor steel. Journal of Iron and Steel Research International, 2021, 28, 1530-1540.	1.4	5
76	Evolution of carbides and performance of knives made of aged 8Cr13MoV steel. Materials Science and Technology, 2019, 35, 1988-1996.	0.8	4
77	Numerical analysis of role of melting rate on electroslag remelting continuous directional solidification of a die steel. Journal of Iron and Steel Research International, 2021, 28, 1617-1624.	1.4	4
78	Crystallization Kinetics and Structure of CaF ₂ -CaO-Al ₂ O ₃ -MgO-TiO ₂ Slag for Electroslag Remelting. ISIJ International, 2020, 60, 492-498.	0.6	3
79	Investigation on Desulfurization of Rejected Electrolytic Manganese Metal Scrap: Experiment and Mathematical Modeling. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 1626-1639.	1.0	3
80	Continuous Cooling Transformation of Undeformed and Deformed High Strength Crack-Arrest Steel Plates for Large Container Ships. High Temperature Materials and Processes, 2019, 38, 183-191.	0.6	2
81	Carbides in Special Steel. Engineering Materials, 2021, , 1-57.	0.3	2
82	Numerical simulation of Electroslag Remelting of Cr5 cold roll steel under different process parameters. Metallurgical Research and Technology, 2017, 114, 614.	0.4	1
83	Effect of Heat Treatment on the Carbide in Steel. Engineering Materials, 2021, , 143-203.	0.3	1
84	Effect of Nitrogen on the Carbide in Steel. Engineering Materials, 2021, , 307-326.	0.3	0
85	Carbides Control in Electroslag Remelting Process. Engineering Materials, 2021, , 59-108.	0.3	0
86	Effect of Magnesium on the Carbide in H13 Steel. Engineering Materials, 2021, , 205-282.	0.3	0
87	Carbide Control in Rolling Process. Engineering Materials, 2021, , 109-142.	0.3	0
88	Theory Analysis of Steel Cleanliness Control During Electroslag Remelting. , 2013, , 31-38.		0