

Shengchao Duan

List of Publications by Year in descending order

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Version: 2024-02-01

38
papers

699
citations

623734

14
h-index

580821

25
g-index

38
all docs

38
docs citations

38
times ranked

285
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.	1.8	91
2	A Sulphide Capacity Prediction Model of CaO-SiO ₂ -MgO-Al ₂ O ₃ Ironmaking Slags Based on the Ion and Molecule Coexistence Theory. <i>ISIJ International</i> , 2010, 50, 1362-1372.	1.4	73
3	A Thermodynamic Model for Calculating Sulphur Distribution Ratio between CaO-SiO ₂ -MgO-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.	1.4	72
4	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.	2.1	70
5	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.	2.1	56
6	Effect of Cooling Rate on Microsegregation During Solidification of Superalloy INCONEL 718 Under Slow-Cooled Conditions. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2018, 49, 1883-1897.	2.1	37
7	Investigation of the Oxidation Behaviour of Ti and Al in Inconel 718 Superalloy During Electroslag Remelting. <i>Scientific Reports</i> , 2018, 8, 5232.	3.3	23
8	A thermodynamic model for calculating manganese distribution ratio between CaO-SiO ₂ -MgO-FeO-MnO-Al ₂ O ₃ -TiO ₂ -CaF ₂ ironmaking slags and carbon saturated hot metal based on the IMCT. <i>Ironmaking and Steelmaking</i> , 2018, 45, 655-664.	2.1	23
9	Influence of Tempering Time on the Microstructure and Mechanical Properties of AISI M42 High-Speed Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 5976-5986.	2.2	22
10	Nanoscale precipitates and comprehensive strengthening mechanism in AISI H13 steel. <i>International Journal of Minerals, Metallurgy and Materials</i> , 2016, 23, 1056-1064.	4.9	21
11	Effect of Slag Composition on the Deoxidation and Desulfurization of Inconel 718 Superalloy by ESR Type Slag Without Deoxidizer Addition. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2020, 51, 353-364.	2.1	21
12	A Review of Methodology Development for Controlling Loss of Alloying Elements During the Electroslag Remelting Process. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2019, 50, 3055-3071.	2.1	19
13	Investigation of desulfurization of Inconel 718 superalloys by ESR type slags with different TiO ₂ content. <i>Journal of Materials Research and Technology</i> , 2019, 8, 2508-2516.	5.8	17
14	A phosphorus distribution prediction model for CaO-SiO ₂ -MgO-FeO-Fe ₂ O ₃ -Al ₂ O ₃ -P ₂ O ₅ slags based on the IMCT. <i>Ironmaking and Steelmaking</i> , 2020, 47, 771-780.	2.1	12
15	Influence of the Nitrogen Content on the Carbide Transformation of AISI M42 High-Speed Steels during Annealing. <i>Scientific Reports</i> , 2018, 8, 4328.	3.3	14
16	Chemical composition and structural identification of primary carbides in as-cast H13 steel. <i>International Journal of Minerals, Metallurgy and Materials</i> , 2019, 26, 839-848.	4.9	14
17	Effect of Sulfur Content on the Properties and MnS Morphologies of DH36 Structural Steel. <i>Metals</i> , 2018, 8, 945.	2.3	11
18	Effects of Nitrogen on the Morphology and Evolution of M ₂ C Eutectic Carbides in Fe-Mo-W-Co-Cr-V-C Alloy. <i>Jom</i> , 2020, 72, 326-332.	1.9	11

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19	Determination of thermodynamic properties in full composition range of Ti-Al binary melts based on atom and molecule coexistence theory. Transactions of Nonferrous Metals Society of China, 2018, 28, 1256-1264.	4.2	9
20	Solidification and Segregation Behaviors of Superalloy IN718 at a Slow Cooling Rate. Materials, 2018, 11, 2398.	2.9	9
21	The Methodology Development for Improving Energy Utilization and Reducing Fluoride Pollution of the Electroslag Remelting Process: A Review. Steel Research International, 2020, 91, 1900634.	1.8	9
22	Evolution of plasticized MnO-Al ₂ O ₃ -SiO ₂ -based nonmetallic inclusion in 18wt%Cr-8wt%Ni stainless steel and its properties during soaking process. International Journal of Minerals, Metallurgy and Materials, 2020, 27, 328-339.	4.9	8
23	Determination of the thermodynamic properties of Ni-Ti, Ni-Al, and Ti-Al, and nickel-rich Ni-Al-Ti melts based on the atom and molecule coexistence theory. Journal of Molecular Liquids, 2019, 294, 111462.	4.9	7
24	Determination of viscosity and surface tension of liquid Ni-Al-Ti system using the evaluated thermodynamic properties by AMCT. Journal of Materials Science, 2020, 55, 11071-11085.	3.7	7
25	Oxidation behavior of boron in 9CrMoCoB steel by CaF ₂ -CaO-Al ₂ O ₃ -SiO ₂ -B ₂ O ₃ electroslag remelting (ESR) type slag. Journal of Materials Research and Technology, 2022, 17, 574-585.	5.8	7
26	Determination of Three-Dimensional Morphology and Inner Structure of Second-Phase Inclusions in Metals by Non-Aqueous Solution Electrolytic and Room Temperature Organic Methods. Metals, 2018, 8, 68.	2.3	6
27	Investigation of the kinetic mechanism of the demanganization reaction between carbon-saturated liquid iron and CaF ₂ -CaO-SiO ₂ -based slags. International Journal of Minerals, Metallurgy and Materials, 2018, 25, 399-404.	4.9	5
28	Solidified Structure Refinement of H13 Tool Steel under a Multi-Rotational Speed Super Gravity Field. Metals, 2020, 10, 1428.	2.3	5
29	Evaluating oxygen level of Si-deoxidized H13 die steel using ferrous oxide-containing slags at 1873 K. Journal of Iron and Steel Research International, 2021, 28, 978-989.	2.8	4
30	Effect of sulphur content on precipitates and properties of DH36 structural steel. Ironmaking and Steelmaking, 2019, 46, 550-557.	2.1	3
31	Deoxidation of H13 tool steel with CaF ₂ -MgO-CaO-Al ₂ O ₃ -SiO ₂ slags at 1873 K. Journal of Central South University, 2021, 28, 370-385.	3.0	2
32	Effect of Temperature on the Oxidation Behavior of Al and Ti in Inconel® 718 Alloy by ESR Slag with Different Amounts of CaO. Jom, 2022, 74, 1228-1236.	1.9	2
33	Comparison of Oxidation Behavior of Various Reactive Elements in Alloys during Electroslag Remelting (ESR) Process: An Overview. ISIJ International, 2022, 62, 1561-1572.	1.4	2
34	A thermodynamic model of calculating mass action concentrations for structural units or ion couples in NaClO ₄ -H ₂ O and NaF-H ₂ O binary solutions and NaClO ₄ -NaF-H ₂ O ternary solution. International Journal of Minerals, Metallurgy and Materials, 2010, 17, 546-557.	4.9	1
35	Thermodynamic analysis for the oxidation behaviour of manganese in iron-based melts during demanganisation processes. Ironmaking and Steelmaking, 2019, 46, 755-760.	2.1	1
36	Characteristics and Transformation Mechanism of Nonmetallic Inclusions in 304 Stainless Steel during Heat Treatment at 1250 °C. Materials, 2020, 13, 5396.	2.9	1

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37	Effect of SiO ₂ and TiO ₂ on the Crystal Morphology of CaF ₂ ;Al ₂ O ₃ ;CaO-Based Electroslag Remelting Slag. Steel Research International, 2022, 93, 2100191.	1.8	1
38	Thermodynamic properties prediction of Mg-Al-Zn melts based on the atom and molecule coexistence theory. Journal of Mining and Metallurgy, Section B: Metallurgy, 2019, 55, 135-145.	0.8	0