

# Shengchao Duan

## List of Publications by Year in descending order

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38  
papers

699  
citations

623734

14  
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580821

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g-index

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all docs

38  
docs citations

38  
times ranked

285  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Effect of SiO <sub>2</sub> and TiO <sub>2</sub> on the Crystal Morphology of CaF <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> -CaO-Based Electroslag Remelting Slag. Steel Research International, 2022, 93, 2100191.   | 1.8 | 1         |
| 2  | 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         |
| 3  | Oxidation behavior of boron in 9CrMoCoB steel by CaF <sub>2</sub> -CaO-Al <sub>2</sub> O <sub>3</sub> -SiO <sub>2</sub> -B <sub>2</sub> O <sub>3</sub> electroslag remelting (ESR) type slag. Journal of Materials Research and Technology, 2022, 17, 574-585.          | 5.8 | 7         |
| 4  | 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         |
| 5  | Deoxidation of H13 tool steel with CaF <sub>2</sub> -MgO-CaO-Al <sub>2</sub> O <sub>3</sub> -SiO <sub>2</sub> slags at 1873 K. Journal of Central South University, 2021, 28, 370-385.  | 3.0 | 2         |
| 6  | 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         |
| 7  | Effects of Nitrogen on the Morphology and Evolution of M <sub>2</sub> C Eutectic Carbides in Fe-Mo-W-Co-Cr-V-C Alloy. Jom, 2020, 72, 326-332.   | 1.9 | 11        |
| 8  | A phosphorus distribution prediction model for CaO-SiO <sub>2</sub> -MgO-FeO-Fe <sub>2</sub> O <sub>3</sub> -Al <sub>2</sub> O <sub>3</sub> -P <sub>2</sub> O <sub>5</sub> slags based on the IMCT. Ironmaking and Steelmaking, 2020, 47, 771-780.                      | 2.1 | 12        |
| 9  | Effect of Slag Composition on the Deoxidation and Desulfurization of Inconel 718 Superalloy by ESR Type Slag Without Deoxidizer Addition. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2020, 51, 353-364.           | 2.1 | 21        |
| 10 | Characteristics and Transformation Mechanism of Nonmetallic Inclusions in 304 Stainless Steel during Heat Treatment at 1250 °C. Materials, 2020, 13, 5396.  | 2.9 | 1         |
| 11 | Solidified Structure Refinement of H13 Tool Steel under a Multi-Rotational Speed Super Gravity Field. Metals, 2020, 10, 1428.   | 2.3 | 5         |
| 12 | Evolution of plasticized MnO-Al <sub>2</sub> O <sub>3</sub> -SiO <sub>2</sub> -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         |
| 13 | 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         |
| 14 | 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         |
| 15 | Effect of sulphur content on precipitates and properties of DH36 structural steel. Ironmaking and Steelmaking, 2019, 46, 550-557.   | 2.1 | 3         |
| 16 | Investigation of desulfurization of Inconel 718 superalloys by ESR type slags with different TiO <sub>2</sub> content. Journal of Materials Research and Technology, 2019, 8, 2508-2516.  | 5.8 | 17        |
| 17 | Chemical composition and structural identification of primary carbides in as-cast H13 steel. International Journal of Minerals, Metallurgy and Materials, 2019, 26, 839-848.  | 4.9 | 14        |
| 18 | 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         |

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|----|---|-----|-----------|
| 19 | A Review of Methodology Development for Controlling Loss of Alloying Elements During the Electroslag Remelting Process. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2019, 50, 3055-3071.   | 2.1 | 19        |
| 20 | 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         |
| 21 | 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         |
| 22 | Investigation of the kinetic mechanism of the demanganization reaction between carbon-saturated liquid iron and CaF <sub>2</sub> -CaO-SiO <sub>2</sub> -based slags. International Journal of Minerals, Metallurgy and Materials, 2018, 25, 399-404.  | 4.9 | 5         |
| 23 | Investigation of the Oxidation Behaviour of Ti and Al in Inconel 718 Superalloy During Electroslag Remelting. Scientific Reports, 2018, 8, 5232.  | 3.3 | 23        |
| 24 | Influence of the Nitrogen Content on the Carbide Transformation of AISI M42 High-Speed Steels during Annealing. Scientific Reports, 2018, 8, 4328.  | 3.3 | 14        |
| 25 | A thermodynamic model for calculating manganese distribution ratio between CaO-SiO <sub>2</sub> -MgO-FeO-MnO-Al <sub>2</sub> O <sub>3</sub> -TiO <sub>2</sub> -CaF <sub>2</sub> ironmaking slags and carbon saturated hot metal based on the IMCT. Ironmaking and Steelmaking, 2018, 45, 655-664. | 2.1 | 23        |
| 26 | 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         |
| 27 | 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         |
| 28 | Effect of Sulfur Content on the Properties and MnS Morphologies of DH36 Structural Steel. Metals, 2018, 8, 945.   | 2.3 | 11        |
| 29 | Solidification and Segregation Behaviors of Superalloy IN718 at a Slow Cooling Rate. Materials, 2018, 11, 2398.   | 2.9 | 9         |
| 30 | Influence of Tempering Time on the Microstructure and Mechanical Properties of AISI M42 High-Speed Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 5976-5986.   | 2.2 | 22        |
| 31 | Effect of Cooling Rate on Microsegregation During Solidification of Superalloy INCONEL 718 Under Slow-Cooled Conditions. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 1883-1897.  | 2.1 | 37        |
| 32 | Nanoscale precipitates and comprehensive strengthening mechanism in AISI H13 steel. International Journal of Minerals, Metallurgy and Materials, 2016, 23, 1056-1064.   | 4.9 | 21        |
| 33 | Control of MgO·Al <sub>2</sub> O <sub>3</sub> Spinel Inclusions during Protective Gas Electroslag Remelting of Die Steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2013, 44, 378-389.   | 2.1 | 56        |
| 34 | Investigation of Oxide Inclusions and Primary Carbonitrides in Inconel 718 Superalloy Refined through Electroslag Remelting Process. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2012, 43, 1596-1607.  | 2.1 | 70        |
| 35 | Assessment of Oxygen Control and Its Effect on Inclusion Characteristics during Electroslag Remelting of Die Steel. Steel Research International, 2012, 83, 472-486.  | 1.8 | 91        |
| 36 | A Sulphide Capacity Prediction Model of CaO-SiO <sub>2</sub> -MgO-Al <sub>2</sub> O <sub>3</sub> Ironmaking Slags Based on the Ion and Molecule Coexistence Theory. ISIJ International, 2010, 50, 1362-1372.  | 1.4 | 73        |

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|----|--|-----|-----------|
| 37 | A thermodynamic model of calculating mass action concentrations for structural units or ion couples in NaClO <sub>4</sub> -H <sub>2</sub> O and NaF-H <sub>2</sub> O binary solutions and NaClO <sub>4</sub> -NaF-H <sub>2</sub> O ternary solution. International Journal of Minerals, Metallurgy and Materials, 2010, 17, 546-557. | 4.9 | 1         |
| 38 | A Thermodynamic Model for Calculating Sulphur Distribution Ratio between CaO-SiO <sub>2</sub> -MgO-Al <sub>2</sub> O <sub>3</sub> Ironmaking Slags and Carbon Saturated Hot Metal Based on the Ion and Molecule Coexistence Theory. ISJ International, 2009, 49, 1828-1837.  | 1.4 | 72        |