

Laurentiu Nastac

List of Publications by Year in descending order

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71
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71
docs citations

71
times ranked

447
citing authors

#	ARTICLE	IF	CITATIONS
1	Stochastic modelling of microstructure formation in solidification processes. Modelling and Simulation in Materials Science and Engineering, 1997, 5, 391-420.	2.0	73
2	Mathematical Modeling of the Solidification Structure Evolution in the Presence of Ultrasonic Stirring. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2011, 42, 1297-1305.	2.1	51
3	An experimental and modeling investigation of aluminum-based alloys and nanocomposites processed by ultrasonic cavitation processing. Applied Acoustics, 2016, 103, 226-231.	3.3	50
4	Ultrasonic Cavitation-Assisted Molten Metal Processing of Cast A356-Nanocomposites. International Journal of Metalcasting, 2014, 8, 51-58.	1.9	47
5	Mathematical Investigation of Fluid Flow, Mass Transfer, and Slag-steel Interfacial Behavior in Gas-stirred Ladles. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 1388-1404.	2.1	37
6	The role of ultrasonic cavitation in refining the microstructure of aluminum based nanocomposites during the solidification process. Ultrasonics, 2018, 83, 94-102.	3.9	37
7	Numerical modeling of the dispersion of ceramic nanoparticles during ultrasonic processing of aluminum-based nanocomposites. Journal of Materials Research and Technology, 2014, 3, 296-302.	5.8	35
8	The stochastic modeling of solidification structures in alloy 718 remelt ingots. Jom, 1998, 50, 30-35.	1.9	33
9	Numerical Modeling of Macrosegregation in Binary Alloys Solidifying in the Presence of Electromagnetic Stirring. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2014, 45, 1834-1841.	2.1	28
10	Experimental and Numerical Analysis of the 6061-Based Nanocomposites Fabricated via Ultrasonic Processing. Journal of Materials Engineering and Performance, 2015, 24, 2225-2233.	2.5	27
11	Numerical modelling of the transport and removal of inclusions in an industrial gas-stirred ladle. Ironmaking and Steelmaking, 2018, 45, 984-991.	2.1	24
12	A Multiscale Transient Modeling Approach for Predicting the Solidification Structure in VAR-Processed Alloy 718 Ingots. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2014, 45, 44-50.	2.1	18
13	Mathematical Modeling of the Multiphase Flow and Mixing Phenomena in a Gas-Stirred Ladle: The Effect of Bubble Expansion. Jom, 2018, 70, 2071-2081.	1.9	18
14	Analytical modeling of solute redistribution during the initial unsteady unidirectional solidification of binary dilute alloys. Journal of Crystal Growth, 1998, 193, 271-284.	1.5	16
15	INFLUENCE OF GRAVITY ACCELERATION ON MACROSEGREGATION AND MACROSTRUCTURE DURING THE UNIDIRECTIONAL SOLIDIFICATION OF CAST BINARY ALLOYS: A NUMERICAL INVESTIGATION. Numerical Heat Transfer; Part A: Applications, 1999, 35, 173-189.	2.1	15
16	Numerical Investigation of Desulfurization Kinetics in Gas-Stirred Ladles by a Quick Modeling Analysis Approach. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2018, 49, 988-1002.	2.1	14
17	Iron-rich intermetallics in high pressure die cast A383 aluminum alloys. Intermetallics, 2020, 126, 106814.	3.9	13
18	CFD Modeling of Macro-segregation and Shrinkage During Solidification of Superalloy Castings. ISIJ International, 2010, 50, 1829-1834.	1.4	12

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19	Mathematical modelling of slag-metal reactions and desulphurization behaviour in gas-stirred ladle based on the DPM-VOF coupled model. <i>Ironmaking and Steelmaking</i> , 2020, 47, 873-881.	2.1	12
20	A 3D stochastic mesoscopic model for prediction of microstructure evolution during solidification of dendritic alloys. <i>Metallurgical Research and Technology</i> , 2014, 111, 311-319.	0.7	11
21	Processing and Microstructure Characteristics of As-Cast A356 Alloys Manufactured via Ultrasonic Cavitation during Solidification. <i>High Temperature Materials and Processes</i> , 2017, 36, 381-387.	1.4	11
22	Analytical modeling of solute redistribution during the initial unsteady unidirectional solidification of binary dilute alloys: comparison with experiments. <i>Scripta Materialia</i> , 1998, 39, 985-989.	5.2	10
23	Numerical modeling of the gas evolution in furan binder-silica sand mold castings. <i>International Journal of Cast Metals Research</i> , 2016, 29, 194-201.	1.0	10
24	Microstructure, mechanical properties and fracture behavior of 6061 aluminium alloy-based nanocomposite castings fabricated by ultrasonic processing. <i>International Journal of Cast Metals Research</i> , 2016, 29, 286-289.	1.0	9
25	The Influence of Ultrasonic Cavitation on the Formation of Fe-Rich Intermetallics in A383 Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 3346-3357.	2.2	9
26	Numerical Modeling of Fluid Flow and Solidification Characteristics of Ultrasonically Processed A356 Alloys. <i>ISIJ International</i> , 2014, 54, 1830-1835.	1.4	8
27	Multiscale modeling of the solidification microstructure evolution in the presence of ultrasonic stirring. <i>IOP Conference Series: Materials Science and Engineering</i> , 2012, 33, 012079.	0.6	7
28	Numerical modeling of the dispersion of ceramic nanoparticles during ultrasonic processing of A356-based nanocomposites. <i>International Journal of Cast Metals Research</i> , 2016, 29, 236-242.	1.0	6
29	Progress on Numerical Modeling of the Dispersion of Ceramic Nanoparticles During Ultrasonic Processing and Solidification of Al-Based Nanocomposites. <i>Jom</i> , 2016, 68, 3134-3142.	1.9	6
30	Surface modification of ductile iron produced by an innovative in-situ casting technique. <i>International Journal of Cast Metals Research</i> , 2020, 33, 103-111.	1.0	6
31	Computational Fluid Dynamics Modeling of Macrosegregation and Shrinkage in Large-Diameter Steel Roll Castings. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2011, 42, 1231-1243.	2.1	5
32	Numerical Modeling of Carbide Redistribution during Centrifugal Casting of HSS Shell Rolls. <i>ISIJ International</i> , 2014, 54, 1294-1303.	1.4	5
33	Mathematical Modeling of Microshrinkage Formation During Solidification of A356 Castings. <i>International Journal of Metalcasting</i> , 2014, 8, 21-27.	1.9	5
34	Numerical Modeling of Convective Heat Transfer for Turbulent Flow in "Bubbler" Cooling Channels. <i>Jom</i> , 2019, 71, 772-778.	1.9	5
35	Neutron Diffraction Analysis of Residual Strain in High-Pressure Die Cast A383 Engine Blocks. <i>Journal of Materials Engineering and Performance</i> , 2020, 29, 5428-5434.	2.5	5
36	Prediction of Secondary Dendrite Arm Spacing in Al Alloys Using Machine Learning. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2021, 52, 2395-2403.	2.1	4

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37	Microstructure Characteristics of A356 Nanocomposites Manufactured via Ultrasonic Cavitation Processing Under Controlled Solidification Conditions. Minerals, Metals and Materials Series, 2017, , 297-303.	0.4	4
38	3D Modeling of the Solidification Structure Evolution of Superalloys in Powder Bed Fusion Additive Manufacturing Processes. Metals, 2021, 11, 1995.	2.3	4
39	A Stochastic mesoscopic model for predicting the globular grain structure and solute redistribution in cast alloys at low superheat. IOP Conference Series: Materials Science and Engineering, 2012, 33, 012084.	0.6	3
40	Solidification Processing of Cast Energetic Materials. , 2013, , 2643-2650.		2
41	On the Influences of Adjacent Conducting Media and Coil Frequency on the Electromagnetic Field and Flow Characteristics in Solidifying Melts. Journal for Manufacturing Science and Production, 2015, 15, 13-22.	0.1	2
42	A Multiscale Transient Modeling Approach for Predicting the Solidification Structure in VAR Processed Alloy 718 Ingots. , 2012, , 97-106.		1
43	Numerical Simulation of Macro-shrinkage and Micro-shrinkage in A356 Sand Mold Castings. , 2012, , 205-212.		1
44	“CFD Modeling and Simulation in Materials Processing” Symposium. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2014, 45, 12-12.	2.1	1
45	An Experimental and Modeling Investigation of Al-based Nanocomposites Manufactured via Ultrasonic Cavitation and Solidification Processing. Materials Today: Proceedings, 2018, 5, 16022-16031.	1.8	1
46	An Experimental and Modeling Study of Al-based Nanocomposites Fabricated by Ultrasonic Cavitation and Solidification Processing. IOP Conference Series: Materials Science and Engineering, 0, 424, 012038.	0.6	1
47	Evaluation and Implementation of a Fundamental Model for Interfacial Heat Transfer Coefficient in High-Pressure Die-Casting. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2020, 51, 664-676.	2.1	1
48	The Influence of Ultrasound on the Microstructure Formation during the Solidification of A356 Ingots Processed via a 2-Zone Induction Melting Furnace. Minerals, Metals and Materials Series, 2020, , 1117-1126.	0.4	1
49	Experimental and Stochastic Modeling of the Globular Microstructure and the Microsegregation Evolution during the Solidification of Magnesium Alloys Cast at Low Superheat via Containerless Melting. Journal for Manufacturing Science and Production, 2015, 15, 3-12.	0.1	0
50	Influence of Coil Configuration on Flow Characteristics in Electromagnetic Solidification Systems. Minerals, Metals and Materials Series, 2018, , 9-18.	0.4	0
51	Comparison of Coil Configuration and Position on Flow Characteristics of A319 Aluminum in Electromagnetically Stirred Solidification Systems. Jom, 2019, 71, 59-68.	1.9	0
52	The Influence of Ultrasound on the Microstructure Formation During Solidification of A356 Ingots Processed via a 2-Zone Induction Melting Furnace. Minerals, Metals and Materials Series, 2019, , 1545-1550.	0.4	0
53	Computational Multi-scale Modeling of Segregation and Microstructure Evolution During the Solidification of A356 Ingots Processed via a 2-Zone Induction Melting Furnace. Minerals, Metals and Materials Series, 2021, , 571-578.	0.4	0
54	A Numerical Model for Predicting the Gas Evolution in Silica Sand (Furan Binder) Mold Castings. , 0, , 363-370.		0