

Miha ZaloÅ¾nik

List of Publications by Year in descending order

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papers

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citations

361413

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74
all docs

74
docs citations

74
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497
citing authors

#	ARTICLE	IF	CITATIONS
1	On the Prediction of Macrosegregation in Vacuum Arc Remelted Ingots. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2022, 53, 2953-2971.	2.1	2
2	Channel segregation during columnar solidification: Relation between mushy zone instability and mush permeability. International Journal of Heat and Mass Transfer, 2021, 164, 120602.	4.8	12
3	Effects of the powder, laser parameters and surface conditions on the molten pool formation in the selective laser melting of IN718. Journal of Materials Processing Technology, 2021, 289, 116930.	6.3	23
4	Mesoscopic modeling of equiaxed and columnar solidification microstructures under forced flow and buoyancy-driven flow in hypergravity: Envelope versus phase-field model. Acta Materialia, 2020, 199, 680-694.	7.9	11
5	Comparing mesoscopic models for dendritic growth. IOP Conference Series: Materials Science and Engineering, 2020, 861, 012002.	0.6	7
6	Prediction of solidification structures in a 9.8 tonne steel ingot. IOP Conference Series: Materials Science and Engineering, 2020, 861, 012032.	0.6	2
7	Modelling macrosegregation modification in dc casting of aluminium alloys in sheet ingots accounting for inlet melt flow, equiaxed grain morphology and transport. IOP Conference Series: Materials Science and Engineering, 2020, 861, 012040.	0.6	6
8	Meso-scale simulation of liquid feeding in an equiaxed dendritic mushy zone. Materialia, 2020, 9, 100612.	2.7	7
9	Thermosolutal convection and macrosegregation during directional solidification of TiAl alloys in centrifugal casting. International Journal of Heat and Mass Transfer, 2020, 154, 119698.	4.8	12
10	Upscaling mesoscopic simulation results to develop constitutive relations for macroscopic modeling of equiaxed dendritic solidification. Materialia, 2019, 5, 100231.	2.7	8
11	Packing dynamics of spherical and nonconvex grains sedimenting at low Stokes number. Physical Review E, 2019, 99, 012907.	2.1	3
12	Solidification microstructure during selective laser melting of Ni based superalloy: experiment and mesoscopic modelling. IOP Conference Series: Materials Science and Engineering, 2019, 529, 012004.	0.6	4
13	Analysis of columnar-to-equiaxed transition experiment in lab scale steel casting by a multiphase model. IOP Conference Series: Materials Science and Engineering, 2019, 529, 012039.	0.6	4
14	Simulation of a macrosegregation benchmark in a cylindrical coordinate system with a meshless method. International Journal of Thermal Sciences, 2019, 142, 121-133.	4.9	11
15	Quantitative 3D mesoscopic modeling of grain interactions during equiaxed dendritic solidification in a thin sample. Acta Materialia, 2019, 173, 249-261.	7.9	15
16	Application of an Equiaxed Grain Growth and Transport Model to Study Macroseggregation in a DC Casting Experiment. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 1773-1786.	2.2	13
17	Analysis of the Interplay Between Thermo-solutal Convection and Equiaxed Grain Motion in Relation to Macroseggregation Formation in AA5182 Sheet Ingots. Minerals, Metals and Materials Series, 2019, , 1007-1013.	0.4	2
18	Effect of the Coriolis force on the macrosegregation of aluminum in the centrifugal casting of Ti-Al alloys. IOP Conference Series: Materials Science and Engineering, 2019, 529, 012033.	0.6	3

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19	Three-dimensional mesoscopic modeling of equiaxed dendritic solidification in a thin sample: effect of convection flow. IOP Conference Series: Materials Science and Engineering, 2019, 529, 012040.	0.6	6
20	Finite Element Multi-scale Modeling of Chemical Segregation in Steel Solidification Taking into Account the Transport of Equiaxed Grains. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 1725-1748.	2.2	14
21	A Simplified Three-Phase Model of Equiaxed Solidification for the Prediction of Microstructure and Macrosegregation in Castings. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 2778-2794.	2.2	17
22	Impact of Inlet Flow on Macrosegregation Formation Accounting for Grain Motion and Morphology Evolution in DC Casting of Aluminium. Minerals, Metals and Materials Series, 2018, , 1089-1096.	0.4	1
23	Packing of sedimenting equiaxed dendrites. Physical Review E, 2018, 97, 012910.	2.1	8
24	Investigation of Macrosegregation Formation in Aluminium DC Casting for Different Alloy Systems. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 4710-4721.	2.2	25
25	Evolution of a mushy zone in a static temperature gradient using a volume average approach. Acta Materialia, 2017, 141, 206-216.	7.9	21
26	Modeling of the Coupling of Microstructure and Macrosegregation in a Direct Chill Cast Al-Cu Billet. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 4713-4734.	2.2	37
27	Mesoscopic modeling of spacing and grain selection in columnar dendritic solidification: Envelope versus phase-field model. Acta Materialia, 2017, 122, 386-399.	7.9	38
28	DEM simulation of dendritic grain random packing: application to metal alloy solidification. EPJ Web of Conferences, 2017, 140, 06002.	0.3	8
29	Mesoscopic modelling of columnar solidification. IOP Conference Series: Materials Science and Engineering, 2016, 117, 012013.	0.6	0
30	The role of the stagnant-film thickness in mesoscopic modeling of equiaxed grain envelopes. IOP Conference Series: Materials Science and Engineering, 2016, 117, 012014.	0.6	2
31	Predictive Capabilities of Multiphysics and Multiscale Models in Modeling Solidification of Steel Ingots and DC Casting of Aluminum. Jom, 2016, 68, 2198-2206.	1.9	15
32	Three-dimensional mesoscopic modeling of equiaxed dendritic solidification of a binary alloy. Computational Materials Science, 2016, 112, 304-317.	3.0	34
33	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots. , 2016, , 848-853.		0
34	Mesoscopic modeling of columnar solidification and comparisons with phase-field simulations. IOP Conference Series: Materials Science and Engineering, 2015, 84, 012074.	0.6	4
35	Modelling of Columnar-to-Equiaxed and Equiaxed-to-Columnar Transitions in Ingots Using a Multiphase Model. IOP Conference Series: Materials Science and Engineering, 2015, 84, 012087.	0.6	19
36	Process-scale modelling of microstructure in direct chill casting of aluminium alloys. IOP Conference Series: Materials Science and Engineering, 2015, 84, 012100.	0.6	7

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37	Multi-scale finite element modelling of solidification structures by a splitting method taking into account the transport of equiaxed grains. IOP Conference Series: Materials Science and Engineering, 2015, 84, 012007.	0.6	2
38	A model study of the impact of the transport of inoculant particles on microstructure formation during solidification. Computational Materials Science, 2015, 102, 95-109.	3.0	19
39	Quantitative analysis by in situ synchrotron X-ray radiography of the evolution of the mushy zone in a fixed temperature gradient. Journal of Crystal Growth, 2015, 411, 88-95.	1.5	26
40	In-situ observations of solutal melting using laser scanning confocal microscopy: The Cu/Ni model system. Materials Characterization, 2014, 97, 125-131.	4.4	4
41	A numerical simulation of columnar solidification: influence of inertia on channel segregation. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 045016.	2.0	13
42	In situ experimental observation of the time evolution of a dendritic mushy zone in a fixed temperature gradient. Comptes Rendus - Mecanique, 2013, 341, 421-428.	2.1	11
43	Channel segregation during columnar solidification influence of inertia. , 2012, , .		0
44	Three-dimensional study of macro- and mesosegregation formation in a rectangular cavity cooled from one vertical side. IOP Conference Series: Materials Science and Engineering, 2012, 33, 012088.	0.6	2
45	Numerical study of the impact of inoculant and grain transport on macrosegregation and microstructure formation during solidification of an Al-22%Cu alloy. IOP Conference Series: Materials Science and Engineering, 2012, 33, 012089.	0.6	4
46	The effect of finite microscopic liquid solute diffusion on macrosegregation formation. IOP Conference Series: Materials Science and Engineering, 2012, 27, 012040.	0.6	4
47	Analysis of a numerical benchmark for columnar solidification of binary alloys. IOP Conference Series: Materials Science and Engineering, 2012, 33, 012086.	0.6	30
48	Experimental verification of a model on melting and resolidification in a temperature gradient. Journal of Alloys and Compounds, 2012, 540, 85-88.	5.5	21
49	Influence of transport mechanisms on nucleation and grain structure formation in DC cast aluminium alloy ingots. IOP Conference Series: Materials Science and Engineering, 2012, 27, 012070.	0.6	2
50	Study of the influence of mushy zone permeability laws on macro- and meso-segregations predictions. International Journal of Thermal Sciences, 2012, 54, 33-47.	4.9	21
51	Influence of Discretization of Permeability Term and Mesh Size on the Prediction of Channel Segregations. IOP Conference Series: Materials Science and Engineering, 2012, 27, 012039.	0.6	9
52	Microsegregation, macrosegregation and related phase transformations in TiAl alloys. Intermetallics, 2011, 19, 749-756.	3.9	50
53	Influence of Transport Mechanisms on Macrosegregation Formation in Direct Chill Cast Industrial Scale Aluminum Alloy Ingots. Advanced Engineering Materials, 2011, 13, 570-580.	3.5	28
54	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots. , 2011, , 699-704.		0

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55	Prediction of equiaxed grain structure and macrosegregation in an industrial steel ingot: comparison with experiment. <i>International Journal of Advances in Engineering Sciences and Applied Mathematics</i> , 2010, 2, 140-148.	1.1	14
56	Thermosolutal flow in steel ingots and the formation of mesosegregates. <i>International Journal of Thermal Sciences</i> , 2010, 49, 1500-1509.	4.9	42
57	Observations expérimentales et modélisation de la macrosegregation en coulée centrifuge d'alliages Ti-Al-Nb. <i>Revue De Metallurgie</i> , 2010, 107, 449-455.	0.3	0
58	An operator splitting scheme for coupling macroscopic transport and grain growth in a two-phase multiscale solidification model: Part I – Model and solution scheme. <i>Computational Materials Science</i> , 2010, 48, 1-10.	3.0	70
59	An operator splitting scheme for coupling macroscopic transport and grain growth in a two-phase multiscale solidification model: Part II – Application of the model. <i>Computational Materials Science</i> , 2010, 48, 11-21.	3.0	32
60	Effect of discretization of permeability term and mesh size on macro- and meso-segregation predictions. <i>Journal Physics D: Applied Physics</i> , 2009, 42, 105503.	2.8	25
61	Call for contributions to a numerical benchmark problem for 2D columnar solidification of binary alloys. <i>International Journal of Thermal Sciences</i> , 2009, 48, 2013-2016.	4.9	66
62	Prediction of Macrosegregation in Steel Ingots: Influence of the Motion and the Morphology of Equiaxed Grains. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2009, 40, 289-304.	2.1	177
63	Verification of a numerical model of macrosegregation in direct chill casting. <i>International Journal of Numerical Methods for Heat and Fluid Flow</i> , 2008, 18, 308-324.	2.8	18
64	Solution of transient direct-chill aluminium billet casting problem with simultaneous material and interphase moving boundaries by a meshless method. <i>Engineering Analysis With Boundary Elements</i> , 2006, 30, 847-855.	3.7	59
65	Melt Flow and Macrosegregation in DC Casting of Binary Aluminum Alloys. <i>Materials Science Forum</i> , 2006, 508, 515-522.	0.3	0
66	Modeling of macrosegregation in direct-chill casting of aluminum alloys: Estimating the influence of casting parameters. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 413-414, 85-91.	5.6	48
67	Prediction of solidification structures in a 9.8 t steel ingot. <i>IOP Conference Series: Materials Science and Engineering</i> , 0, 529, 012036.	0.6	2