

Miha Založnik

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

70
papers

1,004
citations

18
h-index

29
g-index

74
ext. papers

1,113
ext. citations

2.4
avg, IF

4.49
L-index

#	Paper	IF	Citations
70	Channel segregation during columnar solidification: Relation between mushy zone instability and mush permeability. <i>International Journal of Heat and Mass Transfer</i> , 2021 , 164, 120602	4.9	4
69	Effects of the powder, laser parameters and surface conditions on the molten pool formation in the selective laser melting of IN718. <i>Journal of Materials Processing Technology</i> , 2021 , 289, 116930	5.3	11
68	Modelling macrosegregation modification in dc casting of aluminium alloys in sheet ingots accounting for inlet melt flow, equiaxed grain morphology and transport. <i>IOP Conference Series: Materials Science and Engineering</i> , 2020 , 861, 012040	0.4	3
67	Meso-scale simulation of liquid feeding in an equiaxed dendritic mushy zone. <i>Materialia</i> , 2020 , 9, 100612	3.2	5
66	Thermosolutal convection and macrosegregation during directional solidification of TiAl alloys in centrifugal casting. <i>International Journal of Heat and Mass Transfer</i> , 2020 , 154, 119698	4.9	5
65	Mesoscopic modeling of equiaxed and columnar solidification microstructures under forced flow and buoyancy-driven flow in hypergravity: Envelope versus phase-field model. <i>Acta Materialia</i> , 2020 , 199, 680-694	8.4	3
64	Comparing mesoscopic models for dendritic growth. <i>IOP Conference Series: Materials Science and Engineering</i> , 2020 , 861, 012002	0.4	2
63	Prediction of solidification structures in a 9.8 tonne steel ingot. <i>IOP Conference Series: Materials Science and Engineering</i> , 2020 , 861, 012032	0.4	2
62	Upscaling mesoscopic simulation results to develop constitutive relations for macroscopic modeling of equiaxed dendritic solidification. <i>Materialia</i> , 2019 , 5, 100231	3.2	6
61	Packing dynamics of spherical and nonconvex grains sedimenting at low Stokes number. <i>Physical Review E</i> , 2019 , 99, 012907	2.4	3
60	Solidification microstructure during selective laser melting of Ni based superalloy: experiment and mesoscopic modelling. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019 , 529, 012004	0.4	1
59	Analysis of columnar-to-equiaxed transition experiment in lab scale steel casting by a multiphase model. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019 , 529, 012039	0.4	2
58	Simulation of a macrosegregation benchmark in a cylindrical coordinate system with a meshless method. <i>International Journal of Thermal Sciences</i> , 2019 , 142, 121-133	4.1	8
57	Quantitative 3D mesoscopic modeling of grain interactions during equiaxed dendritic solidification in a thin sample. <i>Acta Materialia</i> , 2019 , 173, 249-261	8.4	11
56	Application of an Equiaxed Grain Growth and Transport Model to Study Macrosegregation in a DC Casting Experiment. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2019 , 50, 1773-1786	2.3	8
55	Analysis of the Interplay Between Thermo-solutal Convection and Equiaxed Grain Motion in Relation to Macrosegregation Formation in AA5182 Sheet Ingots. <i>Minerals, Metals and Materials Series</i> , 2019 , 1007-1013	0.3	2
54	Effect of the Coriolis force on the macrosegregation of aluminum in the centrifugal casting of Ti-Al alloys. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019 , 529, 012033	0.4	2

53	Three-dimensional mesoscopic modeling of equiaxed dendritic solidification in a thin sample: effect of convection flow. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019 , 529, 012040	0.4	5
52	Finite Element Multi-scale Modeling of Chemical Segregation in Steel Solidification Taking into Account the Transport of Equiaxed Grains. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018 , 49, 1725-1748	2.3	13
51	A Simplified Three-Phase Model of Equiaxed Solidification for the Prediction of Microstructure and Macrosegregation in Castings. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018 , 49, 2778-2794	2.3	11
50	Impact of Inlet Flow on Macrosegregation Formation Accounting for Grain Motion and Morphology Evolution in DC Casting of Aluminium. <i>Minerals, Metals and Materials Series</i> , 2018 , 1089-1096	0.3	1
49	Packing of sedimenting equiaxed dendrites. <i>Physical Review E</i> , 2018 , 97, 012910	2.4	7
48	Investigation of Macrosegregation Formation in Aluminium DC Casting for Different Alloy Systems. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018 , 49, 4710-4724	2.3	19
47	DEM simulation of dendritic grain random packing: application to metal alloy solidification. <i>EPJ Web of Conferences</i> , 2017 , 140, 06002	0.3	6
46	Evolution of a mushy zone in a static temperature gradient using a volume average approach. <i>Acta Materialia</i> , 2017 , 141, 206-216	8.4	16
45	Modeling of the Coupling of Microstructure and Macrosegregation in a Direct Chill Cast Al-Cu Billet. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2017 , 48, 4713-4734	2.3	23
44	Mesoscopic modeling of spacing and grain selection in columnar dendritic solidification: Envelope versus phase-field model. <i>Acta Materialia</i> , 2017 , 122, 386-399	8.4	28
43	Mesoscopic modelling of columnar solidification. <i>IOP Conference Series: Materials Science and Engineering</i> , 2016 , 117, 012013	0.4	
42	Predictive Capabilities of Multiphysics and Multiscale Models in Modeling Solidification of Steel Ingots and DC Casting of Aluminum. <i>Jom</i> , 2016 , 68, 2198-2206	2.1	12
41	Three-dimensional mesoscopic modeling of equiaxed dendritic solidification of a binary alloy. <i>Computational Materials Science</i> , 2016 , 112, 304-317	3.2	28
40	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots 2016 , 848-853		
39	The role of the stagnant-film thickness in mesoscopic modeling of equiaxed grain envelopes. <i>IOP Conference Series: Materials Science and Engineering</i> , 2016 , 117, 012014	0.4	2
38	Quantitative analysis by in situ synchrotron X-ray radiography of the evolution of the mushy zone in a fixed temperature gradient. <i>Journal of Crystal Growth</i> , 2015 , 411, 88-95	1.6	23
37	Mesoscopic modeling of columnar solidification and comparisons with phase-field simulations. <i>IOP Conference Series: Materials Science and Engineering</i> , 2015 , 84, 012074	0.4	4
36	Modelling of Columnar-to-Equiaxed and Equiaxed-to- Columnar Transitions in Ingots Using a Multiphase Model. <i>IOP Conference Series: Materials Science and Engineering</i> , 2015 , 84, 012087	0.4	15

35	Process-scale modelling of microstructure in direct chill casting of aluminium alloys. <i>IOP Conference Series: Materials Science and Engineering</i> , 2015 , 84, 012100	0.4	7
34	Multi-scale Finite element modelling of solidification structures by a splitting method taking into account the transport of equiaxed grains. <i>IOP Conference Series: Materials Science and Engineering</i> , 2015 , 84, 012007	0.4	2
33	A model study of the impact of the transport of inoculant particles on microstructure formation during solidification. <i>Computational Materials Science</i> , 2015 , 102, 95-109	3.2	15
32	In-situ observations of solutal melting using laser scanning confocal microscopy: The Cu/Ni model system. <i>Materials Characterization</i> , 2014 , 97, 125-131	3.9	4
31	A numerical simulation of columnar solidification: influence of inertia on channel segregation. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013 , 21, 045016	2	11
30	In situ experimental observation of the time evolution of a dendritic mushy zone in a fixed temperature gradient. <i>Comptes Rendus - Mecanique</i> , 2013 , 341, 421-428	2.1	10
29	Study of the influence of mushy zone permeability laws on macro- and meso-segregations predictions. <i>International Journal of Thermal Sciences</i> , 2012 , 54, 33-47	4.1	19
28	Experimental verification of a model on melting and resolidification in a temperature gradient. <i>Journal of Alloys and Compounds</i> , 2012 , 540, 85-88	5.7	20
27	A Multiscale Model for the Simulation of V.A.R. Ingot Solidification 2012 , 107-114		0
26	Numerical Analysis of the Influence of Melting and Application of Electromagnetic Stirring Prior to Solidification on Macro-segregation Formation during Casting of a Binary Alloy 2012 , 253-260		
25	Influence of transport mechanisms on nucleation and grain structure formation in DC cast aluminium alloy ingots. <i>IOP Conference Series: Materials Science and Engineering</i> , 2012 , 27, 012070	0.4	2
24	Three-dimensional study of macro- and mesosegregation formation in a rectangular cavity cooled from one vertical side. <i>IOP Conference Series: Materials Science and Engineering</i> , 2012 , 33, 012088	0.4	2
23	Numerical study of the impact of inoculant and grain transport on macrosegregation and microstructure formation during solidification of an Al-22%Cu alloy. <i>IOP Conference Series: Materials Science and Engineering</i> , 2012 , 33, 012089	0.4	3
22	The effect of finite microscopic liquid solute diffusion on macrosegregation formation. <i>IOP Conference Series: Materials Science and Engineering</i> , 2012 , 27, 012040	0.4	3
21	Analysis of a numerical benchmark for columnar solidification of binary alloys. <i>IOP Conference Series: Materials Science and Engineering</i> , 2012 , 33, 012086	0.4	24
20	Influence of Discretization of Permeability Term and Mesh Size on the Prediction of Channel Segregations. <i>IOP Conference Series: Materials Science and Engineering</i> , 2012 , 27, 012039	0.4	9
19	Microsegregation, macrosegregation and related phase transformations in TiAl alloys. <i>Intermetallics</i> , 2011 , 19, 749-756	3.5	45
18	The Coupling of Macro-segregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots 2011 , 699-704		4

17	Influence of Transport Mechanisms on Macrosegregation Formation in Direct Chill Cast Industrial Scale Aluminum Alloy Ingots. <i>Advanced Engineering Materials</i> , 2011 , 13, 570-580	3.5	24
16	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots 2011 , 699-704		
15	Observations expérimentales et modélisation de la macroségrégation en coulée centrifuge d'alliages Ti-Al-Nb. <i>Revue De Metallurgie</i> , 2010 , 107, 449-455		
14	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	3.2	65
13	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	3.2	31
12	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	0.6	11
11	Thermosolutal flow in steel ingots and the formation of mesosegregates. <i>International Journal of Thermal Sciences</i> , 2010 , 49, 1500-1509	4.1	36
10	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	3	23
9	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	4.1	60
8	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	2.5	161
7	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	4.5	16
6	Melt Flow and Macrosegregation in DC Casting of Binary Aluminum Alloys. <i>Materials Science Forum</i> , 2006 , 508, 515-522	0.4	
5	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	2.6	52
4	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	5.3	42
3	Prediction of solidification structures in a 9.8 t steel ingot. <i>IOP Conference Series: Materials Science and Engineering</i> , 529, 012036	0.4	1
2	A Numerical Benchmark on the Prediction of Macrosegregation in Binary Alloys 755-762		6
1	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots 848-853		5