Miha Zaloznik

List of Publications by Citations

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	Prediction of Macrosegregation in Steel Ingots: Influence of the Motion and the Morphology of Equiaxed Grains. *Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science*, **2009**, 40, 289-304	2.5	161
69	An operator splitting scheme for coupling macroscopic transport and grain growth in a two-phase multiscale solidification model: Part I Model and solution scheme. *Computational Materials Science*, **2010**, 48, 1-10	3.2	65
68	Call for contributions to a numerical benchmark problem for 2D columnar solidification of binary alloys. *International Journal of Thermal Sciences*, **2009**, 48, 2013-2016	4.1	60
67	Solution of transient direct-chill aluminium billet casting problem with simultaneous material and interphase moving boundaries by a meshless method. *Engineering Analysis With Boundary Elements*, **2006**, 30, 847-855	2.6	52
66	Microsegregation, macrosegregation and related phase transformations in TiAl alloys. *Intermetallics*, **2011**, 19, 749-756	3.5	45
65	Modeling of macrosegregation in direct-chill casting of aluminum alloys: Estimating the influence of casting parameters. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2005**, 413-414, 85-91	5.3	42
64	Thermosolutal flow in steel ingots and the formation of mesosegregates. *International Journal of Thermal Sciences*, **2010**, 49, 1500-1509	4.1	36
63	An operator splitting scheme for coupling macroscopic transport and grain growth in a two-phase multiscale solidification model: Part II Application of the model. *Computational Materials Science*, **2010**, 48, 11-21	3.2	31
62	Three-dimensional mesoscopic modeling of equiaxed dendritic solidification of a binary alloy. *Computational Materials Science*, **2016**, 112, 304-317	3.2	28
61	Mesoscopic modeling of spacing and grain selection in columnar dendritic solidification: Envelope versus phase-field model. *Acta Materialia*, **2017**, 122, 386-399	8.4	28
60	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	24
59	Analysis of a numerical benchmark for columnar solidification of binary alloys. *IOP Conference Series: Materials Science and Engineering*, **2012**, 33, 012086	0.4	24
58	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	1.6	23
57	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	2.3	23
56	Effect of discretization of permeability term and mesh size on macro- and meso-segregation predictions. *Journal Physics D: Applied Physics*, **2009**, 42, 105503	3	23
55	Experimental verification of a model on melting and resolidification in a temperature gradient. *Journal of Alloys and Compounds*, **2012**, 540, 85-88	5.7	20
54	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	2.3	19

53	Study of the influence of mushy zone permeability laws on macro- and meso-segregations predictions. *International Journal of Thermal Sciences*, **2012**, 54, 33-47	4.1	19
52	Evolution of a mushy zone in a static temperature gradient using a volume average approach. *Acta Materialia*, **2017**, 141, 206-216	8.4	16
51	Verification of a numerical model of macrosegregation in direct chill casting. *International Journal of Numerical Methods for Heat and Fluid Flow*, **2008**, 18, 308-324	4.5	16
50	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	0.4	15
49	A model study of the impact of the transport of inoculant particles on microstructure formation during solidification. *Computational Materials Science*, **2015**, 102, 95-109	3.2	15
48	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	2.3	13
47	Predictive Capabilities of Multiphysics and Multiscale Models in Modeling Solidification of Steel Ingots and DC Casting of Aluminum. *Jom*, **2016**, 68, 2198-2206	2.1	12
46	Quantitative 3D mesoscopic modeling of grain interactions during equiaxed dendritic solidification in a thin sample. *Acta Materialia*, **2019**, 173, 249-261	8.4	11
45	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	2.3	11
44	A numerical simulation of columnar solidification: influence of inertia on channel segregation. *Modelling and Simulation in Materials Science and Engineering*, **2013**, 21, 045016	2	11
43	Prediction of equiaxed grain structure and macrosegregation in an industrial steel ingot: comparison with experiment. *International Journal of Advances in Engineering Sciences and Applied Mathematics*, **2010**, 2, 140-148	0.6	11
42	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	5.3	11
41	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	10
40	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	0.4	9
39	Simulation of a macrosegregation benchmark in a cylindrical coordinate system with a meshless method. *International Journal of Thermal Sciences*, **2019**, 142, 121-133	4.1	8
38	Application of an Equiaxed Grain Growth and Transport Model to Study Macrosegregation in a DC Casting Experiment. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2019**, 50, 1773-1786	2.3	8
37	Packing of sedimenting equiaxed dendrites. *Physical Review E*, **2018**, 97, 012910	2.4	7
36	Process-scale modelling of microstructure in direct chill casting of aluminium alloys. *IOP Conference Series: Materials Science and Engineering*, **2015**, 84, 012100	0.4	7

35	Upscaling mesoscopic simulation results to develop constitutive relations for macroscopic modeling of equiaxed dendritic solidification. *Materialia*, **2019**, 5, 100231	3.2	6
34	DEM simulation of dendritic grain random packing: application to metal alloy solidification. *EPJ Web of Conferences*, **2017**, 140, 06002	0.3	6
33	A Numerical Benchmark on the Prediction of Macrosegregation in Binary Alloys755-762		6
32	Meso-scale simulation of liquid feeding in an equiaxed dendritic mushy zone. *Materialia*, **2020**, 9, 100612	3.2	5
31	Thermosolutal convection and macrosegregation during directional solidification of TiAl alloys in centrifugal casting. *International Journal of Heat and Mass Transfer*, **2020**, 154, 119698	4.9	5
30	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	0.4	5
29	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots848-853		5
28	Mesoscopic modeling of columnar solidification and comparisons with phase-field simulations. *IOP Conference Series: Materials Science and Engineering*, **2015**, 84, 012074	0.4	4
27	In-situ observations of solutal melting using laser scanning confocal microscopy: The Cu/Ni model system. *Materials Characterization*, **2014**, 97, 125-131	3.9	4
26	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots **2011**, 699-704		4
25	Channel segregation during columnar solidification: Relation between mushy zone instability and mush permeability. *International Journal of Heat and Mass Transfer*, **2021**, 164, 120602	4.9	4
24	Packing dynamics of spherical and nonconvex grains sedimenting at low Stokes number. *Physical Review E*, **2019**, 99, 012907	2.4	3
23	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	0.4	3
22	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	0.4	3
21	The effect of finite microscopic liquid solute diffusion on macrosegregation formation. *IOP Conference Series: Materials Science and Engineering*, **2012**, 27, 012040	0.4	3
20	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	8.4	3
19	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	0.4	2
18	Multi-scale Unite 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	0.4	2

17	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	0.4	2
16	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	0.4	2
15	Comparing mesoscopic models for dendritic growth. *IOP Conference Series: Materials Science and Engineering*, **2020**, 861, 012002	0.4	2
14	Prediction of solidification structures in a 9.8 tonne steel ingot. *IOP Conference Series: Materials Science and Engineering*, **2020**, 861, 012032	0.4	2
13	The role of the stagnant-film thickness in mesoscopic modeling of equiaxed grain envelopes. *IOP Conference Series: Materials Science and Engineering*, **2016**, 117, 012014	0.4	2
12	Analysis of the Interplay Between Thermo-solutal Convection and Equiaxed Grain Motion in Relation to Macrosegregation Formation in AA5182 Sheet Ingots. *Minerals, Metals and Materials Series*, **2019**, 1007-1013	0.3	2
11	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	0.4	2
10	Solidification microstructure during selective laser melting of Ni based superalloy: experiment and mesoscopic modelling. *IOP Conference Series: Materials Science and Engineering*, **2019**, 529, 012004	0.4	1
9	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	0.3	1
8	Prediction of solidification structures in a 9.8 t steel ingot. *IOP Conference Series: Materials Science and Engineering*,529, 012036	0.4	1
7	A Multiscale Model for the Simulation of V.A.R. Ingot Solidification **2012**, 107-114		0
6	Mesoscopic modelling of columnar solidification. *IOP Conference Series: Materials Science and Engineering*, **2016**, 117, 012013	0.4	
5	Numerical Analysis of the Influence of Melting and Application of Electromagnetic Stirring Prior to Solidification on Macrosegregation Formation during Casting of a Binary Alloy **2012**, 253-260		
4	Observations expérimentales et modélisation de la macroségrégation en coulée centrifuge d'alliages Ti-Al-Nb. *Revue De Metallurgie*, **2010**, 107, 449-455		
3	Melt Flow and Macrosegregation in DC Casting of Binary Aluminum Alloys. *Materials Science Forum*, **2006**, 508, 515-522	0.4	
2	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots **2016**, 848-853		
1	The Coupling of Macrosegregation with Grain Nucleation, Growth and Motion in DC Cast Aluminum Alloy Ingots **2011**, 699-704		