Bernd BÃ¶ttger

List of Publications by Year
in descending order

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Version: 2024-02-01

55	1,947	331670	254184
papers	citations	21 h-index	43 g-index

56	56	56	1003
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Phase field assisted analysis of a solidification based metal refinement process. Materials Theory, 2022, 6, .	4.3	5
2	Cloud-Based ICME Software Training. Education Sciences, 2021, 11, 5.	2.6	3
3	Calphad coupled phase-field model with mechano-chemical contributions and its application to rafting of Î³â€™ in CMSX-4. Computational Materials Science, 2020, 184, 109909.	3.0	21
4	Phase-field study on microstructure formation in Mar-M247 during electron beam welding and correlation to hot cracking susceptibility. IOP Conference Series: Materials Science and Engineering, 2020, 861, 012072.	0.6	7
5	Systematic Phase-Field Study on Microstructure Formation During Brazing of Mar-M247 with a Si-Based AMS4782 Filler. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 1732-1747.	2.2	8
6	A Multi-phase-fieldÂApproach for Solidification with Non-negligible Volumetric Expansionâ€”Application to Graphite Growth in Nodular Cast Iron. Transactions of the Indian Institute of Metals, 2018, 71, 2725-2729.	1.5	4
7	An ICME Process Chain for Diffusion Brazing of Alloy 247. Integrating Materials and Manufacturing Innovation, 2018, 7, 70-85.	2.6	9
8	On the role of solidification modelling in Integrated Computational Materials Engineering â€œICMEâ€• IOP Conference Series: Materials Science and Engineering, 2016, 117, 012041.	0.6	7
9	Towards a metadata scheme for the description of materials â€“ the description of microstructures. Science and Technology of Advanced Materials, 2016, 17, 410-430.	6.1	19
10	Cross-Permeability of the Semisolid Region in Directional Solidification: A Combined Phase-Field and Lattice-Boltzmann Simulation Approach. Jom, 2016, 68, 27-36.	1.9	17
11	Microstructure Modeling in ICME Settings. , 2015, , 165-172.		2
12	Detached Melt Nucleation during Diffusion Brazing of a Technical Ni-based Superalloy: A Phase-Field Study. IOP Conference Series: Materials Science and Engineering, 2015, 84, 012031.	0.6	6
13	Multi-ternary extrapolation scheme for efficient coupling of thermodynamic data to a multi-phase-field model. Computational Materials Science, 2015, 108, 283-292.	3.0	65
14	Microstructure Modeling in ICME Settings. , 2015, , 165-172.		1
15	Development and application of a new freckle criterion for technical remelting processes. MATEC Web of Conferences, 2014, 14, 05002.	0.2	1
16	Phase Field Modeling of Microstructure Formation, DSC Curves, and Thermal Expansion for Agï£¿Cu Brazing Fillers Under Reactive Air Brazing Conditions. Advanced Engineering Materials, 2014, 16, 1468-1474.	3.5	9
17	Phase Field Modeling Applied to Reactive Air Brazing: Investigating Reaction Kinetics with Focus on Oxygen Exchange. Advanced Engineering Materials, 2014, 16, 1475-1481.	3.5	5
18	Relationship Between Solidification Microstructure and Hot Cracking Susceptibility for Continuous Casting of Low-Carbon and High-Strength Low-Alloyed Steels: A Phase-Field Study. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 3765-3777.	2.2	39

#	Article	IF	Citations
19	Phase-Field Modeling and Experimental Observation of Microstructures in Solidifying Sn-Ag-Cu Solders. Journal of Electronic Materials, 2013, 42, 2658-2666.	2.2	5
20	Implementation of an antitrapping current for a multicomponent multiphase-field ansatz. Journal of Crystal Growth, 2013, 380, 5-13.	1.5	42
21	Phase-field modelling of microstructure formation during the solidification of continuously cast low carbon and HSLA steels. IOP Conference Series: Materials Science and Engineering, 2012, 33, 012107.	0.6	8
22	Multi-Phase-Field Modeling of Solidification in Technical Steel Grades. Transactions of the Indian Institute of Metals, 2012, 65, 613-615.	1.5	13
23	Simulation-based prediction of micro-shrinkage porosity in aluminum casting: Fully-coupled numerical calculation vs. criteria functions. IOP Conference Series: Materials Science and Engineering, 2012, 27, 012066.	0.6	4
24	Phase-Field Modeling of Austenite Formation from a Ferrite plus Pearlite Microstructure during Annealing of Cold-Rolled Dual-Phase Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 2516-2525.	2.2	45
25	Parallelising Computational Microstructure Simulations for Metallic Materials with OpenMP. Lecture Notes in Computer Science, 2011, , 1-11.	1.3	4
26	Phase-field based simulation of microstructure evolution in technical alloy grades. International Journal of Advances in Engineering Sciences and Applied Mathematics, 2010, 2, 126-139.	1.1	25
27	Modeling of Hot Ductility During Solidification of Steel Grades in Continuous Casting â€“ Part I. Advanced Engineering Materials, 2010, 12, 94-100.	3.5	14
28	Modelling of Hot Ductility during Solidification of Steel Grades in Continuous Casting â€“ Part II. Advanced Engineering Materials, 2010, 12, 101-109.	3.5	13
29	Advances in PhysicsCorrigendum. Advances in Physics, 2010, 59, 257-259.	14.4	1
30	Phase-field modelling of gas porosity formation during the solidification of aluminium. International Journal of Materials Research, 2010, 101, 510-514.	0.3	15
31	Grain Growth Simulations Including Particle Pinning Using the Multiphase-field Concept. ISIJ International, 2009, 49, 1024-1029.	1.4	52
32	Upgrading CALPHAD to microstructure simulation: the phase-field method. International Journal of Materials Research, 2009, 100, 128-134.	0.3	43
33	Simulation of microstructure formation in technical aluminum alloys using the multiphase-field method. Transactions of the Indian Institute of Metals, 2009, 62, 299-304.	1.5	16
34	Phase-field simulation of microstructure formation in technical castings â€“ A self-consistent homoenthalpic approach to the microâ€“macro problem. Journal of Computational Physics, 2009, 228, 6784-6795.	3.8	61
35	Microstructure of a five-component Ni-base superalloy: experiments and simulation. , 2008, , 405-414.		0
36	Phase-Field Simulation of Solidification and Solid-State Transformations in Multicomponent Steels. Steel Research International, 2008, 79, 608-616.	1.8	40

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37	Thermodynamic re-optimisation of the Biâ€“Inâ€“Sn system based on new experimental data. Journal of Alloys and Compounds, 2007, 428, 115-124.	5.5	51
38	Simulation and Modelling of Hot Ductility for Different Steel Grades. BHM-Zeitschrift Fuer Rohstoffe Geotechnik Metallurgie Werkstoffe Maschinen-Und Anlagentechnik, 2007, 152, 361-366.	1.0	0
39	CALPHAD and Phase-Field Modeling: A Successful Liaison. Journal of Phase Equilibria and Diffusion, 2007, 28, 101-106.	1.4	87
40	Multiphase-field approach for multicomponent alloys with extrapolation scheme for numerical application. Physical Review E, 2006, 73, 066122.	2.1	411
41	Phase field simulation of equiaxed solidification in technical alloys. Acta Materialia, 2006, 54, 2697-2704.	7.9	206
42	Controlling Microstructure in Magnesium Alloys: A Combined Thermodynamic, Experimental and Simulation Approach. Advanced Engineering Materials, 2006, 8, 241-247.	3.5	43
43	Eutectic Solidification of Ternary Al-Cu-Ag Alloys: Coupled Growth of Î±(Al) and Al₂Cu in Univariant Reaction. Materials Science Forum, 2006, 508, 57-62.	0.3	10
44	Transient eutectic solidification in Inâ€“Biâ€“Sn: Two-dimensional experiments and numerical simulation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 413-414, 249-254.	5.6	26
45	Univariant Eutetic growth in ternary Al-Cu-Ag-alloys. Microgravity Science and Technology, 2005, 16, 45-49.	1.4	6
46	Multiphase solidification in multicomponent alloys. Materials Science and Engineering Reports, 2004, 46, 1-49.	31.8	155
47	Simulation of macroscopic solidification with an incorporated one-dimensional microsegregation model coupled to thermodynamic software. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2003, 34, 411-419.	2.1	11
48	Wrought Ni-Base Superalloys for Steam Turbine Applications beyond 700â€‰Â°C. Advanced Engineering Materials, 2003, 5, 469-483.	3.5	47
49	2D and 3D phase-field simulations of lamella and fibrous eutectic growth. Journal of Crystal Growth, 2002, 237-239, 154-158.	1.5	50
50	Simulation of microsegregation and microstructural evolution in directionally solidified superalloys. Materials Science and Technology, 2000, 16, 1425-1428.	1.6	28
51	Coupling of multicomponent thermodynamic databases to a phase field model: application to solidification and solid state transformations of superalloys. Scripta Materialia, 2000, 42, 1179-1186.	5.2	131
52	Simulations of the initial transient during directional solidification of multicomponent alloys using the phase field method. Modelling and Simulation in Materials Science and Engineering, 2000, 8, 871-879.	2.0	13
53	Prediction and Measurement of Microsegregation and Microstructural Evolution in Directionally Solidified Superalloys. , 2000, , .		4
54	Preparation and Polymorphism of Thin Films of Unsubstituted Cobalt Phthalocyanine. Langmuir, 1998, 14, 5188-5194.	3.5	24

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55	Catalytic electrodeposition of silver on glassy carbon electrodes modified with films of cobalt phthalocyanine. Journal of Electroanalytical Chemistry, 1997, 432, 139-144.	3.8	15