# Bernd BÃ¶ttger

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8032449/publications.pdf

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| 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 | Multiphase-field approach for multicomponent alloys with extrapolation scheme for numerical application. Physical Review E, 2006, 73, 066122. | 2.1 | 411 |
| 2 | Phase field simulation of equiaxed solidification in technical alloys. Acta Materialia, 2006, 54, 2697-2704. | 7.9 | 206 |
| 3 | Multiphase solidification in multicomponent alloys. Materials Science and Engineering Reports, 2004, 46, 1-49. | 31.8 | 155 |
| 4 | 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 |
| 5 | CALPHAD and Phase-Field Modeling: A Successful Liaison. Journal of Phase Equilibria and Diffusion, 2007, 28, 101-106. | 1.4 | 87 |
| 6 | 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 |
| 7 | 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 |
| 8 | Grain Growth Simulations Including Particle Pinning Using the Multiphase-field Concept. ISIJ International, 2009, 49, 1024-1029. | 1.4 | 52 |
| 9 | 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 |
| 10 | 2D and 3D phase-field simulations of lamella and fibrous eutectic growth. Journal of Crystal Growth, 2002, 237-239, 154-158. | 1.5 | 50 |
| 11 | Wrought Ni-Base Superalloys for Steam Turbine Applications beyond 700â€‰Â°C. Advanced Engineering Materials, 2003, 5, 469-483. | 3.5 | 47 |
| 12 | 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 |
| 13 | Controlling Microstructure in Magnesium Alloys: A Combined Thermodynamic, Experimental and Simulation Approach. Advanced Engineering Materials, 2006, 8, 241-247. | 3.5 | 43 |
| 14 | Upgrading CALPHAD to microstructure simulation: the phase-field method. International Journal of Materials Research, 2009, 100, 128-134. | 0.3 | 43 |
| 15 | Implementation of an antitrapping current for a multicomponent multiphase-field ansatz. Journal of Crystal Growth, 2013, 380, 5-13. | 1.5 | 42 |
| 16 | Phase-Field Simulation of Solidification and Solid-State Transformations in Multicomponent Steels. Steel Research International, 2008, 79, 608-616. | 1.8 | 40 |
| 17 | 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 |
| 18 | Simulation of microsegregation and microstructural evolution in directionally solidified superalloys. Materials Science and Technology, 2000, 16, 1425-1428. | 1.6 | 28 |

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|---|---|---|---|
| 19 | 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 |
| 20 | 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 |
| 21 | Preparation and Polymorphism of Thin Films of Unsubstituted Cobalt Phthalocyanine. Langmuir, 1998, 14, 5188-5194. | 3.5 | 24 |
| 22 | 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 |
| 23 | 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 |
| 24 | 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 |
| 25 | 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 |
| 26 | 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 |
| 27 | Phase-field modelling of gas porosity formation during the solidification of aluminium. International Journal of Materials Research, 2010, 101, 510-514. | 0.3 | 15 |
| 28 | 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 |
| 29 | 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 |
| 30 | 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 |
| 31 | Multi-Phase-Field Modeling of Solidification in Technical Steel Grades. Transactions of the Indian Institute of Metals, 2012, 65, 613-615. | 1.5 | 13 |
| 32 | 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 |
| 33 | Eutectic Solidification of Ternary Al-Cu-Ag Alloys: Coupled Growth of Î±(Al) and Al<sub>2</sub>Cu in Univariant Reaction. Materials Science Forum, 2006, 508, 57-62. | 0.3 | 10 |
| 34 | 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 |
| 35 | An ICME Process Chain for Diffusion Brazing of Alloy 247. Integrating Materials and Manufacturing Innovation, 2018, 7, 70-85. | 2.6 | 9 |
| 36 | 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 |

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|---|---|---|---|
| 37 | 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 |
| 38 | 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 |
| 39 | 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 |
| 40 | Univariant Eutetic growth in ternary Al-Cu-Ag-alloys. Microgravity Science and Technology, 2005, 16, 45-49. | 1.4 | 6 |
| 41 | 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 |
| 42 | 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 |
| 43 | 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 |
| 44 | Phase field assisted analysis of a solidification based metal refinement process. Materials Theory, 2022, 6, . | 4.3 | 5 |
| 45 | 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 |
| 46 | 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 |
| 47 | Parallelising Computational Microstructure Simulations for Metallic Materials with OpenMP. Lecture Notes in Computer Science, 2011, , 1-11. | 1.3 | 4 |
| 48 | Prediction and Measurement of Microsegregation and Microstructural Evolution in Directionally Solidified Superalloys. , 2000, , . | | 4 |
| 49 | Cloud-Based ICME Software Training. Education Sciences, 2021, 11, 5. | 2.6 | 3 |
| 50 | Microstructure Modeling in ICME Settings. , 2015, , 165-172. | | 2 |
| 51 | Advances in PhysicsCorrigendum. Advances in Physics, 2010, 59, 257-259. | 14.4 | 1 |
| 52 | Development and application of a new freckle criterion for technical remelting processes. MATEC Web of Conferences, 2014, 14, 05002. | 0.2 | 1 |
| 53 | Microstructure Modeling in ICME Settings. , 2015, , 165-172. | | 1 |
| 54 | 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 |

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|---|---|---|---|
| 55 | Microstructure of a five-component Ni-base superalloy: experiments and simulation. , 2008, , 405-414. | | 0 |