Nils Warnken

List of Publications by Year
in descending order

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46	1,675	394421	289244
papers	citations	19 h-index	40 g-index

49	49	49	1249
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Alloys-By-Design: Application to nickel-based single crystal superalloys. Acta Materialia, 2009, 57, 5898-5913.	7.9	423
2	A model for the creep deformation behaviour of nickel-based single crystal superalloys. Acta Materialia, 2012, 60, 4888-4900.	7.9	181
3	Modelling of the influence of alloy composition on flow stress in high-strength nickel-based superalloys. Acta Materialia, 2014, 75, 356-370.	7.9	127
4	On the mechanism of porosity formation during welding of titanium alloys. Acta Materialia, 2012, 60, 3215-3225.	7.9	106
5	Atom probe tomography analysis of the distribution of rhenium in nickel alloys. Acta Materialia, 2010, 58, 931-942.	7.9	101
6	Modelling of High Temperature Oxidation of Alumina-Forming Single-Crystal Nickel-Base Superalloys. Acta Materialia, 2012, 60, 5468-5480.	7.9	98
7	CALPHAD and Phase-Field Modeling: A Successful Liaison. Journal of Phase Equilibria and Diffusion, 2007, 28, 101-106.	1.4	87
8	Phase-field modelling of as-cast microstructure evolution in nickel-based superalloys. Acta Materialia, 2009, 57, 5862-5875.	7.9	71
9	Investigation of eutectic island formation in SX superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 413-414, 267-271.	5.6	44
10	Simulation of the solidification of CMSX-4. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 397, 385-390.	5.6	43
11	Thermodynamic and kinetic modeling of bcc phase in the Tiâ€“Alâ€“V ternary system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 528, 622-630.	5.6	31
12	On the Deformation of Dendrites During Directional Solidification of a Nickel-Based Superalloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 5234-5241.	2.2	29
13	Coupled modelling of solidification and solution heat treatment of advanced single crystal nickel base superalloy. Materials Science and Technology, 2009, 25, 179-185.	1.6	24
14	Analysis of the Chemistry of Ni-Base Turbine Disk Superalloys Using An Alloys-By-Design Modeling Approach. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 2418-2430.	2.2	23
15	Studies on the Solidification Path of Single Crystal Superalloys. Journal of Phase Equilibria and Diffusion, 2016, 37, 100-107.	1.4	22
16	Effects of elemental vaporization and condensation during heat treatment of single crystal superalloys. Scripta Materialia, 2014, 78-79, 45-48.	5.2	21
17	Microstructure evolution of rheo-cast A356 aluminium alloy in consideration of different cooling conditions by means of the cooling channel process. Journal of Materials Processing Technology, 2010, 210, 624-630.	6.3	20
18	On the Characterization of Directionally Solidified Dendritic Microstructures. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 1675-1683.	2.2	20

#	Article	IF	Citations
19	Numerical and experimental study of post-heat treatment gas quenching and its impact on microstructure and creep in CMSX-10 superalloy. Journal of Materials Processing Technology, 2013, 213, 2350-2360.	6.3	20
20	Gravity effect on thermal-solutal convection during solidification revealed by four-dimensional synchrotron imaging with compositional mapping. Scripta Materialia, 2020, 180, 29-33.	5.2	20
21	Integrated Approach for the Development of Advanced, Coated Gas Turbine Blades. Advanced Engineering Materials, 2006, 8, 535-562.	3.5	19
22	Identifying heating rate dependent oxidation reactions on a nickel-based superalloy using synchrotron diffraction. Acta Materialia, 2019, 181, 570-583.	7.9	19
23	On the modelling of the point defects in the ordered B2 phase of the Tiâ€“Al system: Combining CALPHAD with first-principles calculations. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 39, 21-26.	1.6	18
24	Columnar and Equiaxed Solidification of Al-7Âwt.% Si Alloys in Reduced Gravity in the Framework of the CETSOL Project. Jom, 2017, 69, 1269-1279.	1.9	17
25	Hydrogen Transport and Rationalization of Porosity Formation during Welding of Titanium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 582-591.	2.2	13
26	Microsegregation and Secondary Phase Formation During Directional Solidification of the Single-Crystal Ni-Based Superalloy LEK94. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 5153-5164.	2.2	12
27	Thermodynamic assessment of the ordered B2 phase in the Tiâ€“Vâ€“Crâ€“Al quaternary system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2011, 35, 204-208.	1.6	11
28	Numerical Modeling of Vacuum Heat Treatment of Nickel-based Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 5154-5164.	2.2	7
29	Thermodynamic study of single crystal, Ni-based superalloys in the Î³+Î³â€² two-phase region using Knudsen Effusion Mass Spectrometry, DSC and SEM. Journal of Alloys and Compounds, 2021, 870, 159295.	5.5	7
30	Non-classical interstitial sites and anomalous diffusion mechanisms in hcp-titanium. Acta Materialia, 2019, 177, 68-81.	7.9	6
31	Quantitative simulations of microstructure evolution in single crystal superalloys during solution heat treatment. International Heat Treatment and Surface Engineering, 2009, 3, 40-44.	0.2	5
32	Numerical Modelling of Stress and Strain Evolution during Solidification of a Single Crystal Superalloy. Advanced Materials Research, 0, 278, 204-209.	0.3	5
33	Investigation of the initial transient in directional solidification of binary AlCu alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 413-414, 259-262.	5.6	3
34	A novel method for the characterisation of directionally solidified dendritic arrays. IOP Conference Series: Materials Science and Engineering, 2012, 27, 012012.	0.6	3
35	Coupled thermodynamic/kinetic model for hydrogen transport during electron beam welding of titanium alloy. Materials Science and Technology, 2012, 28, 500-508.	1.6	3
36	Study into the Role of Nickel Vapor on Surface Modification of a Third-Generation Single-Crystal Superalloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 4301-4307.	2.2	3

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37	Analysis of phase formation in Ni-rich alloys of the Niâ€“Taâ€“W system by calorimetry, DTA, SEM, and TEM. International Journal of Materials Research, 2006, 97, 440-449.	0.3	3
38	Time-dependent directional solidification of binary Alâ€“Cu alloys in the initial transient. International Journal of Materials Research, 2007, 98, 221-227.	0.3	2
39	3D Forging Simulation of a Multi-Partitioned Titanium Alloy Billet for a Medical Implant. Journal of Manufacturing and Materials Processing, 2019, 3, 69.	2.2	2
40	Application of Computational Thermodynamics for superalloys. EPJ Web of Conferences, 2011, 14, 01002.	0.3	1
41	Criterion function for predicting freckles in CMSX-4 during directional solidification. IOP Conference Series: Materials Science and Engineering, 2016, 117, 012060.	0.6	1
42	Simulation of Phase Changes During Thermal Treatments of Various Metal Alloys (TP B2). , 0, , 149-160.		0
43	Status of Through-Process Simulation for Coated Gas Turbine Components (TP C8). , 0, , 49-61.		0
44	Microstructure Modeling During Solidification of Castings (TP A2). , 0, , 87-101.		0
45	Microstructure of a five-component Ni-base superalloy: experiments and simulation. , 2008, , 405-414.		0
46	Computational Fluid Dynamics Modelling of Heat Treatment of Single Crystal Nickel Based Superalloys for Turbine Blade Application. , 2012, , .		0