Sumanth Shankar

List of Publications by Year
in descending order

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29 papers	763 citations	623734 14 h-index	610901 24 g-index
32 all docs	32 docs citations	32 times ranked	570 citing authors

#	Article	IF	Citations
1	Nucleation mechanism of the eutectic phases in aluminumâ€“silicon hypoeutectic alloys. Acta Materialia, 2004, 52, 4447-4460.	7.9	160
2	Die soldering: Mechanism of the interface reaction between molten aluminum alloy and tool steel. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2002, 33, 465-476.	2.1	119
3	Quantitative metallography of precipitating and secondary phases after strengthening treatment of net shaped casting of Al-Zn-Mg-Cu (7000) alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 698, 206-217.	5.6	62
4	Controlled Diffusion Solidification (CDS) of Al-Zn-Mg-Cu (7050): Microstructure, heat treatment and mechanical properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 594, 260-277.	5.6	57
5	Eutectic solidification of aluminum-silicon alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 3038-3043.	2.2	53
6	Rheology of liquid metals and alloys. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 831-838.	2.4	44
7	Favorable Environment for a Nondendritic Morphology in Controlled Diffusion Solidification. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 2456-2465.	2.2	27
8	Structure-property models in Al-Zn-Mg-Cu alloys: A critical experimental assessment of shape castings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 733, 235-245.	5.6	27
9	Mechanism and preventive measures for die soldering during Al casting in a ferrous mold. Jom, 2002, 54, 47-54.	1.9	26
10	Formation of Nondendritic Primary Aluminum Phase in Hypoeutectic Alloys in Controlled Diffusion Solidification (CDS): A Hypothesis. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2009, 40, 843-849.	2.1	26
11	Casting of aluminum-based wrought alloys using controlled diffusion solidification. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 2174-2180.	2.2	24
12	Rotational rheometry of liquid metal systems: Measurement geometry selection and flow curve analysis. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 733-742.	2.4	22
13	Effect of mixing rate on the morphology of primary Al phase in the controlled diffusion solidification (CDS) process. Journal of Materials Science, 2012, 47, 8153-8166.	3.7	16
14	X-ray nano-diffraction study of Sr intermetallic phase during solidification of Al-Si hypoeutectic alloy. Applied Physics Letters, 2014, 104, .	3.3	16
15	Effect of Alloy Composition on Microstructure and Tensile Properties of Net-Shaped Castings of Alâ€“Znâ€“Mgâ€“Cu Alloys. International Journal of Metalcasting, 2019, 13, 300-310.	1.9	14
16	Die soldering: Effect of process parameters and alloy characteristics on soldering in the pressure die casting process. International Journal of Cast Metals Research, 2002, 15, 103-116.	1.0	10
17	Partial pair correlation functions and viscosity of liquid Alâ€“Si hypoeutectic alloys via high-energy X-ray diffraction experiments. Philosophical Magazine, 2011, 91, 3867-3904.	1.6	10
18	Workability Characteristics and Deformation Mechanisms of Die-Cast AM60 and AZ91 Magnesium Alloys: Correlation with Processing Maps. Journal of Materials Engineering and Performance, 2019, 28, 123-139.	2.5	7

#	Article	IF	Citations
19	Microstructure, Intermetallic Phases, and Fractography of the Cast Al-5.8Zn-2.2Mg-2.5Cu Alloy by Controlled Diffusion Solidification. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 4711-4726.	2.2	7
20	Rheology of Liquid Al, Zn and Zn-7wt%Al Systems. Materials Science Forum, 0, 690, 226-229.	0.3	6
21	Mechanism of Anomalous Grain Formation During Controlled Diffusion Solidification. Jom, 2020, 72, 3733-3743.	1.9	6
22	Effect of Titanium Levels on the Hot Tearing Sensitivity and Abnormal Grain Growth After T4 Heat Treatment of Alâ€“Znâ€“Mgâ€“Cu Alloys. International Journal of Metalcasting, 2018, 12, 457-468.	1.9	5
23	High-Resolution Electron Microscopy and Kinetic Studies of Precipitation Hardening Reactions in Cast Al-5.8Zn-2.2Mg-2.5Cu. Journal of Materials Engineering and Performance, 2019, 28, 4630-4646.	2.5	5
24	Interaction between primary dendrite arm spacing and velocity of fluid flow during solidification of Alâ€“Si binary alloys. Journal of Materials Science, 2018, 53, 9771-9789.	3.7	4
25	Control Diffusion Solidification (CDS): An Overview of Mechanism and Application. , 2014, , 89-97.		3
26	Effect of Shrinkage on Primary Dendrite Arm Spacing during Binary Al-Si Alloy Solidification. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 2331-2345.	2.2	2
27	Sensitivity of Thermophysical Material Properties on Solidification Simulation of Al-Si Binary Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 2346-2357.	2.2	0
28	Near Net Shaped Casting of 7050 Al Wrought Alloy by CDS Process: Microstructure and Mechanical Properties. , 2012, , 313-318.		0
29	Solidification Simulation of Al-Si Alloys with Dendrite Tip Undercooling. Metals, 2022, 12, 608.	2.3	0