

Gildas Guillemot

List of Publications by Year in descending order

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63
papers

1,197
citations

331259

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395343

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docs citations

66
times ranked

968
citing authors

#	ARTICLE	IF	CITATIONS
1	Three-dimensional cellular automaton-finite element modeling of solidification grain structures for arc-welding processes. <i>Acta Materialia</i> , 2016, 115, 448-467.	3.8	82
2	A review of microstructural changes occurring during FSW in aluminium alloys and their modelling. <i>Journal of Materials Processing Technology</i> , 2021, 288, 116706.	3.1	66
3	Modeling of Macrosegregation and Solidification Grain Structures with a Coupled Cellular Automaton-Finite Element Model. <i>ISIJ International</i> , 2006, 46, 880-895.	0.6	63
4	Interaction between single grain solidification and macrosegregation: Application of a cellular automatonâ€™Finite element model. <i>Journal of Crystal Growth</i> , 2007, 303, 58-68.	0.7	62
5	Three-dimensional finite element thermomechanical modeling of additive manufacturing by selective laser melting for ceramic materials. <i>Additive Manufacturing</i> , 2017, 16, 124-137.	1.7	62
6	Growth competition between columnar dendritic grains â€ Cellular automaton versus phase field modeling. <i>Acta Materialia</i> , 2018, 155, 286-301.	3.8	61
7	Boundary layer correlation for dendrite tip growth with fluid flow. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003, 342, 44-50.	2.6	56
8	Macroscopic thermal finite element modeling of additive metal manufacturing by selective laser melting process. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 331, 514-535.	3.4	56
9	Numerical modelling of the impact of energy distribution and Marangoni surface tension on track shape in selective laser melting of ceramic material. <i>Additive Manufacturing</i> , 2018, 21, 713-723.	1.7	54
10	Correlation between thermal properties and aluminum fractions in CrAlN layers deposited by PVD technique. <i>Vacuum</i> , 2010, 84, 1067-1074.	1.6	47
11	Impact of solute flow during directional solidification of a Ni-based alloy: In-situ and real-time X-radiography. <i>Acta Materialia</i> , 2020, 194, 68-79.	3.8	45
12	A multilayer model for describing hardness variations of aged porous silicon low-dielectric-constant thin films. <i>Thin Solid Films</i> , 2009, 518, 213-221.	0.8	44
13	3D Coupled Cellular Automaton (CA)â€™Finite Element (FE) Modeling for Solidification Grain Structures in Gas Tungsten Arc Welding (GTAW). <i>ISIJ International</i> , 2014, 54, 401-407.	0.6	43
14	A new cellular automatonâ€™finite element coupling scheme for alloy solidification. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2004, 12, 545-556.	0.8	41
15	Numerical modelling of fluid and solid thermomechanics in additive manufacturing by powder-bed fusion: Continuum and level set formulation applied to track- and part-scale simulations. <i>Comptes Rendus - Mecanique</i> , 2018, 346, 1055-1071.	2.1	32
16	A generic statistical methodology to predict the maximum pit depth of a localized corrosion process. <i>Corrosion Science</i> , 2011, 53, 2453-2467.	3.0	30
17	A comparison of models for predicting the true hardness of thin films. <i>Thin Solid Films</i> , 2012, 524, 229-237.	0.8	28
18	Effect of processing parameters during the laser beam melting of Inconel 738: Comparison between simulated and experimental melt pool shape. <i>Journal of Materials Processing Technology</i> , 2021, 289, 116897.	3.1	26

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19	Influence of process-induced microstructure on hardness of two Al–Si alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 646, 190-200.	2.6	25
20	Direct Modeling of Structures and Segregations Up to Industrial Casting Scales. <i>Jom</i> , 2013, 65, 1122-1130.	0.9	24
21	Additive manufacturing of an oxide ceramic by laser beam melting—Comparison between finite element simulation and experimental results. <i>Journal of Materials Processing Technology</i> , 2019, 270, 106-117.	3.1	21
22	A level set approach for the simulation of the multipass hybrid laser/GMA welding process. <i>Computational Materials Science</i> , 2014, 91, 240-250.	1.4	18
23	Columnar and Equiaxed Solidification of Al-7wt.% Si Alloys in Reduced Gravity in the Framework of the CETSOL Project. <i>Jom</i> , 2017, 69, 1269-1279.	0.9	17
24	Numerical study of the impact of vaporisation on melt pool dynamics in Laser Powder Bed Fusion - Application to IN718 and Ti-6Al-4V. <i>Additive Manufacturing</i> , 2020, 35, 101249.	1.7	16
25	Growth competition between columnar dendritic grains – The role of microstructural length scales. <i>Acta Materialia</i> , 2022, 223, 117395.	3.8	15
26	Analytical model for equiaxed globular solidification in multicomponent alloys. <i>Acta Materialia</i> , 2015, 97, 419-434.	3.8	14
27	Investigation of the Effect of Residual Stress Gradient on the Wear Behavior of PVD Thin Films. <i>Journal of Materials Engineering and Performance</i> , 2018, 27, 457-470.	1.2	14
28	Relevance of Wavelet Shape Selection in a complex signal. <i>Mechanical Systems and Signal Processing</i> , 2013, 41, 14-33.	4.4	13
29	On the detection of corrosion pit interactions using two-dimensional spectral analysis. <i>Corrosion Science</i> , 2010, 52, 303-313.	3.0	12
30	An analytical model with interaction between species for growth and dissolution of precipitates. <i>Acta Materialia</i> , 2017, 134, 375-393.	3.8	12
31	A partitioned two-step solution algorithm for concurrent fluid flow and stress–strain numerical simulation in solidification processes. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 356, 294-324.	3.4	10
32	Three-dimensional cellular automaton modeling of silicon crystallization with grains in twin relationships. <i>Acta Materialia</i> , 2020, 191, 230-244.	3.8	9
33	Thermodynamic coupling in the computation of dendrite growth kinetics for multicomponent alloys. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2022, 77, 102429.	0.7	8
34	Comments on the paper –Modification of composite hardness models to incorporate indentation size effects in thin films–, D. Beegan, S. Chowdhury and M.T. Laugier, <i>Thin Solid Films</i> 516 (2008), 3813–3817. <i>Thin Solid Films</i> , 2010, 518, 2097-2101.	0.8	7
35	3D parameter to quantify the anisotropy measurement of periodic structures on rough surfaces. <i>Scanning</i> , 2014, 36, 127-133.	0.7	7
36	Columnar-to-Equiaxed Transition in SOLidification Processing (CETSOL): A Project of the European Space Agency (ESA) - Microgravity Applications Promotion (MAP) Programme. <i>Materials Science Forum</i> , 2006, 508, 393-404.	0.3	6

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37	Finite element modeling of deposition of ceramic material during SLM additive manufacturing. MATEC Web of Conferences, 2016, 80, 08001.	0.1	6
38	Hybrid Cellular Automaton - Parabolic Thick Needle model for equiaxed dendritic solidification. Journal of Materials Science and Technology, 2022, 124, 26-40.	5.6	6
39	Morphological stability of spherical particles - Extension of the Mullins-Sekerka criteria to multi-component alloys under a non-stationary diffusive regime. Acta Materialia, 2021, 205, 116539.	3.8	4
40	A Partitioned Solution Algorithm for Concurrent Computation of Stress-Strain and Fluid Flow in Continuous Casting Process. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2021, 52, 978-995.	1.0	4
41	Structure and texture simulations in fusion welding processes – comparison with experimental data. Materialia, 2022, 21, 101305.	1.3	4
42	Three-dimensional diamond growth film simulations: correlations between nucleation and surface parameters. Diamond and Related Materials, 1999, 8, 150-154.	1.8	3
43	Thermo-mechanical simulation of track development in the Laser Beam Melting process - Effect of laser-metal interaction. IOP Conference Series: Materials Science and Engineering, 0, 529, 012005.	0.3	3
44	Caractérisation des propriétés mécaniques par nanoindentation d'un traitement de diffusion et d'un revêtement pour l'amélioration de la résistance à l'usure des aciers à bas carbone. Mécanique Et Industries, 2011, 12, 379-387.	0.2	2
45	Modeling of eutectic growth kinetics with thermodynamic couplings. Acta Materialia, 2018, 161, 110-126.	3.8	2
46	Level-set modelling of Laser Beam Melting process applied onto ceramic materials – Comparison with experimental results. IOP Conference Series: Materials Science and Engineering, 2019, 529, 012002.	0.3	2
47	Multiphysics simulation of single pulse laser powder bed fusion: comparison of front capturing and front tracking methods. International Journal of Numerical Methods for Heat and Fluid Flow, 2022, 32, 2149-2176.	1.6	2
48	Feature of solid-liquid metals reaction revealed by conversion electron Mössbauer spectrometry. Hyperfine Interactions, 2009, 190, 29-36.	0.2	1
49	Wavelet theory and belt finishing process, influence of wavelet shape on the surface roughness parameter values. Journal of Physics: Conference Series, 2011, 311, 012013.	0.3	1
50	Estimation of the Constitutive Law by Dual Small Punch Test and Instrumented Indentation. Solid State Phenomena, 2012, 188, 193-198.	0.3	1
51	Modélisation du procédé de soudage hybride Arc / Laser par une approche level set application aux toles d'aciers de fortes épaisseurs. MATEC Web of Conferences, 2013, 7, 02003.	0.1	1
52	Vickers microhardness of oxidized and nonoxidized porous silicon. , 2014, , .		1
53	Finite diffusion microsegregation model applied to multicomponent alloys. IOP Conference Series: Materials Science and Engineering, 2019, 529, 012029.	0.3	1
54	3D cellular automaton modelling of silicon crystallization including grains in twin relationship. IOP Conference Series: Materials Science and Engineering, 2020, 861, 012052.	0.3	1

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55	How to characterize the regularity of surface topographies?. Journal of Physics: Conference Series, 2011, 311, 012012.	0.3	0
56	Elaboration, characterization of CrN- based coatings. , 2011, , .		0
57	A Cellular Automaton $\hat{\cdot}$ Finite Element model for predicting grain texture development in galvanized coatings. , 2011, , .		0
58	DÃ©veloppement d'une approche couplÃ©e Automates Cellulaires $\hat{\cdot}$ ElÃ©ments Finis pour la modÃ©lisation du dÃ©veloppement des structures de grains en soudage TIG. MATEC Web of Conferences, 2013, 7, 02002.	0.1	0
59	Finite Element Modeling of Ceramic Deposition by LBM(SLM) Additive Manufacturing. , 2018, , 49-58.		0
60	Macroscopic Finite Element Thermal Modelling of Selective Laser Melting for IN718 Real Part Geometries. , 2018, , 82-92.		0
61	A partitioned solution algorithm for fluid flow and stress-strain computations applied to continuous casting. IOP Conference Series: Materials Science and Engineering, 2019, 529, 012082.	0.3	0
62	Concurrent and coupled resolution of fluid flow and solid deformation in solidification processes. IOP Conference Series: Materials Science and Engineering, 2020, 861, 012068.	0.3	0
63	CaractÃ©risation des aciers innovants par essais mÃ©caniques croisÃ©s. Materiaux Et Techniques, 2011, 99, 227-238.	0.3	0