Aude Simar

List of Publications by Year
in descending order

70 papers	3,567 citations	147566 31 h-index	138251 58 g-index
71 all docs	71 docs citations	71 times ranked	2378 citing authors

#	Article	IF	Citations
1	Microstructure and loading direction dependent hardening and damage behavior of laser powder bed fusion AlSi10Mg. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 832, 142484.	2.6	20
2	Hot isostatic pressing of laser powder bed fusion AlSi10Mg: parameter identification and mechanical properties. Journal of Materials Science, 2022, 57, 9726-9740.	1.7	7
3	Understanding the ductility versus toughness and bendability decoupling of large elongated and fine grained Al 7475 - T6 alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 839, 142816.	2.6	8
4	On the formation of antiphase boundaries in Fe4Al13 intermetallics during a high temperature treatment. Scripta Materialia, 2022, 215, 114726.	2.6	7
5	Dissimilar friction welding of NiTi shape memory alloy and steel reinforcing bars for seismic performance. Science and Technology of Welding and Joining, 2022, 27, 418-428.	1.5	2
6	Review on the correlation between microstructure and mechanical performance for laser powder bed fusion AlSi10Mg. Additive Manufacturing, 2022, 56, 102914.	1.7	28
7	Friction stir welding/processing of metals and alloys: A comprehensive review on microstructural evolution. Progress in Materials Science, 2021, 117, 100752.	16.0	436
8	Nanoscale periodic gradients generated by laser powder bed fusion of an AlSi10Mg alloy. Materials and Design, 2021, 197, 109264.	3.3	35
9	Critical assessment of the impact of process parameters on vertical roughness and hardness of thin walls of AlSi10Mg processed by laser powder bed fusion. Additive Manufacturing, 2021, 38, 101801.	1.7	9
10	Unveiling damage sites and fracture path in laser powder bed fusion AlSi10Mg: Comparison between horizontal and vertical loading directions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 807, 140845.	2.6	32
11	Avoiding abnormal grain growth in thick 7XXX aluminium alloy friction stir welds during T6 post heat treatments. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 807, 140901.	2.6	45
12	Combined numerical and experimental estimation of the fracture toughness and failure analysis of single lap shear test for dissimilar welds. Engineering Fracture Mechanics, 2021, 249, 107756.	2.0	6
13	High temperature in situ SEM assessment followed by ex situ AFM and EBSD investigation of the nucleation and early growth stages of Fe-Al intermetallics. Scripta Materialia, 2021, 200, 113910.	2.6	14
14	Investigation of residual stresses in planar dissimilar magnetic pulse welds by neutron diffraction. Journal of Manufacturing Processes, 2021, 68, 1758-1766.	2.8	10
15	On the complete interface development of Al/Cu magnetic pulse welding via experimental characterizations and multiphysics numerical simulations. Journal of Materials Processing Technology, 2021, 296, 117185.	3.1	30
16	Fatigue crack nucleation and growth in laser powder bed fusion AlSi10Mg under as built and post-treated conditions. Materials and Design, 2021, 210, 110084.	3.3	22
17	Towards ductilization of high strength 7XXX aluminium alloys via microstructural modifications obtained by friction stir processing and heat treatments. Materialia, 2021, 20, 101248.	1.3	9
18	Influence on microstructure, strength and ductility of build platform temperature during laser powder bed fusion of AlSi10Mg. Acta Materialia, 2020, 201, 231-243.	3.8	111

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19	Comparison of residual stresses obtained by the crack compliance method for parts produced by different metal additive manufacturing techniques and after friction stir processing. Additive Manufacturing, 2020, 36, 101499.	1.7	20
20	Manufacturing high strength aluminum matrix composites by friction stir processing: An innovative approach. Journal of Materials Processing Technology, 2020, 283, 116722.	3.1	20
21	Unveiling the impact of the effective particles distribution on strengthening mechanisms: A multiscale characterization of Mg+Y2O3 nanocomposites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 764, 138170.	2.6	14
22	Damage mechanisms in selective laser melted AlSi10Mg under as built and different post-treatment conditions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 764, 138210.	2.6	94
23	Fostering crack deviation via local internal stresses in Al/NiTi composites and its correlation with fracture toughness. Composites Part A: Applied Science and Manufacturing, 2019, 126, 105617.	3.8	13
24	Ductilisation and fatigue life enhancement of selective laser melted AlSi10Mg by friction stir processing. Scripta Materialia, 2019, 170, 124-128.	2.6	45
25	On the interplay between intermetallic controlled growth and hot tearing susceptibility in Al-to-steel welding with additional interlayers. Materials and Design, 2019, 180, 107958.	3.3	10
26	Inverse prediction of local interface temperature during electromagnetic pulse welding via precipitate kinetics. Materials Letters, 2019, 249, 177-179.	1.3	10
27	A new physical simulation tool to predict the interface of dissimilar aluminum to steel welds performed by friction melt bonding. Journal of Materials Science and Technology, 2019, 35, 2048-2057.	5.6	15
28	Friction Stir Processing forÂArchitectured Materials. Springer Series in Materials Science, 2019, , 195-229.	0.4	2
29	Ductilization of selective laser melted Ti6Al4V alloy by friction stir processing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 755, 85-96.	2.6	21
30	Residual stresses of friction melt bonded aluminum/steel joints determined by neutron diffraction. Journal of Materials Processing Technology, 2019, 266, 651-661.	3.1	11
31	Enhancement of toughness of Al-to-steel Friction Melt Bonded welds via metallic interlayers. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 740-741, 274-284.	2.6	17
32	On the Prediction of Hot Tearing in Al-to-Steel Welding by Friction Melt Bonding. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 2692-2704.	1.1	5
33	Quantitative assessment of the impact of second phase particle arrangement on damage and fracture anisotropy. Acta Materialia, 2018, 148, 456-466.	3.8	46
34	Mean-field model analysis of deformation and damage in friction stir processed Mg-C composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 723, 324-333.	2.6	12
35	Compression behavior of lattice structures produced by selective laser melting: X-ray tomography based experimental and finite element approaches. Acta Materialia, 2018, 159, 395-407.	3.8	144
36	Ductilization of aluminium alloy 6056 by friction stir processing. Acta Materialia, 2017, 130, 121-136.	3.8	78

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37	Effect of strut orientation on the microstructure heterogeneities in AlSi10Mg lattices processed by selective laser melting. Scripta Materialia, 2017, 141, 32-35.	2.6	100
38	State of the art about dissimilar metal friction stir welding. Science and Technology of Welding and Joining, 2017, 22, 389-403.	1.5	84
39	Heterogeneities in local plastic flow behavior in a dissimilar weld between low-alloy steel and stainless steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 667, 156-170.	2.6	19
40	A review about Friction Stir Welding of metal matrix composites. Materials Characterization, 2016, 120, 1-17.	1.9	90
41	Characterization and micromechanical modelling of microstructural heterogeneity effects on ductile fracture of 6xxx aluminium alloys. Acta Materialia, 2016, 103, 558-572.	3.8	66
42	Influence of fibre distribution and grain size on the mechanical behaviour of friction stir processed Mgâ€“C composites. Materials Characterization, 2015, 107, 125-133.	1.9	23
43	Effect of High Frequency Pulsing on the Interfacial Structure of Anodized Aluminium-TiO₂. Journal of the Electrochemical Society, 2015, 162, C303-C310.	1.3	12
44	Modelling thermal cycles and intermetallic growth during friction melt bonding of ULC steel to aluminium alloy 2024-T3. Science and Technology of Welding and Joining, 2015, 20, 319-324.	1.5	13
45	High frequency anodising of aluminiumâ€“TiO2 surface composites: Anodising behaviour and optical appearance. Surface and Coatings Technology, 2015, 277, 67-73.	2.2	13
46	Friction stir processed Alâ€“TiO2 surface composites: Anodising behaviour and optical appearance. Applied Surface Science, 2015, 324, 554-562.	3.1	26
47	Thermal conductivity in yttria dispersed copper. Materials & Design, 2015, 65, 869-877.	5.1	17
48	Heterogenous void growth revealed by in situ 3-D X-ray microtomography using automatic cavity tracking. Acta Materialia, 2014, 63, 130-139.	3.8	56
49	On the joining of steel and aluminium by means of a new friction melt bonding process. Scripta Materialia, 2014, 77, 25-28.	2.6	50
50	Characterization of oxide dispersion strengthened copper based materials developed by friction stir processing. Materials & Design, 2014, 60, 343-357.	5.1	82
51	The effect of hardening laws and thermal softening on modeling residual stresses in FSW of aluminum alloy 2024-T3. Journal of Materials Processing Technology, 2013, 213, 477-486.	3.1	83
52	Torque, temperature and hardening precipitation evolution in dissimilar friction stir welds between 6061-T6 and 2014-T6 aluminum alloys. Journal of Materials Processing Technology, 2013, 213, 826-837.	3.1	70
53	Fracture and mechanical properties of friction stir spot welds in 6063-T6 aluminum alloy. International Journal of Advanced Manufacturing Technology, 2012, 62, 569-575.	1.5	27
54	Integrated modeling of friction stir welding of 6xxx series Al alloys: Process, microstructure and properties. Progress in Materials Science, 2012, 57, 95-183.	16.0	239

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55	Molecular dynamics simulations of dislocation interaction with voids in nickel. Computational Materials Science, 2011, 50, 1811-1817.	1.4	48
56	Residual stresses in aluminium alloy friction stir welds. International Journal of Advanced Manufacturing Technology, 2011, 56, 493-504.	1.5	54
57	Microstructure-based modelling of isotropic and kinematic strain hardening in a precipitation-hardened aluminium alloy. Acta Materialia, 2011, 59, 3621-3635.	3.8	216
58	A simple Eulerian thermomechanical modeling of friction stir welding. Journal of Materials Processing Technology, 2011, 211, 57-65.	3.1	73
59	Dissimilar Friction Stir Welding of 2014 to 6061 Aluminum Alloys. Advanced Materials Research, 2011, 409, 269-274.	0.3	6
60	Micro-mechanical modelling of ductile failure in 6005A aluminium using a physics based strain hardening law including stage IV. Engineering Fracture Mechanics, 2010, 77, 2491-2503.	2.0	39
61	Multiscale modeling of ductile failure in metallic alloys. Comptes Rendus Physique, 2010, 11, 326-345.	0.3	52
62	Modelling of plastic flow localisation and damage development in friction stir welded 6005A aluminium alloy using physics based strain hardening law. International Journal of Solids and Structures, 2010, 47, 2359-2370.	1.3	50
63	Strain Hardening and Damage in 6xxx Series Aluminum Alloy Friction Stir Welds. Materials Science Forum, 2010, 638-642, 333-338.	0.3	3
64	Comparing similar and dissimilar friction stir welds of 2017â€“6005A aluminium alloys. Science and Technology of Welding and Joining, 2010, 15, 254-259.	1.5	30
65	Microstructure, local and global mechanical properties of friction stir welds in aluminium alloy 6005A-T6. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 486, 85-95.	2.6	148
66	Effect of rotational material flow on temperature distribution in friction stir welds. Science and Technology of Welding and Joining, 2007, 12, 324-333.	1.5	34
67	Sequential modeling of local precipitation, strength and strain hardening in friction stir welds of an aluminum alloy 6005A-T6. Acta Materialia, 2007, 55, 6133-6143.	3.8	198
68	Multiscale Analysis of the Strength and Ductility of AA 6056 Aluminum Friction Stir Welds. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 964-981.	1.1	65
69	Effect of boundary conditions and heat source distribution on temperature distribution in friction stir welding. Science and Technology of Welding and Joining, 2006, 11, 170-177.	1.5	51
70	Finite Element Modelling of Friction Stir Welding of Aluminium Alloy Plates-Inverse Analysis using a Genetic Algorithm. Welding in the World, Le Soudage Dans Le Monde, 2005, 49, 47-55.	1.3	14