A P Gerlich

List of Publications by Year
in descending order

106 papers	4,405 citations	117625 34 h-index	123424 61 g-index
106 all docs	106 docs citations	106 times ranked	2536 citing authors

#	Article	IF	Citations
1	Friction stir welding/processing of metals and alloys: A comprehensive review on microstructural evolution. Progress in Materials Science, 2021, 117, 100752.	32.8	436
2	Effect of real-time cooling rate on microstructure in Laser Additive Manufacturing. Journal of Materials Processing Technology, 2016, 231, 468-478.	6.3	242
3	Joint formation in dissimilar Al alloy/steel and Mg alloy/steel friction stir spot welds. Science and Technology of Welding and Joining, 2009, 14, 500-508.	3.1	156
4	Stir zone microstructure and strain rate during Al 7075-T6 friction stir spot welding. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 2773-2786.	2.2	145
5	Resistance and friction stir spot welding of DP600: a comparative study. Science and Technology of Welding and Joining, 2007, 12, 175-182.	3.1	140
6	Intermixing in Dissimilar Friction Stir Spot Welds. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 584-595.	2.2	136
7	Distribution and stability of carbon nanotubes during multi-pass friction stir processing of carbon nanotube/aluminum composites. Carbon, 2012, 50, 4744-4749.	10.3	132
8	Peak temperatures and microstructures in aluminium and magnesium alloy friction stir spot welds. Science and Technology of Welding and Joining, 2005, 10, 647-652.	3.1	117
9	Advances in friction stir spot welding. Critical Reviews in Solid State and Materials Sciences, 2020, 45, 457-534.	12.3	110
10	Tool penetration during friction stir spot welding of Al and Mg alloys. Journal of Materials Science, 2005, 40, 6473-6481.	3.7	109
11	Review of research progress on aluminiumâ€“magnesium dissimilar friction stir welding. Science and Technology of Welding and Joining, 2018, 23, 256-270.	3.1	103
12	Real-time control of microstructure in laser additive manufacturing. International Journal of Advanced Manufacturing Technology, 2016, 82, 1173-1186.	3.0	95
13	Influence of martensite-austenite (MA) on impact toughness of X80 line pipe steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 662, 481-491.	5.6	93
14	Energy utilisation and generation during friction stir spot welding. Science and Technology of Welding and Joining, 2006, 11, 163-169.	3.1	89
15	Constants for hot deformation constitutive models for recent experimental data. Science and Technology of Welding and Joining, 2010, 15, 260-266.	3.1	82
16	Strain Rates and Grain Growth in Al 5754 and Al 6061 Friction Stir Spot Welds. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 1291-1302.	2.2	79
17	Effect of welding parameters on the strain rate and microstructure of friction stir spot welded 2024 aluminum alloy. Journal of Materials Science, 2007, 42, 5589-5601.	3.7	69
18	Reactive friction stir processing of AA 5052â€“TiO₂ nanocomposite: processâ€“microstructureâ€“mechanical characteristics. Materials Science and Technology, 2015, 31, 426-435.	1.6	69

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19	Room-temperature pressureless bonding with silver nanowire paste: towards organic electronic and heat-sensitive functional devices packaging. Journal of Materials Chemistry, 2012, 22, 12997.	6.7	66
20	Fusion zone microstructure evolution of fiber laser welded press-hardened steels. Scripta Materialia, 2016, 121, 18-22.	5.2	63
21	The role of tool offset on the microstructure and mechanical properties of Al/Cu friction stir welded joints. Journal of Alloys and Compounds, 2020, 825, 154045.	5.5	62
22	Feasibility study of resistance spot welding of dissimilar Al/Mg combinations with Ni based interlayers. Science and Technology of Welding and Joining, 2013, 18, 541-550.	3.1	59
23	Local melting and tool slippage during friction stir spot welding of Al-alloys. Journal of Materials Science, 2008, 43, 2-11.	3.7	56
24	Microstructures and properties of Mg alloy/DP600 steel dissimilar refill friction stir spot welds. Science and Technology of Welding and Joining, 2015, 20, 494-501.	3.1	56
25	Influence of processing parameters on microstructure and mechanical performance of refill friction stir spot welded 7075-T6 aluminium alloy. Science and Technology of Welding and Joining, 2015, 20, 48-57.	3.1	54
26	Fabrication of an aluminumâ€“carbon nanotube metal matrix composite by accumulative roll-bonding. Journal of Materials Science, 2011, 46, 409-415.	3.7	53
27	Reinforcement of Ag nanoparticle paste with nanowires for low temperature pressureless bonding. Journal of Materials Science, 2012, 47, 6801-6811.	3.7	51
28	Interfacial bonding mechanisms between aluminum and titanium during cold gas spraying followed by friction-stir modification. Applied Surface Science, 2018, 462, 739-752.	6.1	46
29	Effect of beam wobbling on laser welding of aluminum and magnesium alloy with nickel interlayer. Journal of Manufacturing Processes, 2019, 37, 212-219.	5.9	46
30	Cracking in the stir zones of Mg-alloy friction stir spot welds. Journal of Materials Science, 2007, 42, 7657-7666.	3.7	42
31	Influence of hard inclusions on microstructural characteristics and textural components during dissimilar friction-stir welding of an PM Alâ€“Al₂O₃â€“SiC hybrid nanocomposite with AA1050 alloy. Science and Technology of Welding and Joining, 2017, 22, 412-427.	3.1	38
32	Local melting and cracking in Al 7075-T6 and Al 2024-T3 friction stir spot welds. Science and Technology of Welding and Joining, 2007, 12, 472-480.	3.1	37
33	Interfacial heating during low-pressure cold-gas dynamic spraying of aluminum coatings. Journal of Materials Science, 2012, 47, 184-198.	3.7	37
34	Friction Stir Spot Welding of Aluminum and Magnesium Alloy Sheets. , 0, , .		35
35	Tool design and stir zone grain size in AZ31 friction stir spot welds. Science and Technology of Welding and Joining, 2009, 14, 747-752.	3.1	34
36	Design guideline for intermetallic compound mitigation in Al-Mg dissimilar welding through addition of interlayer. International Journal of Advanced Manufacturing Technology, 2018, 94, 2667-2678.	3.0	34

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37	Closed-loop control of microstructure and mechanical properties in additive manufacturing by directed energy deposition. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 803, 140483.	5.6	34
38	Mechanism of cracking in AZ91 friction stir spot welds. Science and Technology of Welding and Joining, 2007, 12, 208-216.	3.1	33
39	Functionalization of silver nanowire surfaces with copper oxide for surface-enhanced Raman spectroscopic bio-sensing. Journal of Materials Chemistry, 2012, 22, 15495.	6.7	33
40	Microstructure, static and fatigue properties of refill friction stir spot welded 7075-T6 aluminium alloy using a modified tool. Science and Technology of Welding and Joining, 2019, 24, 587-600.	3.1	33
41	On the correlation between indentation hardness and tensile strength in friction stir processed materials. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 789, 139682.	5.6	33
42	Grain Growth Behavior and Hallâ€"Petch Strengthening in Friction Stir Processed Al 5059. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 5635-5644.	2.2	31
43	Critical Assessment 25: Friction stir processing, potential and problems. Materials Science and Technology, 2017, 33, 1139-1144.	1.6	31
44	Monte Carlo simulation of grain refinement during friction stir processing. Journal of Materials Science, 2020, 55, 13438-13456.	3.7	31
45	Cracking in dissimilar Mg alloy friction stir spot welds. Science and Technology of Welding and Joining, 2008, 13, 583-592.	3.1	30
46	Role of interfacial reaction on the mechanical performance of Al/steel dissimilar refill friction stir spot welds. Science and Technology of Welding and Joining, 2018, 23, 462-477.	3.1	30
47	Effect of martensite-austenite (MA) distribution on mechanical properties of inter-critical Reheated Coarse Grain heat affected zone in X80 linepipe steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 765, 138301.	5.6	29
48	Fabrication of a nanostructured high strength steel tube by friction-forging tubular additive manufacturing (FFTAM) technology. Journal of Manufacturing Processes, 2020, 58, 724-735.	5.9	29
49	Textures in Single-Crystal Aluminum Friction Stir Spot Welds. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 920-931.	2.2	28
50	Pulse profile and metal transfer in pulsed gas metal arc welding: droplet formation, detachment and velocity. Science and Technology of Welding and Joining, 2017, 22, 627-641.	3.1	28
51	Failure analysis of tool used in refill friction stir spot welding of Al 2099 alloy. Engineering Failure Analysis, 2018, 84, 25-33.	4.0	28
52	Enhancing metallurgical and mechanical properties of friction stir butt welded joints of Alâ€"Cu via cold sprayed Ni interlayer. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 809, 140992.	5.6	28
53	Dissimilar friction stir welding of thick plate AA5052-AA6061 aluminum alloys: effects of material positioning and tool eccentricity. International Journal of Advanced Manufacturing Technology, 2019, 105, 889-904.	3.0	27
54	Surface Modification of a Cold Gas Dynamic Spray-Deposited Titanium Coating on Aluminum Alloy by using Friction-Stir Processing. Journal of Thermal Spray Technology, 2019, 28, 1185-1198.	3.1	26

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55	Formation and retention of local melted films in AZ91 friction stir spot welds. Journal of Materials Science, 2007, 42, 9954-9965.	3.7	25
56	Dynamic restoration and crystallographic texture of a friction-stir processed Alâ€“Mgâ€“SiC surface nanocomposite. Materials Science and Technology, 2018, 34, 1773-1791.	1.6	24
57	Energy Generation and Stir Zone Dimensions in Friction Stir Spot Welds. , 0, , .		23
58	Analysis of tool geometry in dissimilar Al alloy friction stir welds using optical microscopy and serial sectioning. Science and Technology of Welding and Joining, 2013, 18, 307-313.	3.1	23
59	Tool eccentricity in friction stir welding: a comprehensive review. Science and Technology of Welding and Joining, 2019, 24, 566-578.	3.1	23
60	Mechanism of Secondary Hardening in Rapid Tempering of Dual-Phase Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 6153-6162.	2.2	22
61	Influence of CNTs decomposition during reactive frictionâ€stir processing of an Alâ€“Mg alloy on the correlation between microstructural characteristics and microtextural components. Journal of Microscopy, 2018, 271, 188-206.	1.8	22
62	Liquid film formation and cracking during friction stir welding. Science and Technology of Welding and Joining, 2011, 16, 295-299.	3.1	20
63	Correlation Between Experimental and Calculated Phase Fractions in Aged 20Cr32Ni1Nb Austenitic Stainless Steels Containing Nitrogen. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 627-639.	2.2	20
64	Enhanced strength and ductility in dissimilar friction stir butt welded Al/Cu joints by addition of a cold-spray Ni interlayer. Journal of Manufacturing Processes, 2020, 60, 573-577.	5.9	20
65	Continuous cooling transformation behaviour and toughness of heat-affected zones in an X80 line pipe steel. Journal of Materials Research and Technology, 2021, 12, 613-628.	5.8	20
66	Refill Friction Stir Spot Welding Al Alloy to Copper via Pure Metallurgical Joining Mechanism. Chinese Journal of Mechanical Engineering (English Edition), 2021, 34, .	3.7	20
67	Application of Cold Wire Gas Metal Arc Welding for Narrow Gap Welding (NGW) of High Strength Low Alloy Steel. Materials, 2019, 12, 335.	2.9	19
68	Assessing residual stresses in friction stir welding: neutron diffraction and nanoindentation methods. International Journal of Advanced Manufacturing Technology, 2017, 93, 3733-3747.	3.0	19
69	Calculation of welding tool pin width for friction stir welding of thin overlapping sheets. International Journal of Advanced Manufacturing Technology, 2018, 98, 1721-1731.	3.0	18
70	High frequency pulsed gas metal arc welding (GMAW-P): The metal beam process. Manufacturing Letters, 2017, 11, 1-4.	2.2	17
71	Fatigue life assessment of weld joints manufactured by GMAW and CW-GMAW processes. Science and Technology of Welding and Joining, 2017, 22, 87-96.	3.1	16
72	Cracking and Local Melting in Mg-Alloy and Al-Alloy During Friction Stir Spot Welding. Welding in the World, Le Soudage Dans Le Monde, 2008, 52, 38-46.	2.5	15

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73	Texture Analyses of Ti/Al2O3 Nanocomposite Produced Using Friction Stir Processing. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5618-5629.	2.2	15
74	Study of MA Effect on Yield Strength and Ductility of X80 Linepipe Steels Weld. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 4166-4179.	2.2	15
75	On the Visualization of Gas Metal Arc Welding Plasma and the Relationship Between Arc Length and Voltage. Applied Sciences (Switzerland), 2017, 7, 503.	2.5	15
76	Investigation of local tensile strength and ductility properties of an X100 submerged arc seam weld. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 768, 138475.	5.6	15
77	Feasibility of narrow gap welding using the cold-wire gas metal arc welding (CW-GMAW) process. Welding in the World, Le Soudage Dans Le Monde, 2017, 61, 659-666.	2.5	14
78	Stability of ultra-fine and nano-grains after severe plastic deformation: a critical review. Journal of Materials Science, 2021, 56, 15513-15537.	3.7	13
79	Selection of Welding Parameter during Friction Stir Spot Welding. SAE International Journal of Materials and Manufacturing, 0, 1, 1-8.	0.3	12
80	Printability and microstructural evolution of Ti-5553 alloy fabricated by modulated laser powder bed fusion. International Journal of Advanced Manufacturing Technology, 2019, 103, 4399-4409.	3.0	11
81	Friction stir welding of co-cast aluminium clad sheet. Science and Technology of Welding and Joining, 2014, 19, 9-14.	3.1	9
82	Multi-variable statistical models for predicting bead geometry in gas metal arc welding. International Journal of Advanced Manufacturing Technology, 2019, 105, 1573-1584.	3.0	9
83	Strain localisation and failure of dissimilar magnesium-based alloy friction stir welds. Science and Technology of Welding and Joining, 2018, 23, 628-634.	3.1	8
84	Influence of magnesium AZ80 friction stir weld texture on tensile strain localisation. Materials Science and Technology, 2017, 33, 189-199.	1.6	7
85	An overview on the cold wire pulsed gas metal arc welding. Welding in the World, Le Soudage Dans Le Monde, 2020, 64, 123-140.	2.5	7
86	Effect of non-lamellar Î± precipitate morphology on the mechanical properties of Ti5553 parts made by laser powder-bed fusion at high laser scan speeds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 841, 143039.	5.6	7
87	Evolution of process parameters in friction stir welding of AA6061 aluminum alloy by varying tool eccentricity. International Journal of Advanced Manufacturing Technology, 2020, 109, 1601-1612.	3.0	6
88	Characterization of Anisotropy of Strength in API-X80 Line Pipe Welds Through Instrumented Indentation. Metallography, Microstructure, and Analysis, 2020, 9, 884-894.	1.0	6
89	Welding thermal efficiency in cold wire gas metal arc welding. Welding in the World, Le Soudage Dans Le Monde, 2021, 65, 1079-1095.	2.5	6
90	Interfacial Bonding and Mechanical Properties of Al/Mg Dissimilar Refill Friction Stir Spot Welds Using a Grooved Tool. Crystals, 2021, 11, 429.	2.2	6

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91	Liquid Penetration Induced Cracking in Mg-Alloy Spot Welds. Materials Science Forum, 2008, 580-582, 409-412.	0.3	5
92	Effect of microstructure on liquation cracking during AZ91 friction stir spot welding. Science and Technology of Welding and Joining, 2010, 15, 671-675.	3.1	5
93	Temper-treatment development to decompose detrimental martensiteâ€“austenite and its effect on linepipe welds. Materials Science and Technology, 2017, 33, 1978-1992.	1.6	5
94	The Effect of Second Phase Particle Dissolution on the Corrosion of Friction Stir Spot Welded AZ31B. Journal of the Electrochemical Society, 2018, 165, C794-C806.	2.9	5
95	A Study on Sulfide Stress Cracking Susceptibility of GMA Girth Welds in X80 Grade Pipes. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 249-256.	2.2	4
96	Evolution of Transient Nature Nanoscale Softening During Martensite Tempering. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 3772-3777.	2.2	4
97	A preliminary study on the double cold wire gas metal arc welding process. International Journal of Advanced Manufacturing Technology, 2020, 106, 5393-5405.	3.0	4
98	Tailoring by Direct Contact Heating During Hot Forming/Die Quenching. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 3705-3713.	2.2	3
99	Suppression of arc wandering during cold wire-assisted pulsed gas metal arc welding. Welding in the World, Le Soudage Dans Le Monde, 2021, 65, 1749-1758.	2.5	3
100	High-Resolution Residual Stress Mapping of Magnesium AZ80 Friction Stir Welds for Three Processing Conditions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 1195-1207.	2.2	2
101	Local Melting and Cracking during Friction Stir Spot Welding on Mg-Al binary Alloy. Yosetsu Gakkai Ronbunshu/Quarterly Journal of the Japan Welding Society, 2009, 27, 94s-98s.	0.5	2
102	Effect of beam wobbling on microstructure and hardness during laser welding of X70 pipeline steel. Science and Technology of Welding and Joining, 2022, 27, 326-338.	3.1	2
103	Comparison of nozzle gas shielding techniques for laser cladding of zirconium. , 2015, , .		1
104	Effects of intermetallic particles on cavitation during superplastic forming of aluminium alloy. Materials Science and Technology, 2019, 35, 1428-1435.	1.6	0
105	Interlayer Characterization and Properties Evaluation of Zirconium and 304-Stainless Steel Rotary Friction Weld Joints. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2022, 53, 1590-1596.	2.2	0
106	Joining of Zirconium Alloys to Nickel Bearing Alloys for In-Core Components. Journal of Nuclear Engineering and Radiation Science, 2022, , .	0.4	0