

# Andrew John Pinkerton

## List of Publications by Year in descending order

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93  
papers

3,604  
citations

126858

33  
h-index

143943

57  
g-index

95  
all docs

95  
docs citations

95  
times ranked

2459  
citing authors

#	ARTICLE	IF	CITATIONS
1	Parametric study of development of Inconel-steel functionally graded materials by laser direct metal deposition. <i>Materials &amp; Design</i> , 2014, 54, 531-538.	5.1	194
2	Fibre laser welding of dissimilar alloys of Ti-6Al-4V and Inconel 718 for aerospace applications. <i>International Journal of Advanced Manufacturing Technology</i> , 2011, 52, 977-987.	1.5	176
3	Modelling the geometry of a moving laser melt pool and deposition track via energy and mass balances. <i>Journal Physics D: Applied Physics</i> , 2004, 37, 1885-1895.	1.3	169
4	[INVITED] Lasers in additive manufacturing. <i>Optics and Laser Technology</i> , 2016, 78, 25-32.	2.2	156
5	A comparative study of wire feeding and powder feeding in direct diode laser deposition for rapid prototyping. <i>Applied Surface Science</i> , 2005, 247, 268-276.	3.1	155
6	Residual stresses in laser direct metal deposited Waspaloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 528, 2288-2298.	2.6	149
7	Component repair using laser direct metal deposition. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , 2008, 222, 827-836.	1.5	129
8	A comparative study of laser direct metal deposition characteristics using gas and plasma-atomized Ti-6Al-4V powders. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 528, 7648-7657.	2.6	129
9	Advances in the modeling of laser direct metal deposition. <i>Journal of Laser Applications</i> , 2015, 27, .	0.8	121
10	Modelling Powder Concentration Distribution From a Coaxial Deposition Nozzle for Laser-Based Rapid Tooling. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2004, 126, 33-41.	1.3	116
11	An analytical model of beam attenuation and powder heating during coaxial laser direct metal deposition. <i>Journal Physics D: Applied Physics</i> , 2007, 40, 7323-7334.	1.3	111
12	Combining wire and coaxial powder feeding in laser direct metal deposition for rapid prototyping. <i>Applied Surface Science</i> , 2006, 252, 4803-4808.	3.1	108
13	Effect of beam angle on HAZ, recast and oxide layer characteristics in laser drilling of TBC nickel superalloys. <i>International Journal of Machine Tools and Manufacture</i> , 2006, 46, 1972-1982.	6.2	108
14	Gap-free fibre laser welding of Zn-coated steel on Al alloy for light-weight automotive applications. <i>Materials &amp; Design</i> , 2011, 32, 495-504.	5.1	101
15	Effects of Melt Pool Variables and Process Parameters in Laser Direct Metal Deposition of Aerospace Alloys. <i>Materials and Manufacturing Processes</i> , 2010, 25, 1372-1380.	2.7	97
16	Microstructure characterisation and process optimization of laser assisted rapid fabrication of 316L stainless steel. <i>Applied Surface Science</i> , 2005, 247, 320-327.	3.1	94
17	Direct additive laser manufacturing using gas- and water-atomised H13 tool steel powders. <i>International Journal of Advanced Manufacturing Technology</i> , 2005, 25, 471-479.	1.5	87
18	Mechanical and electrochemical properties of multiple-layer diode laser cladding of 316L stainless steel. <i>Applied Surface Science</i> , 2005, 247, 373-377.	3.1	83

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19	Crystallographic texture and microstructure of pulsed diode laser-deposited Waspaloy. <i>Acta Materialia</i> , 2009, 57, 1220-1229.	3.8	70
20	An analytical model of energy distribution in laser direct metal deposition. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , 2004, 218, 363-374.	1.5	68
21	Microcomputed tomography analysis of intralayer porosity generation in laser direct metal deposition and its causes. <i>Journal of Laser Applications</i> , 2011, 23, .	0.8	64
22	The effect of laser pulse width on multiple-layer 316L steel clad microstructure and surface finish. <i>Applied Surface Science</i> , 2003, 208-209, 411-416.	3.1	60
23	The significance of deposition point standoff variations in multiple-layer coaxial laser cladding (coaxial cladding standoff effects). <i>International Journal of Machine Tools and Manufacture</i> , 2004, 44, 573-584.	6.2	59
24	An investigation of the effect of pulse frequency in laser multiple-layer cladding of stainless steel. <i>Applied Surface Science</i> , 2003, 208-209, 405-410.	3.1	56
25	Porous structures fabrication by continuous and pulsed laser metal deposition for biomedical applications; modelling and experimental investigation. <i>Journal of Materials Processing Technology</i> , 2011, 211, 602-609.	3.1	56
26	An anisotropic enhanced thermal conductivity approach for modelling laser melt pools for Ni-base super alloys. <i>Applied Mathematical Modelling</i> , 2013, 37, 1187-1195.	2.2	56
27	Multiple-layer cladding of stainless steel using a high-powered diode laser: an experimental investigation of the process characteristics and material properties. <i>Thin Solid Films</i> , 2004, 453-454, 471-476.	0.8	47
28	An analyticalâ€“numerical model of laser direct metal deposition track and microstructure formation. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2011, 19, 055003.	0.8	47
29	Laser surface colouring of titanium for contemporary jewellery. <i>Surface Engineering</i> , 2008, 24, 147-153.	1.1	46
30	A CFD model of the laser, coaxial powder stream and substrate interaction in laser cladding. <i>Physics Procedia</i> , 2010, 5, 337-346.	1.2	41
31	Thermal and microstructural aspects of the laser direct metal deposition of waspaloy. <i>Journal of Laser Applications</i> , 2006, 18, 216-226.	0.8	39
32	Combined vibration and thermal analysis for the condition monitoring of rotating machinery. <i>Structural Health Monitoring</i> , 2014, 13, 281-295.	4.3	38
33	Multiple-layer laser deposition of steel components using gas- and water-atomised powders: the differences and the mechanisms leading to them. <i>Applied Surface Science</i> , 2005, 247, 175-181.	3.1	34
34	Coupled Computational Fluid Dynamic and Finite Element Multiphase Modeling of Laser Weld Bead Geometry Formation and Joint Strengths. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2013, 135, .	1.3	34
35	Numerical investigation of powder heating in coaxial laser metal deposition. <i>Surface Engineering</i> , 2011, 27, 754-761.	1.1	30
36	The development of temperature fields and powder flow during laser direct metal deposition wall growth. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2004, 218, 531-541.	1.1	29

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37	Direct laser deposition with different types of 316L steel particle: A comparative study of final part properties. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2013, 227, 520-531.	1.5	29
38	Rapid prototyping using direct laser deposition—the effect of powder atomization type and flowrate. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2003, 217, 741-752.	1.5	27
39	Effects of Powder Geometry and Composition in Coaxial Laser Deposition of 316L Steel for Rapid Prototyping. CIRP Annals - Manufacturing Technology, 2003, 52, 181-184.	1.7	25
40	Simultaneous wire- and powder-feed direct metal deposition: An investigation of the process characteristics and comparison with single-feed methods. Journal of Laser Applications, 2006, 18, 65-72.	0.8	24
41	Coincident wire and powder deposition by laser to form compositionally graded material. Surface and Coatings Technology, 2007, 201, 7083-7091.	2.2	24
42	Single-step laser deposition of functionally graded coating by dual “wire” powder™ or “powder” powder™ feeding—A comparative study. Applied Surface Science, 2007, 253, 7926-7931.	3.1	24
43	Rapid additive manufacturing of functionally graded structures using simultaneous wire and powder laser deposition. Virtual and Physical Prototyping, 2006, 1, 217-225.	5.3	22
44	The Effect of Laser Beam Geometry on Cut Path Deviation in Diode Laser Chip-Free Cutting of Glass. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2010, 132, .	1.3	21
45	Innovative reconsolidation of carbon steel machining swarf by laser metal deposition. Optics and Lasers in Engineering, 2011, 49, 240-247.	2.0	18
46	A verified model of the behaviour of the axial powder stream concentration from a coaxial laser cladding nozzle. , 2002, , .		17
47	The behaviour of water- and gas-atomised tool steel powders in coaxial laser freeform fabrication. Thin Solid Films, 2004, 453-454, 600-605.	0.8	17
48	Laser surface modification using Inconel 617 machining swarf as coating material. Journal of Materials Processing Technology, 2012, 212, 1271-1280.	3.1	17
49	The effect of continuous and pulsed beam modes on cut path deviation in diode laser cutting of glass. International Journal of Advanced Manufacturing Technology, 2010, 49, 167-175.	1.5	16
50	A CFD model of laser cladding: From deposition head to melt pool dynamics. , 2011, , .		11
51	Femtosecond laser micromachining of fibre Bragg gratings for simultaneous measurement of temperature and concentration of liquids. Journal Physics D: Applied Physics, 2008, 41, 185101.	1.3	10
52	Theoretical Analysis of the Coincident Wire-Powder Laser Deposition Process. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2007, 129, 1019-1027.	1.3	9
53	Process characteristics and effects of gas- and water-atomized stainless steel powders in laser-based rapid tooling. Journal of Laser Applications, 2003, 15, 172-178.	0.8	8
54	An experimental and theoretical investigation of combined gas- and water-atomized powder deposition with a diode laser. Journal of Laser Applications, 2006, 18, 73-80.	0.8	8

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55	A verified model of laser direct metal deposition using an analytical enthalpy balance method. , 2007, , .		7
56	Vibration-Based Delamination Detection in a Composite Plate. Mechanics of Advanced Materials and Structures, 2013, 20, 536-551.	1.5	6
57	Combined wire and powder feeding laser direct metal deposition for rapid prototyping. , 2004, , .		5
58	Three dimensional analytical and finite element methods for simulating a moving melt pool with mass addition. , 2008, , .		5
59	A gas-free powder delivery system for 100% deposition efficiency in direct laser deposition. , 2008, , .		5
60	Technology vision. Surface Engineering, 2009, 25, 177-179.	1.1	5
61	Laser clad corrosion protection for mild and harsh environments. Surface Engineering, 2012, 28, 576-584.	1.1	5
62	The effect of process parameters on residual stresses within an inconel 718 part produced by the direct laser deposition process. , 2005, , .		4
63	An anisotropic enhanced thermal conductivity approach for modelling laser melt pools. , 2007, , .		4
64	A method and model for deposition of Ti-6Al-4V with controlled porosity. , 2009, , .		4
65	Laser Metal Deposition of Steel Components using Machining Waste as Build Material. , 2011, , .		3
66	A verified model of transient and residual stresses in laser direct metal deposition. , 2012, , .		3
67	A Coupled Approach to Weld Pool, Phase and Residual Stress Modelling of Laser Direct Metal Deposition (LDMD) Processes. , 0, , 231-236.		3
68	Fibre laser welding of Zn-coated steel on Al alloy for next generation lightweight vehicles. , 2009, , .		3
69	Fibre laser net-shape welding of steels. , 2009, , .		3
70	A comparative study of multiple layer laser deposition using water and gas atomised 316L stainless steel powders. , 2002, , .		2
71	Direct diode laser deposition of functionally graded Ti-6Al-4V and inconel 718 components. , 2008, , .		2
72	A Coupled Approach to Weld Pool, Phase and Residual Stress Modelling of Laser Direct Metal Deposition (LDMD) Processes. , 2013, , 231-236.		2

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73	The effect of diode laser beam shape and traverse direction on the direct metal deposition process. , 2003, , .		1
74	Single-step graded surface coating using combined wire and powder feeding laser cladding. , 2005, , .		1
75	Explaining microstructural and physical variations in rapid additive manufactured waspaloy parts through the laser-deposition thermal cycle. , 2005, , .		1
76	Diode laser metal deposition: The effect of pulsed beam parameters on superalloy microstructure and deposit morphology. , 2006, , .		1
77	Direct laser deposited titanium with controlled porosity for bone tissue engineering. , 2008, , .		1
78	The significance of melt pool variables in laser direct deposition of functionally graded aerospace alloys. , 2009, , .		1
79	A numerical investigation of powder heating in coaxial laser metal deposition. , 2010, , 455-458.		1
80	Diode laser deposition of microstructurally graded components using gas- and water-atomised powder blends. , 2004, , .		1
81	Single mode fibre laser welding of dissimilar aerospace alloys. , 2008, , .		1
82	Material-efficient laser cladding for corrosion resistance. , 2011, , .		1
83	An analytical model of the combined powder-wire deposition process. , 2006, , .		0
84	A comparative study of single mode fibre laser and Nd:YAG laser welding of Ti-6Al-4V. , 2008, , .		0
85	Oxide formation in acute laser percussion drilled holes in single crystal nickel superalloy. , 2009, , .		0
86	An iterative, energy-mass balance model for laser metal deposition. , 2010, , .		0
87	X-ray analysis of pore formation in direct metal deposition and its causes. , 2010, , .		0
88	Laser direct deposition of carbon steel machining waste. , 2010, , .		0
89	Guest Editorial: The 36th MATADOR Conference 2010. Materials and Manufacturing Processes, 2012, 27, 363-363.	2.7	0
90	Analysis and simulation of the effects of the melt pool flow during laser deposition of a multiphase material. , 2012, , .		0

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91	A comparison of cut path deviation with continuous and pulsed beam modes in diode laser chip-free cutting of glass. , 2009, , .		0
92	Process characteristics of single mode fibre laser net shape welding. , 2010, , .		0
93	Selective laser sintering of calcium polyphosphate - Polyvinyl alcohol for biomedical applications. , 2010, , .		0