

Edward W Reutzel

List of Publications by Year in Descending Order

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Version: 2024-04-20

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

52
papers

1,439
citations

23
h-index

37
g-index

54
ext. papers

1,811
ext. citations

4.4
avg, IF

5.26
L-index

#	Paper	IF	Citations
52	Tailoring alloy 718 laser directed energy deposition process strategies for repair applications. <i>Journal of Laser Applications</i> , 2022 , 34, 012018	2.1	1
51	Correlating in-situ sensor data to defect locations and part quality for additively manufactured parts using machine learning. <i>Journal of Materials Processing Technology</i> , 2022 , 302, 117476	5.3	2
50	Heterogeneous quality characterization and modeling of thin wall structure in additive manufacturing. <i>Additive Manufacturing Letters</i> , 2022 , 3, 100042		0
49	Multi-Modal SeNSor Fusion with Machine Learning for Data-Driven Process Monitoring for Additive Manufacturing. <i>Additive Manufacturing</i> , 2021 , 48, 102364	6.1	3
48	Recurrence network analysis of design-quality interactions in additive manufacturing.. <i>Additive Manufacturing</i> , 2021 , 39, 101861-101861	6.1	1
47	Flaw Identification in Additively Manufactured Parts Using X-ray Computed Tomography and Destructive Serial Sectioning. <i>Journal of Materials Engineering and Performance</i> , 2021 , 30, 4958-4964	1.6	3
46	Toward in-situ flaw detection in laser powder bed fusion additive manufacturing through layerwise imagery and machine learning. <i>Journal of Manufacturing Systems</i> , 2021 , 59, 12-26	9.1	26
45	Six-Sigma Quality Management of Additive Manufacturing. <i>Proceedings of the IEEE</i> , 2021 , 109,	14.3	11
44	A Thermo-Mechanical Analysis of Laser Hot Wire Additive Manufacturing of NAB. <i>Metals</i> , 2021 , 11, 10232.3		2
43	Nonlinear resonance ultrasonic spectroscopy (NRUS) for the quality control of additively manufactured samples. <i>NDT and E International</i> , 2021 , 123, 102495	4.1	1
42	Model-Based Feedforward Control of Part Height in Directed Energy Deposition. <i>Materials</i> , 2021 , 14,	3.5	4
41	Laser glazing of cold sprayed coatings for the mitigation of stress corrosion cracking in light water reactor (LWR) applications. <i>Surface and Coatings Technology</i> , 2020 , 386, 125429	4.4	2
40	Invited Review Article: Review of the formation and impact of flaws in powder bed fusion additive manufacturing. <i>Additive Manufacturing</i> , 2020 , 36, 101457	6.1	24
39	Formation processes for large ejecta and interactions with melt pool formation in powder bed fusion additive manufacturing. <i>Scientific Reports</i> , 2019 , 9, 5038	4.9	38
38	Deep Learning of Variant Geometry in Layerwise Imaging Profiles for Additive Manufacturing Quality Control. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2019 , 141,	3.3	35
37	Design Rules and In-Situ Quality Monitoring of Thin-Wall Features Made Using Laser Powder Bed Fusion 2019 ,		8
36	In Situ Monitoring of Thin-Wall Build Quality in Laser Powder Bed Fusion Using Deep Learning. <i>Smart and Sustainable Manufacturing Systems</i> , 2019 , 3, 20190027	0.8	6

35	Effect of processing conditions on the microstructure, porosity, and mechanical properties of Ti-6Al-4V repair fabricated by directed energy deposition. <i>Journal of Materials Processing Technology</i> , 2019 , 264, 172-181	5.3	68
34	From Design Complexity to Build Quality in Additive Manufacturing—A Sensor-Based Perspective 2019 , 3, 1-4		5
33	Application of supervised machine learning for defect detection during metallic powder bed fusion additive manufacturing using high resolution imaging.. <i>Additive Manufacturing</i> , 2018 , 21, 517-528	6.1	144
32	Design and evaluation of an additively manufactured aircraft heat exchanger. <i>Applied Thermal Engineering</i> , 2018 , 138, 254-263	5.8	51
31	Effect of Substrate Thickness and Preheating on the Distortion of Laser Deposited Ti6Al4V. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2018 , 140,	3.3	26
30	Multi-sensor investigations of optical emissions and their relations to directed energy deposition processes and quality. <i>Additive Manufacturing</i> , 2018 , 21, 333-339	6.1	30
29	Process Mapping and In-Process Monitoring of Porosity in Laser Powder Bed Fusion Using Layerwise Optical Imaging. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2018 , 140,	3.3	58
28	Build Height Control in Directed Energy Deposition Using a Model-Based Feed-Forward Controller 2018 ,		2
27	Layerwise In-Process Quality Monitoring in Laser Powder Bed Fusion 2018 ,		21
26	2018 ,		1
25	Flaw detection in powder bed fusion using optical imaging. <i>Additive Manufacturing</i> , 2017 , 15, 1-11	6.1	60
24	Effect of directed energy deposition processing parameters on laser deposited Inconel 718: External morphology. <i>Journal of Laser Applications</i> , 2017 , 29, 022001	2.1	39
23	Effect of directed energy deposition processing parameters on laser deposited Inconel 718: Microstructure, fusion zone morphology, and hardness. <i>Journal of Laser Applications</i> , 2017 , 29, 022005	2.1	31
22	Physics-Based Multivariable Modeling and Feedback Linearization Control of Melt-Pool Geometry and Temperature in Directed Energy Deposition. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2017 , 139,	3.3	36
21	An Extended Lumped-Parameter Model of Melt-Pool Geometry to Predict Part Height for Directed Energy Deposition. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2017 , 139,	3.3	16
20	Model prediction for deposition height during a direct metal deposition process 2017 ,		1
19	Reduced-order multivariable modeling and nonlinear control of melt-pool geometry and temperature in directed energy deposition 2016 ,		6
18	Predicting Microstructure From Thermal History During Additive Manufacturing for Ti-6Al-4V. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2016 , 138,	3.3	33

17	Sensing for directed energy deposition and powder bed fusion additive manufacturing at Penn State University 2016 ,		5
16	A brief survey of sensing for metal-based powder bed fusion additive manufacturing 2015 ,		10
15	Intra-layer closed-loop control of build plan during directed energy additive manufacturing of Ti6Al4V. <i>Additive Manufacturing</i> , 2015 , 6, 39-52	6.1	45
14	Additive Manufacturing of Ti-6Al-4V Using a Pulsed Laser Beam. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015 , 46, 2781-2789	2.3	24
13	Thermo-mechanical model development and validation of directed energy deposition additive manufacturing of Ti6Al4V. <i>Additive Manufacturing</i> , 2015 , 5, 9-19	6.1	245
12	Employing microsecond pulses to form laser-fired contacts in photovoltaic devices. <i>Progress in Photovoltaics: Research and Applications</i> , 2015 , 23, 1025-1036	6.8	3
11	3D spatial reconstruction of thermal characteristics in directed energy deposition through optical thermal imaging. <i>Journal of Materials Processing Technology</i> , 2015 , 221, 172-186	5.3	31
10	A survey of sensing and control systems for machine and process monitoring of directed-energy, metal-based additive manufacturing. <i>Rapid Prototyping Journal</i> , 2015 , 21, 159-167	3.8	54
9	(Re)Designing for Part Consolidation: Understanding the Challenges of Metal Additive Manufacturing. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2015 , 137,	3	93
8	Compliant articulation structure using superelastic NiTiNOL. <i>Smart Materials and Structures</i> , 2013 , 22, 094018	3.4	23
7	Compliant Articulation Structure Using Superelastic NiTiNOL 2012 ,		1
6	Laser-silicon interaction for selective emitter formation in photovoltaics. II. Model applications. <i>Journal of Applied Physics</i> , 2012 , 112, 114907	2.5	9
5	Design, Manufacturing, and Testing of an Improved Watertight Door for Surface Ships. <i>Naval Engineers Journal</i> , 2010 , 122, 93-103		
4	Beam delivery techniques for laser fired contacts 2010 ,		1
3	A differential geometry approach to analysis of thermal forming. <i>International Journal of Mechanical Sciences</i> , 2006 , 48, 1046-1062	5.5	13
2	Finite element modeling discretization requirements for the laser forming process. <i>International Journal of Mechanical Sciences</i> , 2004 , 46, 623-637	5.5	81
1	Simulation-based design of laser-based free forming process control. <i>Journal of Laser Applications</i> , 2001 , 13, 47-59	2.1	6