Patrice Peyre

List of Publications by Year
in descending order

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110 papers	7,414 citations	57719 44 h-index	56687 83 g-index
111 all docs	111 docs citations	111 times ranked	4379 citing authors

#	Article	IF	Citations
1	Laser shock processing of aluminium alloys. Application to high cycle fatigue behaviour. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1996, 210, 102-113.	2.6	591
2	Shock waves from a water-confined laser-generated plasma. Journal of Applied Physics, 1997, 82, 2826-2832.	1.1	462
3	Physics and applications of laser-shock processing. Journal of Laser Applications, 1998, 10, 265-279.	0.8	344
4	Surface modifications induced in 316L steel by laser peening and shot-peening. Influence on pitting corrosion resistance. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2000, 280, 294-302.	2.6	299
5	Texture control of 316L parts by modulation of the melt pool morphology in selective laser melting. Journal of Materials Processing Technology, 2019, 264, 21-31.	3.1	258
6	Analytical and numerical modelling of the direct metal deposition laser process. Journal Physics D: Applied Physics, 2008, 41, 025403.	1.3	250
7	Influence of SLM process parameters on the surface finish, porosity rate and fatigue behavior of as-built Inconel 625 parts. Journal of Materials Processing Technology, 2018, 255, 536-546.	3.1	248
8	Reduction of porosity content generated during Nd:YAG laser welding of A356 and AA5083 aluminium alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 363, 40-52.	2.6	238
9	Experimental analysis of spatter generation and melt-pool behavior during the powder bed laser beam melting process. Journal of Materials Processing Technology, 2018, 251, 376-386.	3.1	225
10	Advances in pantographic structures: design, manufacturing, models, experiments and image analyses. Continuum Mechanics and Thermodynamics, 2019, 31, 1231-1282.	1.4	212
11	Wavelength dependent of laser shock-wave generation in the water-confinement regime. Journal of Applied Physics, 1999, 85, 7552-7555.	1.1	172
12	Steel to aluminium key-hole laser welding. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 447, 197-208.	2.6	155
13	FEM calculation of residual stresses induced by laser shock processing in stainless steels. Modelling and Simulation in Materials Science and Engineering, 2007, 15, 205-221.	0.8	149
14	3D Laser Shock Peening â€“ A new method for the 3D control of residual stresses in Selective Laser Melting. Materials and Design, 2017, 130, 350-356.	3.3	147
15	Title is missing!. Journal of Materials Science, 1998, 33, 1421-1429.	1.7	135
16	Generation of aluminiumâ€“steel joints with laser-induced reactive wetting. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 444, 327-338.	2.6	135
17	Influence of various process conditions on surface finishes induced by the direct metal deposition laser technique on a Tiâ€“6Alâ€“4V alloy. Journal of Materials Processing Technology, 2013, 213, 791-800.	3.1	133
18	Finite element analysis of laser shock peening of 2050-T8 aluminum alloy. International Journal of Fatigue, 2015, 70, 480-489.	2.8	128

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19	Analysis of laserâ€“melt poolâ€“powder bed interaction during the selective laser melting of a stainless steel. Journal of Laser Applications, 2017, 29, .	0.8	117
20	Galvanised steel to aluminium joining by laser and GTAW processes. Materials Characterization, 2008, 59, 1705-1715.	1.9	115
21	Laser shock processing of materials, physical processes involved and examples of applications. Journal of Laser Applications, 1996, 8, 135-141.	0.8	107
22	2D longitudinal modeling of heat transfer and fluid flow during multilayered direct laser metal deposition process. Journal of Laser Applications, 2012, 24, .	0.8	106
23	Direct keyhole laser welding of aluminum alloy AA5754 to titanium alloy Ti6Al4V. Journal of Materials Processing Technology, 2015, 217, 96-104.	3.1	106
24	Laser surface patterning to enhance adhesion of plasma sprayed coatings. Surface and Coatings Technology, 2015, 278, 171-182.	2.2	104
25	Experimental and numerical analysis of the selective laser sintering (SLS) of PA12 and PEKK semi-crystalline polymers. Journal of Materials Processing Technology, 2015, 225, 326-336.	3.1	103
26	Ybâ€“YAG laser offset welding of AA5754 and T40 butt joint. Journal of Materials Processing Technology, 2015, 223, 139-149.	3.1	101
27	Influence of thermal and mechanical surface modifications induced by laser shock processing on the initiation of corrosion pits in 316L stainless steel. Journal of Materials Science, 2007, 42, 6866-6877.	1.7	94
28	Tailoring residual stress profile of Selective Laser Melted parts by Laser Shock Peening. Additive Manufacturing, 2017, 16, 90-97.	1.7	92
29	Additive layer manufacturing of titanium matrix composites using the direct metal deposition laser process. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 677, 171-181.	2.6	90
30	Steel to aluminium braze welding by laser process with Alâ€“12Si filler wire. Science and Technology of Welding and Joining, 2008, 13, 430-437.	1.5	86
31	FEM simulation of residual stresses induced by laser Peening. EPJ Applied Physics, 2003, 23, 83-88.	0.3	84
32	Experimental study of laser-driven shock waves in stainless steels. Journal of Applied Physics, 1998, 84, 5985-5992.	1.1	82
33	Laser offset welding of AZ31B magnesium alloy to 316 stainless steel. Journal of Materials Processing Technology, 2017, 242, 49-59.	3.1	75
34	Direct Fabrication of a Ti-47Al-2Cr-2Nb Alloy by Selective Laser Melting and Direct Metal Deposition Processes. Advanced Materials Research, 0, 89-91, 586-591.	0.3	66
35	Effect of Controlled Shot Peening and Laser Shock Peening on the Fatigue Performance of 2024-T351 Aluminum Alloy. Journal of Materials Engineering and Performance, 2003, 12, 414-419.	1.2	65
36	Aluminum to titanium laser welding-brazing in V-shaped groove. Journal of Materials Processing Technology, 2017, 245, 24-36.	3.1	61

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37	A competition between the contour and hatching zones on the high cycle fatigue behaviour of a 316L stainless steel: Analyzed using X-ray computed tomography. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 757, 146-159.	2.6	61
38	Experimental determination by PVDF and EMV techniques of shock amplitudes induced by 0.6-3 ns laser pulses in a confined regime with water. Journal Physics D: Applied Physics, 2000, 33, 498-503.	1.3	60
39	Laser peening processing effect on mechanical and tribological properties of rolling steel 100Cr6. Wear, 2004, 256, 311-320.	1.5	57
40	Influence of the microstructure and laser shock processing (LSP) on the corrosion behaviour of the AA2050-T8 aluminium alloy. Corrosion Science, 2011, 53, 3215-3221.	3.0	56
41	Optimization and comparison of porosity rate measurement methods of Selective Laser Melted metallic parts. Additive Manufacturing, 2019, 28, 802-813.	1.7	56
42	The generation of laser shock waves in a water-confinement regime with 50 ns and 150 ns XeCl excimer laser pulses. Journal Physics D: Applied Physics, 2000, 33, 2142-2145.	1.3	53
43	Current trends in laser shock processing. Surface Engineering, 1998, 14, 377-380.	1.1	51
44	Reduction of the hot cracking sensitivity of CM-247LC superalloy processed by laser cladding using induction preheating. Journal of Materials Processing Technology, 2020, 277, 116461.	3.1	50
45	Influence of the position and size of various deterministic defects on the high cycle fatigue resistance of a 316L steel manufactured by laser powder bed fusion. International Journal of Fatigue, 2021, 143, 105930.	2.8	50
46	Experimental study of the transmission of breakdown plasma generated during laser shock processing. EPJ Applied Physics, 1998, 3, 215-218.	0.3	47
47	Corrosion Reactivity of Laser-Peened Steel Surfaces. Journal of Materials Engineering and Performance, 2000, 9, 656-662.	1.2	46
48	Analysis of laser shock waves and resulting surface deformations in an Alâ€“Cuâ€“Li aluminum alloy. Journal Physics D: Applied Physics, 2012, 45, 335304.	1.3	46
49	Analysis and possible estimation of keyhole depths evolution, using laser operating parameters and material properties. Journal of Laser Applications, 2018, 30, .	0.8	44
50	Title is missing!. Journal of Materials Science, 2002, 37, 3715-3723.	1.7	43
51	Influence of a pulsed laser regime on surface finish induced by the direct metal deposition process on a Ti64 alloy. Journal of Materials Processing Technology, 2014, 214, 485-495.	3.1	43
52	Local electrochemical impedance spectroscopy study of the influence of ageing in air and laser shock processing on the micro-electrochemical behaviour of AA2050-T8 aluminium alloy. Electrochimica Acta, 2011, 56, 9581-9587.	2.6	42
53	Laser Induced Shock Waves as Surface Treatment for 7075â€“T7351 Aluminium Alloy. Surface Engineering, 1995, 11, 47-52.	1.1	40
54	Influence of beam diameter on Laser Powder Bed Fusion (L-PBF) process. Additive Manufacturing, 2020, 36, 101532.	1.7	39

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55	Laser Patterning Pretreatment before Thermal Spraying: A Technique to Adapt and Control the Surface Topography to Thermomechanical Loading and Materials. Journal of Thermal Spray Technology, 2016, 25, 401-410.	1.6	38
56	Phenomenological aspects of quasi-perfect pivots in metallic pantographic structures. Mechanics Research Communications, 2019, 101, 103415.	1.0	38
57	Effect of laser shock peening on the high temperature oxidation resistance of titanium. Surface and Coatings Technology, 2017, 326, 146-155.	2.2	36
58	Influence of gas atmosphere (Ar or He) on the laser powder bed fusion of a Ni-based alloy. Journal of Materials Processing Technology, 2021, 288, 116851.	3.1	33
59	High temperature durability of a bond-coatless plasma-sprayed thermal barrier coating system with laser textured Ni-based single crystal substrate. Surface and Coatings Technology, 2018, 337, 168-176.	2.2	32
60	Generation and characterization of T40/A5754 interfaces with lasers. Journal of Materials Processing Technology, 2014, 214, 1946-1953.	3.1	30
61	Characterization at a local scale of a laser-shock peened aluminum alloy surface. Applied Surface Science, 2011, 257, 7195-7203.	3.1	26
62	Laser-induced plume investigated by finite element modelling and scaling of particle entrainment in laser powder bed fusion. Journal Physics D: Applied Physics, 2020, 53, 075306.	1.3	26
63	Simplified numerical model for the laser metal deposition additive manufacturing process. Journal of Laser Applications, 2017, 29, .	0.8	23
64	FEM Analysis of Fiber Laser Welding of Titanium and Aluminum. Procedia CIRP, 2016, 41, 992-997.	1.0	21
65	Laser-matter interaction in laser shock processing. , 2003, , .		20
66	Influence of Mechanical Surface Treatment on High-Temperature Oxidation of Pure Titanium. Oxidation of Metals, 2017, 88, 383-395.	1.0	20
67	Laser adhesion test for thermal sprayed coatings on textured surface by laser. Journal of Laser Applications, 2016, 28, .	0.8	19
68	Design for additive manufacturing (DfAM) methodologies: a proposal to foster the design of microwave waveguide components. Virtual and Physical Prototyping, 2019, 14, 175-187.	5.3	17
69	New trends in laser shock wave physics and applications. , 2002, , .		15
70	High temperature oxidation resistance and microstructure of laser-shock peened Ti-Beta-21S. Surface and Coatings Technology, 2020, 403, 126368.	2.2	15
71	Debonding study of Ni-base substrate/Pt coatings interfaces using laser shock waves: characterization of the targets and experimental study. Surface and Coatings Technology, 2001, 138, 269-277.	2.2	14
72	Temperature Criterion of Laser Welding for Joining Aluminum Alloy with Low-Carbon Steel. Materials and Manufacturing Processes, 2006, 21, 59-61.	2.7	14

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73	Laser shock processing with two different laser sources on 2050â€T8 aluminum alloy. International Journal of Structural Integrity, 2011, 2, 87-100.	1.8	14
74	Laser-delayed double shock-wave generation in water-confinement regime. Journal of Laser Applications, 2015, 27, .	0.8	14
75	Tracking the role of nitrogen in the improvement of the high temperature oxidation resistance of titanium by mechanical treatments. Corrosion Science, 2022, 197, 110080.	3.0	14
76	Electromagnetic Gauge Study of Laser-Induced Shock Waves in Aluminium Alloys. Journal De Physique III, 1995, 5, 1953-1964.	0.3	12
77	Laser Shock Processing of Al-SiC Composite Coatings. Journal of Thermal Spray Technology, 1999, 8, 296-300.	1.6	12
78	Absorptivity measurements during laser powder bed fusion of pure copper with a 1ÂkW cw green laser. Optics and Laser Technology, 2022, 147, 107612.	2.2	12
79	Influence of surface preparation and process parameters on the porosity generation in aluminum alloys. Journal of Laser Applications, 2004, 16, 20-24.	0.8	10
80	Multiphysics Simulation and Experimental Investigation of Aluminum Wettability on a Titanium Substrate for Laser Welding-Brazing Process. Metals, 2017, 7, 218.	1.0	7
81	<title>Laser-shock processing of materials and related measurements</title>. , 1998, 3343, 183.		6
82	Finite element modelling of laser peening and laser peen forming of materials. , 2004, , .		5
83	Surface Finish Issues after Direct Metal Deposition. Materials Science Forum, 0, 706-709, 228-233.	0.3	5
84	Study of laser interaction in water flow confinement at high repetition rate. Journal of Laser Applications, 2017, 29, .	0.8	5
85	Electromagnetic performance of Ti6Al4V and AlSi7Mg0.6 waveguides with laser beam melting (LBM) produced and abrasive flow machining (AFM) finished internal surfaces. Journal of Electromagnetic Waves and Applications, 2021, 35, 2510-2526.	1.0	5
86	Renforcement d'alliages d'aluminium moulÃ©s par ondes de choc laser. Materiaux Et Techniques, 1993, 81, 7-12.	0.3	5
87	Experimental and Numerical Analysis of the Distribution of Residual Stresses Induced by Laser Shock Peening in a 2050-T8 Aluminium Alloy. Materials Science Forum, 0, 681, 296-302.	0.3	4
88	Influence of process conditions on surface finishes obtained with the direct metal deposition laser technique. , 2011, , .		3
89	Laser Shock Processing on Metal. Metals, 2017, 7, 409.	1.0	3
90	Additive Layer Manufacturing using Metal Deposition. Metals, 2020, 10, 459.	1.0	3

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91	Study of keyhole and melt pool oscillations in dual beam welding of aluminum alloys: effect on porosity formation. , 2003, 4831, 295.		2
92	Nd: YAG laser welding of aluminium to low carbon steel. , 2004, , .		2
93	Morphological and thermal modelling of direct metal deposition: Application to aeronautical alloys. , 2008, , .		2
94	2D finite element modeling of heat transfer and fluid flow during multilayered DMD laser process. , 2011, , .		2
95	Direct metal deposition of titanium matrix composites: Optimization of the process and microstructural analysis. , 2013, , .		2
96	Characterisation of Residual Stresses Generated by Laser Shock Peening by Neutron and Synchrotron Diffraction. , 2009, , 383-398.		2
97	Characterization of Multiperforated Plates Manufactured by SLM and EBM for Aeroengine Applications. Minerals, Metals and Materials Series, 2017, , 61-70.	0.3	2
98	Laser shock processing of materials. Physical processes involved and examples of applications. , 1995, , .		1
99	Laser shock processing of 6056 aluminium alloy and influence of the overlapping rate: 3D modelling and experimental validation. , 2008, , .		1
100	Development of new duplex treatments on 100Cr6steel combining Thermochemical Treatments, Laser Shock Peening and Physical Vapour Deposition. Journal of Physics: Conference Series, 2017, 843, 012080.	0.3	1
101	Influence of laser powder bed fusion process conditions and resulting microstructures on the electromagnetic properties of a 16MnCr5 steel. Additive Manufacturing, 2021, 41, 101945.	1.7	1
102	Improving the Properties of Materials With Laser-Peening: An Overview on French Activities. , 2006, , 185.		0
103	ModÃ©lisation thermo-diffusionnelle de l'assemblage hÃ©tÃ©rogÃ¨ne acier/aluminium par mouillage rÃ©actif. Mecanique Et Industries, 2008, 9, 139-143.	0.2	0
104	Modification of the electrochemical properties of 2050-T8 aluminium alloys by a LSP surface treatment. , 2009, , .		0
105	Residual Stress Gradient Study of Laser Shocked Aluminum Alloy by GIXRD Analysis and FEM Simulation. Materials Science Forum, 2009, 614, 61-66.	0.3	0
106	Three dimensional simulation of titanium and aluminum welding brazing process. , 2014, , .		0
107	Numerical Simulation of Laser Shock Peening in Presence of Weld for Fatigue Life Design. , 2014, , .		0
108	A new equivalent approach for additive manufacturing (ALM) numerical simulation. , 2016, , .		0

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109	Effect of mechanical surface treatments on the high temperature oxidation of pure titanium: the role of nitrogen. MATEC Web of Conferences, 2020, 321, 12045.	0.1	0
110	Improving the high temperature oxidation resistance of Ti-Î²21S by mechanical surface treatment. MATEC Web of Conferences, 2020, 321, 04001.	0.1	0