

# Patrice Peyre

## List of Publications by Citations

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105  
papers

5,477  
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40  
h-index

73  
g-index

111  
ext. papers

6,488  
ext. citations

3.5  
avg, IF

5.67  
L-index

#	Paper	IF	Citations
105	Laser shock processing of aluminium alloys. Application to high cycle fatigue behaviour. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>1996</b> , 210, 102-113	5.3	470
104	Shock waves from a water-confined laser-generated plasma. <i>Journal of Applied Physics</i> , <b>1997</b> , 82, 2826-2832	3.2	367
103	Physics and applications of laser-shock processing. <i>Journal of Laser Applications</i> , <b>1998</b> , 10, 265-279	2.1	256
102	Surface modifications induced in 316L steel by laser peening and shot-peening. Influence on pitting corrosion resistance. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2000</b> , 280, 294-302	5.3	245
101	Analytical and numerical modelling of the direct metal deposition laser process. <i>Journal Physics D: Applied Physics</i> , <b>2008</b> , 41, 025403	3	201
100	Reduction of porosity content generated during Nd:YAG laser welding of A356 and AA5083 aluminium alloys. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2003</b> , 363, 40-52	5.3	198
99	Advances in pantographic structures: design, manufacturing, models, experiments and image analyses. <i>Continuum Mechanics and Thermodynamics</i> , <b>2019</b> , 31, 1231-1282	3.5	153
98	Influence of SLM process parameters on the surface finish, porosity rate and fatigue behavior of as-built Inconel 625 parts. <i>Journal of Materials Processing Technology</i> , <b>2018</b> , 255, 536-546	5.3	150
97	Texture control of 316L parts by modulation of the melt pool morphology in selective laser melting. <i>Journal of Materials Processing Technology</i> , <b>2019</b> , 264, 21-31	5.3	146
96	Steel to aluminium key-hole laser welding. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2007</b> , 447, 197-208	5.3	135
95	Wavelength dependent of laser shock-wave generation in the water-confinement regime. <i>Journal of Applied Physics</i> , <b>1999</b> , 85, 7552-7555	2.5	135
94	Experimental analysis of spatter generation and melt-pool behavior during the powder bed laser beam melting process. <i>Journal of Materials Processing Technology</i> , <b>2018</b> , 251, 376-386	5.3	133
93	FEM calculation of residual stresses induced by laser shock processing in stainless steels. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2007</b> , 15, 205-221	2	119
92	Generation of aluminium-steel joints with laser-induced reactive wetting. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2007</b> , 444, 327-338	5.3	110
91	Laser-shock processing of aluminium-coated 55C1 steel in water-confinement regime, characterization and application to high-cycle fatigue behaviour. <i>Journal of Materials Science</i> , <b>1998</b> , 33, 1421-1429	4.3	105
90	Influence of various process conditions on surface finishes induced by the direct metal deposition laser technique on a Ti6Al4V alloy. <i>Journal of Materials Processing Technology</i> , <b>2013</b> , 213, 791-800	5.3	103
89	3D Laser Shock Peening [A new method for the 3D control of residual stresses in Selective Laser Melting. <i>Materials and Design</i> , <b>2017</b> , 130, 350-356	8.1	99

88	Galvanised steel to aluminium joining by laser and GTAW processes. <i>Materials Characterization</i> , <b>2008</b> , 59, 1705-1715	3.9	96
87	Laser shock processing of materials, physical processes involved and examples of applications. <i>Journal of Laser Applications</i> , <b>1996</b> , 8, 135-141	2.1	88
86	Finite element analysis of laser shock peening of 2050-T8 aluminum alloy. <i>International Journal of Fatigue</i> , <b>2015</b> , 70, 480-489	5	87
85	Direct keyhole laser welding of aluminum alloy AA5754 to titanium alloy Ti6Al4V. <i>Journal of Materials Processing Technology</i> , <b>2015</b> , 217, 96-104	5.3	84
84	Analysis of laser-melt pool-powder bed interaction during the selective laser melting of a stainless steel. <i>Journal of Laser Applications</i> , <b>2017</b> , 29, 022303	2.1	83
83	Yb-AG laser offset welding of AA5754 and T40 butt joint. <i>Journal of Materials Processing Technology</i> , <b>2015</b> , 223, 139-149	5.3	81
82	Influence of thermal and mechanical surface modifications induced by laser shock processing on the initiation of corrosion pits in 316L stainless steel. <i>Journal of Materials Science</i> , <b>2007</b> , 42, 6866-6877	4.3	75
81	Experimental and numerical analysis of the selective laser sintering (SLS) of PA12 and PEKK semi-crystalline polymers. <i>Journal of Materials Processing Technology</i> , <b>2015</b> , 225, 326-336	5.3	74
80	Steel to aluminium braze welding by laser process with Al <sub>2</sub> Si filler wire. <i>Science and Technology of Welding and Joining</i> , <b>2008</b> , 13, 430-437	3.7	74
79	2D longitudinal modeling of heat transfer and fluid flow during multilayered direct laser metal deposition process. <i>Journal of Laser Applications</i> , <b>2012</b> , 24, 032008	2.1	71
78	Laser surface patterning to enhance adhesion of plasma sprayed coatings. <i>Surface and Coatings Technology</i> , <b>2015</b> , 278, 171-182	4.4	70
77	Experimental study of laser-driven shock waves in stainless steels. <i>Journal of Applied Physics</i> , <b>1998</b> , 84, 5985-5992	2.5	68
76	Tailoring residual stress profile of Selective Laser Melted parts by Laser Shock Peening. <i>Additive Manufacturing</i> , <b>2017</b> , 16, 90-97	6.1	66
75	Laser offset welding of AZ31B magnesium alloy to 316 stainless steel. <i>Journal of Materials Processing Technology</i> , <b>2017</b> , 242, 49-59	5.3	62
74	FEM simulation of residual stresses induced by laser Peening. <i>EPJ Applied Physics</i> , <b>2003</b> , 23, 83-88	1.1	61
73	Additive layer manufacturing of titanium matrix composites using the direct metal deposition laser process. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2016</b> , 677, 171-181	5.3	57
72	Direct Fabrication of a Ti-47Al-2Cr-2Nb Alloy by Selective Laser Melting and Direct Metal Deposition Processes. <i>Advanced Materials Research</i> , <b>2010</b> , 89-91, 586-591	0.5	53
71	Effect of controlled shot peening and laser shock peening on the fatigue performance of 2024-T351 aluminum alloy. <i>Journal of Materials Engineering and Performance</i> , <b>2003</b> , 12, 414-419	1.6	50

70	Experimental determination by PVDF and EMV techniques of shock amplitudes induced by 0.6-3 ns laser pulses in a confined regime with water. <i>Journal Physics D: Applied Physics</i> , <b>2000</b> , 33, 498-503	3	50
69	Influence of the microstructure and laser shock processing (LSP) on the corrosion behaviour of the AA2050-T8 aluminium alloy. <i>Corrosion Science</i> , <b>2011</b> , 53, 3215-3221	6.8	48
68	Laser peening processing effect on mechanical and tribological properties of rolling steel 100Cr6. <i>Wear</i> , <b>2004</b> , 256, 311-320	3.5	46
67	Current trends in laser shock processing. <i>Surface Engineering</i> , <b>1998</b> , 14, 377-380	2.6	42
66	The generation of laser shock waves in a water-confinement regime with 50 ns and 150 ns XeCl excimer laser pulses. <i>Journal Physics D: Applied Physics</i> , <b>2000</b> , 33, 2142-2145	3	41
65	Experimental study of the transmission of breakdown plasma generated during laser shock processing. <i>EPJ Applied Physics</i> , <b>1998</b> , 3, 215-218	1.1	40
64	Corrosion reactivity of laser-peened steel surfaces. <i>Journal of Materials Engineering and Performance</i> , <b>2000</b> , 9, 656-662	1.6	39
63	Aluminum to titanium laser welding-brazing in V-shaped groove. <i>Journal of Materials Processing Technology</i> , <b>2017</b> , 245, 24-36	5.3	38
62	Influence of high power diode laser surface melting on the pitting corrosion resistance of type 316L stainless steel. <i>Journal of Materials Science</i> , <b>2002</b> , 37, 3715-3723	4.3	36
61	LASER INDUCED SHOCK WAVES AS SURFACE TREATMENT FOR 7075-T351 ALUMINIUM ALLOY. <i>Surface Engineering</i> , <b>1995</b> , 11, 47-52	2.6	34
60	Analysis of laser shock waves and resulting surface deformations in an AlCuLi aluminum alloy. <i>Journal Physics D: Applied Physics</i> , <b>2012</b> , 45, 335304	3	33
59	Influence of a pulsed laser regime on surface finish induced by the direct metal deposition process on a Ti64 alloy. <i>Journal of Materials Processing Technology</i> , <b>2014</b> , 214, 485-495	5.3	32
58	Analysis and possible estimation of keyhole depths evolution, using laser operating parameters and material properties. <i>Journal of Laser Applications</i> , <b>2018</b> , 30, 032410	2.1	32
57	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. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 757, 146-159	5.3	31
56	Optimization and comparison of porosity rate measurement methods of Selective Laser Melted metallic parts. <i>Additive Manufacturing</i> , <b>2019</b> , 28, 802-813	6.1	28
55	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. <i>Electrochimica Acta</i> , <b>2011</b> , 56, 9581-9587	6.7	28
54	Laser Patterning Pretreatment before Thermal Spraying: A Technique to Adapt and Control the Surface Topography to Thermomechanical Loading and Materials. <i>Journal of Thermal Spray Technology</i> , <b>2016</b> , 25, 401-410	2.5	27
53	Generation and characterization of T40/A5754 interfaces with lasers. <i>Journal of Materials Processing Technology</i> , <b>2014</b> , 214, 1946-1953	5.3	24

52	Phenomenological aspects of quasi-perfect pivots in metallic pantographic structures. <i>Mechanics Research Communications</i> , <b>2019</b> , 101, 103415	2.2	24
51	Reduction of the hot cracking sensitivity of CM-247LC superalloy processed by laser cladding using induction preheating. <i>Journal of Materials Processing Technology</i> , <b>2020</b> , 277, 116461	5.3	23
50	Effect of laser shock peening on the high temperature oxidation resistance of titanium. <i>Surface and Coatings Technology</i> , <b>2017</b> , 326, 146-155	4.4	21
49	Characterization at a local scale of a laser-shock peened aluminum alloy surface. <i>Applied Surface Science</i> , <b>2011</b> , 257, 7195-7203	6.7	21
48	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. <i>International Journal of Fatigue</i> , <b>2021</b> , 143, 105930	5	20
47	High temperature durability of a bond-coatless plasma-sprayed thermal barrier coating system with laser textured Ni-based single crystal substrate. <i>Surface and Coatings Technology</i> , <b>2018</b> , 337, 168-176	4.4	19
46	Influence of Mechanical Surface Treatment on High-Temperature Oxidation of Pure Titanium. <i>Oxidation of Metals</i> , <b>2017</b> , 88, 383-395	1.6	18
45	FEM Analysis of Fiber Laser Welding of Titanium and Aluminum. <i>Procedia CIRP</i> , <b>2016</b> , 41, 992-997	1.8	18
44	Laser-induced plume investigated by finite element modelling and scaling of particle entrainment in laser powder bed fusion. <i>Journal Physics D: Applied Physics</i> , <b>2020</b> , 53, 075306	3	17
43	Influence of gas atmosphere (Ar or He) on the laser powder bed fusion of a Ni-based alloy. <i>Journal of Materials Processing Technology</i> , <b>2021</b> , 288, 116851	5.3	17
42	Laser-matter interaction in laser shock processing <b>2003</b> ,		15
41	Laser adhesion test for thermal sprayed coatings on textured surface by laser. <i>Journal of Laser Applications</i> , <b>2016</b> , 28, 022509	2.1	15
40	Simplified numerical model for the laser metal deposition additive manufacturing process. <i>Journal of Laser Applications</i> , <b>2017</b> , 29, 022304	2.1	14
39	Laser shock processing with two different laser sources on 2050-T8 aluminum alloy. <i>International Journal of Structural Integrity</i> , <b>2011</b> , 2, 87-100	1	14
38	Design for additive manufacturing (DfAM) methodologies: a proposal to foster the design of microwave waveguide components. <i>Virtual and Physical Prototyping</i> , <b>2019</b> , 14, 175-187	10.1	12
37	Laser-delayed double shock-wave generation in water-confinement regime. <i>Journal of Laser Applications</i> , <b>2015</b> , 27, S29101	2.1	10
36	Temperature Criterion of Laser Welding for Joining Aluminum Alloy with Low-Carbon Steel. <i>Materials and Manufacturing Processes</i> , <b>2006</b> , 21, 59-61	4.1	10
35	Debonding study of Ni-base substrate/Pt coatings interfaces using laser shock waves: characterization of the targets and experimental study. <i>Surface and Coatings Technology</i> , <b>2001</b> , 138, 269-277	4.4	10

34	Laser shock processing of Al-SiC composite coatings. <i>Journal of Thermal Spray Technology</i> , <b>1999</b> , 8, 296-309		10
33	Influence of beam diameter on Laser Powder Bed Fusion (L-PBF) process. <i>Additive Manufacturing</i> , <b>2020</b> , 36, 101532	6.1	10
32	Influence of surface preparation and process parameters on the porosity generation in aluminum alloys. <i>Journal of Laser Applications</i> , <b>2004</b> , 16, 20-24	2.1	9
31	New trends in laser shock wave physics and applications <b>2002</b> ,		8
30	Electromagnetic Gauge Study of Laser-Induced Shock Waves in Aluminium Alloys. <i>Journal De Physique III</i> , <b>1995</b> , 5, 1953-1964		8
29	Study of laser interaction in water flow confinement at high repetition rate. <i>Journal of Laser Applications</i> , <b>2017</b> , 29, 042006	2.1	5
28	Surface Finish Issues after Direct Metal Deposition. <i>Materials Science Forum</i> , <b>2012</b> , 706-709, 228-233	0.4	5
27	Finite element modelling of laser peening and laser peen forming of materials <b>2004</b> ,		5
26	Renforcement d'alliages d'aluminium moulés par ondes de choc laser. <i>Materiaux Et Techniques</i> , <b>1993</b> , 81, 7-12	0.6	5
25	High temperature oxidation resistance and microstructure of laser-shock peened Ti-Beta-21S. <i>Surface and Coatings Technology</i> , <b>2020</b> , 403, 126368	4.4	5
24	Absorptivity measurements during laser powder bed fusion of pure copper with a 1 kW cw green laser. <i>Optics and Laser Technology</i> , <b>2022</b> , 147, 107612	4.2	4
23	Multiphysics Simulation and Experimental Investigation of Aluminum Wettability on a Titanium Substrate for Laser Welding-Brazing Process. <i>Metals</i> , <b>2017</b> , 7, 218	2.3	3
22	Experimental and Numerical Analysis of the Distribution of Residual Stresses Induced by Laser Shock Peening in a 2050-T8 Aluminium Alloy. <i>Materials Science Forum</i> , <b>2011</b> , 681, 296-302	0.4	3
21	Laser Shock Processing on Metal. <i>Metals</i> , <b>2017</b> , 7, 409	2.3	2
20	Influence of process conditions on surface finishes obtained with the direct metal deposition laser technique <b>2011</b> ,		2
19	2D finite element modeling of heat transfer and fluid flow during multilayered DMD laser process <b>2011</b> ,		2
18	Morphological and thermal modelling of direct metal deposition: Application to aeronautical alloys <b>2008</b> ,		2
17	Study of keyhole and melt pool oscillations in dual beam welding of aluminum alloys: effect on porosity formation <b>2003</b> , 4831, 295		2

16	Nd: YAG laser welding of aluminium to low carbon steel <b>2004</b> ,		2
15	Laser-shock processing of materials and related measurements <b>1998</b> , 3343, 183		2
14	Characterization of Multiperforated Plates Manufactured by SLM and EBM for Aeroengine Applications. <i>Minerals, Metals and Materials Series</i> , <b>2017</b> , 61-70	0.3	2
13	Development of new duplex treatments on 100Cr6steel combining Thermochemical Treatments, Laser Shock Peening and Physical Vapour Deposition. <i>Journal of Physics: Conference Series</i> , <b>2017</b> , 843, 012080	0.3	1
12	Direct metal deposition of titanium matrix composites: Optimization of the process and microstructural analysis <b>2013</b> ,		1
11	Laser shock processing of 6056 aluminium alloy and influence of the overlapping rate: 3D modelling and experimental validation <b>2008</b> ,		1
10	Laser shock processing of materials. Physical processes involved and examples of applications <b>1995</b> ,		1
9	Characterisation of Residual Stresses Generated by Laser Shock Peening by Neutron and Synchrotron Diffraction <b>2009</b> , 383-398		1
8	Tracking the role of nitrogen in the improvement of the high temperature oxidation resistance of titanium by mechanical treatments. <i>Corrosion Science</i> , <b>2022</b> , 197, 110080	6.8	0
7	Influence of laser powder bed fusion process conditions and resulting microstructures on the electromagnetic properties of a 16MnCr5 steel. <i>Additive Manufacturing</i> , <b>2021</b> , 41, 101945	6.1	0
6	Electromagnetic performance of Ti6Al4V and AlSi7Mg0.6 waveguides with laser beam melting (LBM) produced and abrasive flow machining (AFM) finished internal surfaces. <i>Journal of Electromagnetic Waves and Applications</i> , 1-17	1.3	0
5	Residual Stress Gradient Study of Laser Shocked Aluminum Alloy by GIXRD Analysis and FEM Simulation. <i>Materials Science Forum</i> , <b>2009</b> , 614, 61-66	0.4	
4	Modélisation thermo-diffusionnelle de l'assemblage hétérogène acier/aluminium par mouillage réactif. <i>Mecanique Et Industries</i> , <b>2008</b> , 9, 139-143		
3	Improving the Properties of Materials With Laser-Peening: An Overview on French Activities <b>2006</b> , 185		
2	Improving the high temperature oxidation resistance of Ti-01S by mechanical surface treatment. <i>MATEC Web of Conferences</i> , <b>2020</b> , 321, 04001	0.3	
1	Effect of mechanical surface treatments on the high temperature oxidation of pure titanium: the role of nitrogen. <i>MATEC Web of Conferences</i> , <b>2020</b> , 321, 12045	0.3	