Nikolai Kashaev

List of Publications by Year
in descending order

122	2,463	201674 27	254184 43
papers	citations	h-index	g-index

125	125	125	1871
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Prospects of laser beam welding and friction stir welding processes for aluminum airframe structural applications. Journal of Manufacturing Processes, 2018, 36, 571-600.	5.9	256
2	Damage tolerant design of additively manufactured metallic components subjected to cyclic loading: State of the art and challenges. Progress in Materials Science, 2021, 121, 100786.	32.8	106
3	Experimental and numerical investigation of residual stresses in laser shock peened AA2198. Journal of Materials Processing Technology, 2018, 255, 294-307.	6.3	92
4	Laser beam welding of a CoCrFeNiMn-type high entropy alloy produced by self-propagating high-temperature synthesis. Intermetallics, 2018, 96, 63-71.	3.9	83
5	Effects of laser shock peening on the microstructure and fatigue crack propagation behaviour of thin AA2024 specimens. International Journal of Fatigue, 2017, 98, 223-233.	5.7	69
6	Effect of Nd:YAG laser beam welding on weld morphology and mechanical properties of Tiâ€“6Alâ€“4V butt joints and T-joints. Optics and Lasers in Engineering, 2016, 86, 172-180.	3.8	59
7	Fatigue behaviour of a laser beam welded CoCrFeNiMn-type high entropy alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 766, 138358.	5.6	59
8	Assessment of alternative joining techniques for Tiâ€“6Alâ€“4V/CFRP hybrid joints regarding tensile and fatigue strength. Materials & Design, 2015, 81, 73-81.	5.1	52
9	Process development for wire-based laser metal deposition of 5087 aluminium alloy by using fibre laser. Journal of Manufacturing Processes, 2018, 34, 721-732.	5.9	51
10	Oxidized Mild Steel S235: An Efficient Anode for Electrocatalytically Initiated Water Splitting. ChemSusChem, 2015, 8, 3099-3110.	6.8	50
11	The effect of heat treatment on crack control and grain refinement in laser beam welded Î²-solidifying TiAl-based alloy. Intermetallics, 2013, 40, 65-70.	3.9	48
12	Review of Residual Stress Modification Techniques for Extending the Fatigue Life of Metallic Aircraft Components. Applied Mechanics Reviews, 2015, 67, .	10.1	46
13	Single-sided laser beam welding of a dissimilar AA2024â€“AA7050 T-joint. Materials & Design, 2015, 76, 110-116.	5.1	43
14	Fibre laser welding of high-alloyed Alâ€“Znâ€“Mgâ€“Cu alloys. Journal of Materials Processing Technology, 2016, 237, 155-162.	6.3	43
15	Microstructure by design: An approach of grain refinement and isotropy improvement in multi-layer wire-based laser metal deposition. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 772, 138635.	5.6	42
16	Influence of the Local Chemical Composition on the Mechanical Properties of Laser Beam Welded Al-Li Alloys. Physics Procedia, 2012, 39, 51-58.	1.2	41
17	Probabilistic fatigue-life assessment model for laser-welded Ti-6Al-4V butt joints in the high-cycle fatigue regime. International Journal of Fatigue, 2018, 116, 22-35.	5.7	40
18	Experimentally validated multi-step simulation strategy to predict the fatigue crack propagation rate in residual stress fields after laser shock peening. International Journal of Fatigue, 2019, 124, 265-276.	5.7	40

#	Article	IF	Citations
19	Fiber laser welding of dissimilar titanium (Ti-6Al-4V/cp-Ti) T-joints and their laser forming process for aircraft application. Optics and Laser Technology, 2017, 96, 123-131.	4.6	35
20	Comparative study of mechanical properties using standard and micro-specimens of base materials Inconel 625, Inconel 718 and Ti-6Al-4V. Journal of Materials Research and Technology, 2013, 2, 43-47.	5.8	33
21	Artificial neural network for correction of effects of plasticity in equibiaxial residual stress profiles measured by hole drilling. Journal of Strain Analysis for Engineering Design, 2017, 52, 137-151.	1.8	33
22	Mechanical properties of laser beam welded similar and dissimilar aluminum alloys. Journal of Manufacturing Processes, 2017, 29, 272-280.	5.9	33
23	Experimental-numerical study of laser-shock-peening-induced retardation of fatigue crack propagation in Ti-17 titanium alloy. International Journal of Fatigue, 2021, 145, 106081.	5.7	32
24	Process Optimization of Dual-Laser Beam Welding of Advanced Al-Li Alloys Through Hot Cracking Susceptibility Modeling. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 3533-3544.	2.2	30
25	Numerical Investigation of the Effect of Rolling on the Localized Stress and Strain Induction for Wireâ€‰+â€‰Arc Additive Manufactured Structures. Journal of Materials Engineering and Performance, 2019, 28, 4931-4942.	2.5	30
26	Crack closure mechanisms in residual stress fields generated by laser shock peening: A combined experimental-numerical approach. Engineering Fracture Mechanics, 2019, 221, 106630.	4.3	29
27	Application of the eigenstrain approach to predict the residual stress distribution in laser shock peened AA7050-T7451 samples. Surface and Coatings Technology, 2015, 273, 39-49.	4.8	28
28	Laser beam welded structures for a regional aircraft: weight, cost and carbon footprint savings. Journal of Manufacturing Systems, 2016, 39, 38-52.	13.9	28
29	Microstructure and microhardness of wire-based laser metal deposited AA5087 using an Ytterbium fibre laser. Materials Characterization, 2018, 143, 59-67.	4.4	28
30	Effect of Laser Peening Process Parameters and Sequences on Residual Stress Profiles. Metals, 2019, 9, 655.	2.3	28
31	Experimental and numerical crushing analyses of thin-walled magnesium profiles. International Journal of Crashworthiness, 2015, 20, 177-190.	1.9	27
32	In situ study of phase transformations during laser-beam welding of a TiAl alloy for grain refinement and mechanical property optimization. Intermetallics, 2015, 62, 27-35.	3.9	26
33	Effect of elasto-plastic material behaviour on determination of residual stress profiles using the hole drilling method. Journal of Strain Analysis for Engineering Design, 2016, 51, 572-581.	1.8	26
34	Metallurgical aspects of joining commercially pure titanium to Ti-6Al-4V alloy in a T-joint configuration by laser beam welding. International Journal of Advanced Manufacturing Technology, 2018, 97, 2019-2031.	3.0	26
35	On the relationship between microstructure and residual stress in laser-shock-peened Ti-6Al-4V. Journal of Alloys and Compounds, 2022, 900, 163383.	5.5	26
36	Influence of crystallographic texture on the microstructure, tensile properties and residual stress state of laser-welded titanium joints. Materials and Design, 2016, 101, 137-145.	7.0	25

#	Article	IF	Citations
37	Effect of laser beam welding on microstructure, tensile strength and fatigue behaviour of duplex stainless steel 2205. Journal of Manufacturing Processes, 2021, 72, 148-158.	5.9	24
38	Investigating the impact of sustainability in the production of aeronautical subscale components. Journal of Cleaner Production, 2018, 176, 785-799.	9.3	23
39	Hot cracking behaviour of an autogenously laser welded Al-Cu-Li alloy. International Journal of Advanced Manufacturing Technology, 2018, 95, 299-310.	3.0	22
40	Application of design of experiments for laser shock peening process optimization. International Journal of Advanced Manufacturing Technology, 2019, 102, 1567-1581.	3.0	22
41	Laser Beam Welding of a Low Density Refractory High Entropy Alloy. Metals, 2019, 9, 1351.	2.3	22
42	Experimental and numerical thermo-mechanical analysis of wire-based laser metal deposition of Al-Mg alloys. Journal of Manufacturing Processes, 2021, 64, 982-995.	5.9	21
43	On the application of laser shock peening for retardation of surface fatigue cracks in laser beamâ€welded AA6056. Fatigue and Fracture of Engineering Materials and Structures, 2020, 43, 1500-1513.	3.4	20
44	Phase-field modelling for fatigue crack growth under laser shock peening-induced residual stresses. Archive of Applied Mechanics, 2021, 91, 3709-3723.	2.2	19
45	Effect of laser shock peening without protective coating on the surface mechanical properties of NiTi alloy. Journal of Alloys and Compounds, 2022, 896, 163011.	5.5	19
46	Anisotropy and size effect in tensile mechanical properties of Al-Cu-Li 2198 alloy. Procedia Structural Integrity, 2017, 5, 13-18.	0.8	18
47	Surface modification methods for fatigue properties improvement of laser-beam-welded Ti-6Al-4V butt joints. Procedia Structural Integrity, 2018, 13, 273-278.	0.8	18
48	Laser Welding of High-strength Aluminium Alloys for the Sheet Metal Forming Process. Procedia CIRP, 2014, 18, 203-208.	1.9	17
49	A parametric study of laser spot size and coverage on the laser shock peening induced residual stress in thin aluminium samples. Journal of Engineering, 2015, 2015, 97-105.	1.1	17
50	Influence of Porosity on the High Cycle Fatigue Behaviour of Laser Beam Welded Ti-6Al-4V Butt Joints. Procedia Structural Integrity, 2017, 7, 415-422.	0.8	17
51	Thermal analysis of wire-based direct energy deposition of Al-Mg using different laser irradiances. Additive Manufacturing, 2019, 29, 100800.	3.0	17
52	Assessment of the application potential of the intensified glow discharge for industrial plasma nitriding of Ti-6Al-4V. Surface and Coatings Technology, 2005, 200, 502-506.	4.8	16
53	Nitriding of Ti â€“ 6% Al â€“ 4% V Alloy in the Plasma of an Intensified Glow Discharge. Metal Science and Heat Treatment, 2004, 46, 294-298.	0.6	15
54	Ultrafine Sanding Paper: A Simple Tool for Creating Small Particles. Small, 2015, 11, 931-935.	10.0	15

#	Article	IF	Citations
55	Investigation of In Situ and Conventional Postâ€Weld Heat Treatments on Dualâ€Laserâ€Beamâ€Welded Î³â€TiAlâ€Based Alloy. Advanced Engineering Materials, 2012, 14, 923-927.	3.5	14
56	On the influence of laser beam welding parameters for autogenous AA2198 welded joints. International Journal of Advanced Manufacturing Technology, 2020, 110, 2079-2092.	3.0	14
57	The Influence of Laser Shock Peening on Fatigue Properties of AA2024-T3 Alloy with a Fastener Hole. Metals, 2020, 10, 495.	2.3	14
58	Laser Beam Welding of a Ti-15Mo/TiB Metalâ€“Matrix Composite. Metals, 2021, 11, 506.	2.3	14
59	Microstructure and mechanical performance of autogenously fibre laser beam welded Ti-6242 butt joints. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 694, 110-120.	5.6	13
60	Single-shot femtosecond laser processing of Al-alloy surface: An interplay between Mbar shock waves, enhanced microhardness, residual stresses, and chemical modification. Optics and Laser Technology, 2020, 126, 106131.	4.6	13
61	Microstructure and Mechanical Properties of Laser Beam Welded Joints between Fineâ€Grained and Standard Tiâ€6Alâ€4V Sheets Subjected to Superplastic Forming. Advanced Engineering Materials, 2015, 17, 374-382.	3.5	12
62	Effect of artificial aging on the mechanical performance of (Al-Cu) 2024 and (Al-Cu-Li) 2198 aluminum alloys. Procedia Structural Integrity, 2016, 2, 3782-3783.	0.8	11
63	Effect of pre-heating and post-weld heat treatment on structure and mechanical properties of laser beam-welded Ti2AlNb-based joints. Intermetallics, 2022, 143, 107466.	3.9	11
64	Effect of laser peen forming process parameters on bending and surface quality of Ti-6Al-4V sheets. Journal of Materials Processing Technology, 2022, 305, 117578.	6.3	11
65	Crashworthiness of Magnesium Sheet Structures. Materials Science Forum, 0, 765, 590-594.	0.3	10
66	Fracture mechanical behaviour of laser beam-welded AA2198 butt joints and integral structures. International Journal of Structural Integrity, 2015, 6, 787-798.	3.3	9
67	Laser Weldability of High-Strength Al-Zn Alloys and Its Improvement by the Use of an Appropriate Filler Material. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 2830-2841.	2.2	9
68	Exploring Structural Changes, Manufacturing, Joining, and Repair of Intermetallic Î³â€TiAlâ€Based Alloys: Recent Progress Enabled by In Situ Synchrotron Xâ€Ray Techniques. Advanced Engineering Materials, 2021, 23, 2000947.	3.5	9
69	Effect of filler wire and post weld heat treatment on the mechanical properties of laser beam-welded AA2198. Materials Characterization, 2021, 178, 111257.	4.4	9
70	In situ observation of competitive growth of Î± grains during Î² â†’ Î± transformation in laser beam manufactured TiAl alloys. Materials Characterization, 2021, 179, 111371.	4.4	9
71	Tailoring of residual stresses by specific use of defined prestress during laser shock peening. Journal of Materials Processing Technology, 2021, 295, 117154.	6.3	9
72	Fatigue and Fatigue Crack Propagation of Laser Beam-Welded AA2198 Joints and Integral Structures. Advanced Materials Research, 0, 891-892, 1457-1462.	0.3	8

#	Article	IF	Citations
73	Effect of Post-weld Heat Treatment on Microstructure and Mechanical Properties of Laser Beam Welded TiAl-based Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 16-28.	2.2	8
74	Phase Transformation and Residual Stress in a Laser Beam Spot-Welded TiAl-Based Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5750-5760.	2.2	8
75	Effect of Microstructure Transformations on Fatigue Properties of Laser Beam Welded Tiâ€6Alâ€4V Butt Joints Subjected to Postweld Heat Treatment. , 0, , .		8
76	Use of Novel Welding Technologies for High-Entropy Alloys Joining. Materials Science Forum, 0, 941, 919-924.	0.3	8
77	Multiscale process simulation of residual stress fields of laser beam welded precipitation hardened AA6082. Materialia, 2018, 3, 243-255.	2.7	8
78	Thermal analysis of laser additive manufacturing of aluminium alloys: Experiment and simulation. AIP Conference Proceedings, 2018, , .	0.4	8
79	Design of Local Heat Treatment for Crack Retardation in Aluminium Alloys. Procedia Engineering, 2015, 114, 271-276.	1.2	7
80	Microstructure and hardness evolution of laser metal deposited AA5087 wall-structures. Procedia CIRP, 2018, 74, 131-135.	1.9	7
81	Experimental Investigation of Temperature Distribution during Wire-Based Laser Metal Deposition of the Al-Mg Alloy 5087. Materials Science Forum, 2018, 941, 988-994.	0.3	7
82	Laser welding and microstructural characterization of dissimilar Î³-TiAl-Ti6242 joints. Intermetallics, 2019, 104, 74-83.	3.9	7
83	Compression Behaviour of Wire + Arc Additive Manufactured Structures. Metals, 2021, 11, 877.	2.3	7
84	Coaxial laser directed energy deposition with wire of thin-walled duplex stainless steel parts: Process discontinuities and their impact on the mechanical properties. CIRP Journal of Manufacturing Science and Technology, 2022, 37, 443-453.	4.5	7
85	On the analysis of plasticity induced crack closure in welded specimens: A mechanism controlled by the stress intensity factor resulting from residual stresses. International Journal of Fatigue, 2022, 162, 106940.	5.7	7
86	Phase Transformations During Solidification of a Laser-Beam-Welded TiAl Alloyâ€"An In Situ Synchrotron Study. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5761-5770.	2.2	6
87	Fatigue Life Extension of AA2024 Specimens and Integral Structures by Laser Shock Peening. MATEC Web of Conferences, 2018, 165, 18001.	0.2	6
88	Fracture Behavior of a Laser Beam Welded High-strength Al-Zn Alloy. , 2014, 3, 1828-1833.		5
89	Laser Weldability of Different Al-Zn Alloys and its Improvement. Materials Science Forum, 2015, 828-829, 389-394.	0.3	5
90	Optimization of crenellation patterns for fatigue crack retardation via genetic algorithm and the reduction in computational cost. Engineering Failure Analysis, 2016, 63, 21-30.	4.0	5

#	Article	IF	Citations
91	Material saving and cost reduction with hot forming of Uâ€shaped titanium part. Materialwissenschaft Und Werkstofftechnik, 2014, 45, 841-846.	0.9	4
92	Fatigue, Fatigue Crack Propagation and Mechanical Fracture Behaviour of Laser Beam-Welded AZ31 Magnesium Sheets. Materials Science Forum, 0, 783-786, 2310-2315.	0.3	4
93	The Effect of LSP on the Structure Evolution and Self-Heating of ARMCO Iron under Cyclic Loading. Metals, 2021, 11, 1198.	2.3	4
94	Coupled Modeling Approach for Laser Shock Peening of AA2198-T3: From Plasma and Shock Wave Simulation to Residual Stress Prediction. Metals, 2022, 12, 107.	2.3	4
95	Influence of the geometry on the fatigue performance of crenellated fuselage panels. CiÃªncia & Tecnologia Dos Materiais, 2015, 27, 100-107.	0.5	3
96	Fiber Laser Beam Welding of Ti-6242 - Effect of Processing Parameters on Microstructural and Mechanical Properties. Materials Science Forum, 2016, 879, 903-908.	0.3	3
97	Improving the fatigue performance of airframe structures by combining geometrical modifications and laser heating. Fatigue and Fracture of Engineering Materials and Structures, 2018, 41, 1183-1195.	3.4	3
98	Laser Metal Deposition of Ti-6Al-4V Structures: Analysis of the Build Height Dependent Microstructure and Mechanical Properties. , 2017, , .		3
99	Experimental and numerical investigation of laser beam-welded Alâ€“Cuâ€“Li joints using micro-mechanical characteristics. Journal of Materials Research and Technology, 2022, 19, 2431-2446.	5.8	3
100	Crenellation Patterns for Fatigue Crack Retardation in Fuselage Panels Optimized via Genetic Algorithm. Procedia Engineering, 2015, 114, 248-254.	1.2	2
101	Microstructural Characteristics of Laser Metal Deposited Magnesium Alloy AZ31. Materials Science Forum, 2018, 941, 1004-1009.	0.3	2
102	Parameter development and characterization of laser metal deposited Ti alloy powders for use at elevated temperatures. Procedia CIRP, 2018, 74, 176-179.	1.9	2
103	Precipitation Kinetics of AA6082: An Experimental and Numerical Investigation. Materials Science Forum, 2018, 941, 1411-1417.	0.3	2
104	Probabilistic Reliability Assessment of a Component in the Presence of Internal Defects. Lecture Notes in Mechanical Engineering, 2020, , 488-502.	0.4	2
105	Effect of laser heating on mechanical properties, residual stresses and retardation of fatigue crack growth in AA2024. Fatigue and Fracture of Engineering Materials and Structures, 2021, 44, 887-900.	3.4	2
106	Mechanical Properties of Fibre Laser Welded AZ31B Sheets and their Dependence on the Spot-Size. Materials Science Forum, 0, 828-829, 298-304.	0.3	1
107	Laser shock peening process modelling and experimental validation of AA2198â€T3 and AA2198â€T8. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 423-424.	0.2	1
108	Influence of different Al-Cu substrates on the properties of laser metal deposited Al coatings. Procedia CIRP, 2018, 74, 127-130.	1.9	1

#	Article	IF	Citations
109	Twoâ€step simulation approach for laser shock peening. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900497.	0.2	1
110	Fatigue Crack Propagation Influenced by Laser Shock Peening Introduced Residual Stress Fields in Aluminium Specimens. Lecture Notes in Mechanical Engineering, 2020, , 617-631.	0.4	1
111	On the prediction of fatigue crack growth based on weight functions in residual stress fields induced by laser shock peening and laser heating. Fatigue and Fracture of Engineering Materials and Structures, 2021, 44, 3463.	3.4	1
112	Comparison of different titanium alloys welded by Yb:YAG fibre laser for thin sheet applications used for T-ducts in bleed air systems. MATEC Web of Conferences, 2020, 321, 11027.	0.2	1
113	INFLUENCE OF LASER SHOCK PEENING ON LOW- AND HIGH-CYCLE FATIGUE OF AN OT4-0 TITANIUM ALLOY. Journal of Applied Mechanics and Technical Physics, 2022, 63, 335-342.	0.5	1
114	Material Influence on Crenellation Effectiveness in Damage Tolerant Design. Procedia Structural Integrity, 2017, 5, 263-270.	0.8	0
115	<i>In Situ</i> Experiment for Laser Beam Welding of Ti Alloys Using High-Energy X-Rays. Materials Science Forum, 0, 905, 114-119.	0.3	0
116	Development of an Optimised Shielding Strategy for Laser Beam Welding of Ti6Al2Sn4Zr2Mo. Materials Science Forum, 2018, 941, 1404-1410.	0.3	0
117	Development of laser straightening (LS) strategies to remove distortion in welded aeronautical structures. AIP Conference Proceedings, 2019, , .	0.4	0
118	Numerical study of rolling process on the plastic strain distribution in wire + arc additive manufactured Ti-6Al-4V. AIP Conference Proceedings, 2019, , .	0.4	0
119	Untersuchungen zur Ermittlung des Anwendungspotenzials fÃ¼r das Nitrieren von TiAl6V4 in einer intensivierten Glimmentladung. HTM - Journal of Heat Treatment and Materials, 2004, 59, 439-444.	0.2	0
120	The Development of the Rotational Friction Welding Process for the Welding of Î³-TiAl-Casting Alloy Ti-47Al-3.5(Mn+Cr+Nb)-0.8(B+Si) to Ti6Al4V. Praktische Metallographie/Practical Metallography, 2014, 51, 321-352.	0.3	0
121	Laser shock peening on high-strength steel. , 2020, , .		0
122	Simulation of fatigue crack growth in residualâ€stressâ€afflicted specimen with a phaseâ€field model. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0