Theoretical Modeling of Rapid Surface Vaporization wit

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Citation Report

#	Article	IF	Citations
1	Pulsed Laser-Induced Shattering of Water Drops. AIAA Journal, 1980, 18, 96-100.	2.6	23
2	Thermal and impulse coupling to an aluminum surface by a pulsed KrF laser. Applied Physics Letters, 1980, 36, 14-15.	3.3	27
3	Laser Ignition of Plasma Off Aluminum Surfaces. AIAA Journal, 1981, 19, 460-469.	2.6	62
4	Pulsed CO<inf>2</inf>lasers for the surface heating and melting of metals. IEEE Journal of Quantum Electronics, 1981, 17, 2008-2015.	1.9	15
5	Optoacoustic sources of sound. Uspekhi Fizicheskikh Nauk, 1981, 24, 977-995.	0.3	62
6	Coupling of pulsed 0.35â€Î¼m laser radiation to aluminum alloys. Journal of Applied Physics, 1982, 53, 3190-3200.	2.5	107
7	Transient Vaporization from a Surface into Vacuum. AIAA Journal, 1982, 20, 950-954.	2.6	46
8	Effect of intensity modulation on radiation-induced melting and vaporization of solids. Applied Physics A: Solids and Surfaces, 1982, 27, 121-124.	1.4	4
9	Impulse produced by vacuum evaporation on exposure to pulsed lasers. Journal of Quantitative Spectroscopy and Radiative Transfer, 1985, 34, 455-461.	2.3	4
10	An algorithm for the numerical solution of the problem of the surface vaporization of a substance by laser radiation. USSR Computational Mathematics and Mathematical Physics, 1985, 25, 69-77.	0.0	1
11	Physics and Chemistry of sulfur lakes on Io. Icarus, 1985, 64, 345-367.	2.5	54
12	A Model for Radiation Driven Ablation of Carbon Under Low Pressures. , 0, , .		3
13	Vaporization of irradiated droplets. Physics of Fluids, 1986, 29, 3573.	1.4	28
14	A numerical comparison of different models of metal vapourization. USSR Computational Mathematics and Mathematical Physics, 1986, 26, 88-91.	0.0	0
15	Diffusive and convective vaporization of irradiated droplets. Journal of Applied Physics, 1987, 62, 4571-4578.	2.5	18
16	Spectroscopic studies of plasma during cw laser materials interaction. Journal of Applied Physics, 1987, 61, 917-923.	2.5	73
17	Oneâ€dimensional steadyâ€state model for damage by vaporization and liquid expulsion due to laserâ€material interaction. Journal of Applied Physics, 1987, 62, 4579-4586.	2.5	207
18	High-power laser applications to medicine. Journal of Quantitative Spectroscopy and Radiative Transfer, 1988, 40, 449-467.	2.3	8

#	Article	IF	Citations
19	Internal vaporization in porous materials under laser irradiation. AIAA Journal, 1988, 26, 561-565.	2.6	8
20	Pulsed CO2 laser-induced effects on water droplets. AIAA Journal, 1988, 26, 65-71.	2.6	17
21	Nonlinear Optoacoustic Underwater Sound Source. Proceedings of SPIE, 1988, 0925, 255.	0.8	4
22	LASER-INDUCED DROPLET HEATING. Advanced Series in Applied Physics, 1988, , 201-275.	0.0	0
23	Three-Dimensional Freejet Flow from a Finite Length Slit. , 1989, , 312-326.		1
24	Pulsed 10Î¼m-laser interferometry of the early evolution stages of a laser-generated breakdown plasma in air in front of an aluminium target. Infrared Physics, 1989, 29, 9-19.	0.5	5
25	Laser droplet heating: fast and slow heating regimes. Applied Optics, 1989, 28, 3671.	2.1	54
26	General model for thermochemical ablation into a vacuum. Journal of Thermophysics and Heat Transfer, 1990, 4, 278-284.	1.6	5
27	Twoâ€dimensional model for material damage due to melting and vaporization during laser irradiation. Journal of Applied Physics, 1990, 68, 3884-3891.	2.5	85
28	On the dual role of the Knudsen layer and unsteady, adiabatic expansion in pulse sputtering phenomena. Journal of Chemical Physics, 1990, 92, 5047-5056.	3.0	211
29	A thermoâ€mechanical model for laser ablation. Journal of Applied Physics, 1991, 70, 1684-1691.	2.5	85
30	Effects of sizeâ€dependent emissivity on maximum temperatures during micrometeorite entry. Journal of Geophysical Research, 1991, 96, 1303-1314.	3.3	30
31	Calculation of merging turbulent wakes. AIAA Journal, 1991, 29, 473-474.	2.6	2
32	On the gas dynamics of laser-pulse sputtering of polymethylmethacrylate. Nuclear Instruments & Methods in Physics Research B, 1991, 58, 463-472.	1.4	35
33	Effects of nonequilibrium of the plasma of a vapor aureole in an intense radiation field. Journal of Applied Mechanics and Technical Physics, 1991, 32, 147-151.	0.5	0
34	Homogeneous heating, evaporation and explosion of a water aerosol drop. Journal of Engineering Physics, 1991, 61, 1000-1006.	0.0	0
35	On the direct observation of the gas-dynamics of laser-pulse sputtering of polymers. Applied Physics B, Photophysics and Laser Chemistry, 1991, 53, 160-169.	1.5	51
36	Low-fluence laserâ€“target coupling. Laser and Particle Beams, 1991, 9, 403-420.	1.0	15

#	Article	IF	Citations
37	Characterization and analysis of the CO2laserâ€induced ablation of lithium target via laserâ€induced fluorescence and absorption spectroscopy of emitted atoms. Journal of Applied Physics, 1991, 69, 7565-7571.	2.5	27
38	Probing laser induced metal vaporization by gas dynamics and liquid pool transport phenomena. Journal of Applied Physics, 1991, 70, 1313-1319.	2.5	52
39	Ignition and maintenance of laser-supported detonation waves. AIAA Journal, 1991, 29, 763-772.	2.6	5
40	Kinetically controlled vaporization of a polyatomic gas. AIAA Journal, 1991, 29, 471-473.	2.6	5
41	Thermal-induced vaporization of organic materials. AIAA Journal, 1991, 29, 927-931.	2.6	4
42	Twoâ€dimensional model for laserâ€induced materials damage: Effects of assist gas and multiple reflections inside the cavity. Journal of Applied Physics, 1992, 71, 2560-2569.	2.5	55
43	Laser-induced vaporization of a metal surface. Journal Physics D: Applied Physics, 1992, 25, 57-65.	2.8	72
44	Gas dynamics of the pulsed emission of a perfect gas with applications to laser sputtering and to nozzle expansion. Physical Review A, 1992, 46, 860-874.	2.5	100
45	Liquid metal expulsion during laser irradiation. Journal of Applied Physics, 1992, 72, 3317-3322.	2.5	57
46	Gas flow dynamics in laser ablation deposition. Journal of Applied Physics, 1992, 71, 4547-4556.	2.5	171
47	Impulse transfer to the surface of aluminum and copper from a pulsed Nd: YAG laser. Applied Physics B, Photophysics and Laser Chemistry, 1993, 57, 277-280.	1.5	11
48	Numerical modeling of laser shock waves in condensed media. Journal of Applied Mechanics and Technical Physics, 1993, 34, 15-20.	0.5	0
49	Laser induced pressure and impulse on a solid surface in air. , 1993, , .		0
50	Laser-induced plasma formation during pulsed laser deposition. Journal Physics D: Applied Physics, 1993, 26, 1545-1553.	2.8	64
51	Application of droplet evaporation model to the expansion cooling of an atomic uranium beam. Journal Physics D: Applied Physics, 1993, 26, 1351-1356.	2.8	5
52	Experimental study of laserâ€induced plasma in welding conditions with continuous CO2laser. Journal of Applied Physics, 1993, 74, 5773-5780.	2.5	90
53	<title>Time-resolved diagnostics of energy coupling during material processing with excimer lasers</title>. , 1994, 2246, 126.		6
54	SIMULATION OF LASER MELTING AND EVAPORATION OF SUPERCONDUCTING CERAMICS. Numerical Heat Transfer; Part A: Applications, 1994, 26, 587-600.	2.1	14

#	Article	IF	Citations
55	Phenomenological Modeling of Fusion Welding Processes. MRS Bulletin, 1994, 19, 29-35.	3.5	52
56	Investigation of material removal in pulsed-laser deposition of ceramics. Surface and Coatings Technology, 1994, 68-69, 344-351.	4.8	4
57	Destruction of moist porous materials by thermal shock-induced rapid internal evaporation. Journal of Engineering Physics and Thermophysics, 1994, 66, 398-402.	0.6	0
58	Analytical solution of the strong evaporation (condensation) problem. Fluid Dynamics, 1994, 28, 861-871.	0.9	1
59	Peculiarities of laser melting and evaporation of superconducting ceramics. Thin Solid Films, 1994, 241, 109-113.	1.8	7
60	A model of deep penetration laser welding based on calculation of the keyhole profile. Journal Physics D: Applied Physics, 1994, 27, 1805-1814.	2.8	310
61	Gas dynamics resulting from laser vaporization of metals in one dimension. II. Journal of Applied Physics, 1994, 76, 1447-1454.	2.5	10
62	Gas dynamics resulting from laser vaporization of metals in one dimension. I. Journal of Applied Physics, 1994, 76, 1436-1446.	2.5	16
63	Investigation on laser microprocessing of magnetic disk. , 1994, 2097, 124.		1
64	Supersonic cluster source with mass selection and energy control. Review of Scientific Instruments, 1994, 65, 2267-2275.	1.3	14
65	Laser-Solid Interaction and Dynamics of the Laser-Ablated Materials. Materials Research Society Symposia Proceedings, 1995, 388, 27.	0.1	5
66	<title>Excimer laser induced shock waves in the presence of external gas flows</title>. , 1995, , .		4
67	Overheated metastable states in polymer sublimation by laser radiation. Applied Surface Science, 1995, 86, 7-12.	6.1	4
68	Modelling deep penetration laser welding using a BEM sensitivity scheme. Engineering Analysis With Boundary Elements, 1995, 16, 93-98.	3.7	7
69	Overheated metastable states in pulsed laser action on ceramics. Journal of Applied Physics, 1995, 78, 1259-1270.	2.5	21
70	Time-resolved observation of gas-dynamic discontinuities arising during excimer laser ablation and their interpretation. Journal Physics D: Applied Physics, 1995, 28, 794-806.	2.8	133
71	Physical processes in fusion welding. Reviews of Modern Physics, 1995, 67, 85-112.	45.6	443
72	The thermodynamic response of soft biological tissues to pulsed ultraviolet laser irradiation. Biophysical Journal, 1995, 69, 1259-1271.	0.5	37

#	Article	IF	Citations
73	Accelerated Expansion of Laser-Ablated Materials near a Solid Surface. Physical Review Letters, 1995, 75, 4706-4709.	7.8	60
74	Mechanisms of melt droplets and solid-particle ejection from a target surface by pulsed laser action. Applied Physics A: Materials Science and Processing, 1995, 61, 81-86.	2.3	106
75	Investigations of extinction coefficients during excimer laser ablation and their interpretation in terms of Rayleigh scattering. Journal Physics D: Applied Physics, 1996, 29, 1564-1575.	2.8	45
76	Laser melting of nitrides of aluminium, silicon, and boron. Quantum Electronics, 1997, 27, 259-262.	1.0	0
77	The applicability of the Sedov - Taylor scaling during material removal of metals and oxide layers with pulsed and excimer laser radiation. Journal Physics D: Applied Physics, 1997, 30, 980-989.	2.8	19
78	Development of a Computationally Efficient Process Simulation for Laser Drilling. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 405-410.	0.4	1
79	A generalized thermal modeling for laser drilling processâ€"I. Mathematical modeling and numerical methodology. International Journal of Heat and Mass Transfer, 1997, 40, 3351-3360.	4.8	94
80	On gas-dynamic effects in time-dependent vaporisation processes. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 231, 93-96.	2.1	3
81	Influence of the evaporation coefficient on the strong condensation of a monatomic gas. Technical Physics, 1997, 42, 1133-1137.	0.7	2
82	A mathematical model for penetration laser welding as a free-boundary problem. Journal Physics D: Applied Physics, 1997, 30, 1300-1313.	2.8	54
83	Numerical modeling of laser matter interaction in the presence of an ambient gas. Pramana - Journal of Physics, 1998, 50, 63-73.	1.8	5
84	Modeling of the expansion of laser-evaporated matter in argon, helium and nitrogen and the condensation of clusters. Applied Surface Science, 1998, 127-129, 134-141.	6.1	50
85	Numerical modeling of pulsed laser evaporation of aluminum targets. Applied Surface Science, 1998, 127-129, 177-183.	6.1	42
86	Two-wavelength interferometry on excimer laser induced vapour/plasma plumes during the laser pulse. Applied Surface Science, 1998, 127-129, 922-927.	6.1	27
87	A Theoretical Model for Laser Cleaning of Microparticles in a Thin Liquid Layer. Japanese Journal of Applied Physics, 1998, 37, L1330-L1332.	1.5	7
88	Structuring with excimer lasersâ€"experimental and theoretical investigations on quality and efficiency. Journal of Laser Applications, 1998, 10, 255-264.	1.7	4
89	A Theoretical Model for Steam Laser Cleaning. Materials Research Society Symposia Proceedings, 1998, 526, 409.	0.1	2
90	Dynamical interpretation of deep penetration of cw laser welding. , 1998, , .		7

#	Article	IF	Citations
91	Simulation of laser evaporation and plume. , 1998, , .		5
92	Cluster formation dynamics in a locally-confined gas layer mixed with the plume ablated by pulsed laser irradiation. Nuclear Instruments & Methods in Physics Research B, 1999, 153, 302-308.	1.4	7
93	Dynamics of phase transitions at electrical explosion of wire. Journal of Physics Condensed Matter, 1999, 11, 2223-2232.	1.8	14
94	Laser generation of acoustic waves in the ablative regime. Journal of Applied Physics, 1999, 85, 2031-2040.	2.5	56
95	Theory and numerical modeling of the accelerated expansion of laser-ablated materials near a solid surface. Physical Review B, 1999, 60, 8373-8382.	3.2	37
96	Expansion of the ablation plume created by ultraviolet laser irradiation of various target materials. EPJ Applied Physics, 1999, 5, 303-310.	0.7	11
97	Two-dimensional gas-dynamic model of laser ablation in an ambient gas. Applied Surface Science, 2000, 154-155, 66-72.	6.1	33
98	Influence of atomic collisions in vapour phase on pulsed laser ablation. Applied Surface Science, 2000, 168, 96-99.	6.1	8
99	Phase change phenomena during high power laser-materials interaction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2000, 292, 162-168.	5.6	23
100	Fuzzy Rule Based Prediction System of Surface Damage in the Laser Cleaning Process. International Journal of Advanced Manufacturing Technology, 2000, 16, 649-655.	3.0	10
101	A self-consistent three dimensional laser keyhole welding model. , 2000, , .		2
102	Monte Carlo simulation of vapor transport in physical vapor deposition of titanium. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2000, 18, 907-916.	2.1	28
103	Surface depression and ablation for a weld pool in material processing: A mathematical model. Journal of Laser Applications, 2000, 12, 63-67.	1.7	2
104	Gas dynamics of laser ablation: Influence of ambient atmosphere. Journal of Applied Physics, 2000, 88, 4352.	2.5	103
105	Modelling of high-density laser-material interaction using fast level set method. Journal Physics D: Applied Physics, 2001, 34, 364-372.	2.8	117
106	Target-vapour interaction and atomic collisions in pulsed laser ablation. Journal Physics D: Applied Physics, 2001, 34, 1147-1156.	2.8	29
107	Numerical simulation of laser induced plasma during pulsed laser deposition. Journal of Applied Physics, 2001, 90, 5889-5897.	2.5	35
108	A calculation model for the evaporation recoil pressure in laser material processing. Journal Physics D: Applied Physics, 2001, 34, 2637-2642.	2.8	48

#	Article	IF	Citations
109	Development of a theory for alloying element losses during laser beam welding. Journal Physics D: Applied Physics, 2001, 34, 81-86.	2.8	24
110	Entropy production and destruction in models of material evaporation. Journal Physics D: Applied Physics, 2001, 34, 413-417.	2.8	14
111	Numerical modeling of the transmission of breakdown plasma generated in water during laser shock processing. EPJ Applied Physics, 2001, 16, 131-139.	0.7	60
112	Modelling and Analysis of UV Laser Micromachining of Copper. International Journal of Advanced Manufacturing Technology, 2001, 18, 323-331.	3.0	49
113	Weld metal composition change during conduction mode laser welding of aluminum alloy 5182. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2001, 32, 163-172.	2.1	167
114	Time dependent ablation and liquid ejection processes during the laser drilling of metals. Optics Communications, 2001, 191, 97-112.	2.1	39
115	Analytical investigations on geometrical influences on laser drilling. Journal Physics D: Applied Physics, 2001, 34, 2918-2925.	2.8	39
116	Metastable States of Liquid Metal under Conditions of Electric Explosion. High Temperature, 2001, 39, 674-687.	1.0	55
117	CO2 laserâ€“plume interaction in materials processing. Journal of Applied Physics, 2001, 89, 681-688.	2.5	37
118	Unbounded keyhole collapse and bubble formation during pulsed laser interaction with liquid zinc. Journal Physics D: Applied Physics, 2002, 35, 1218-1228.	2.8	86
119	Simulation of the plume generated by a micro laser-ablation plasma thruster. , 2002, , .		4
120	Mechanism of keyhole formation and stability in stationary laser welding. Journal Physics D: Applied Physics, 2002, 35, 1570-1576.	2.8	236
121	Gas-dynamic boundary conditions of evaporation and condensation: Numerical analysis of the Knudsen layer. Physics of Fluids, 2002, 14, 4242-4255.	4.0	121
122	Modelling of vapour flow in deep penetration laser welding. Journal Physics D: Applied Physics, 2002, 35, 272-280.	2.8	59
123	Laser-generated plasma plume expansion: Combined continuous-microscopic modeling. Physical Review E, 2002, 66, 066406.	2.1	190
124	Models for Solidification and Splashing in Laser Percussion Drilling. SIAM Journal on Applied Mathematics, 2002, 62, 1899-1923.	1.8	25
125	The effect of temporal pulse shape on drilling efficiency. , 2002, , .		0
126	Role of recoil pressure, multiple reflections, and free surface evolution during laser keyhole welding. , 2002, , .		3

#	Article	IF	Citations
127	Cathode erosion rate in high-pressure arcs: influence of swirling gas flow. IEEE Transactions on Plasma Science, 2002, 30, 2113-2116.	1.3	21
128	Modeling of laser keyhole welding: Part I. mathematical modeling, numerical methodology, role of recoil pressure, multiple reflections, and free surface evolution. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 1817-1830.	2.2	234
129	Plume dynamics during film and nanoparticles deposition by pulsed laser ablation. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 302, 182-189.	2.1	50
130	Mathematical modeling of laser ablation in liquids with application to laser ultrasonics. Ultrasonics, 2002, 40, 1065-1077.	3.9	6
131	Effect of the Nature of the Interaction between a Gas and a Surface on the Relations for the Knudsen Layer in the Case of Strong Evaporation. Fluid Dynamics, 2003, 38, 949-953.	0.9	2
132	Coupling of the Wang Changâ€“Uhlenbeck equations with the multispecies Euler system. Journal of Computational Physics, 2003, 189, 239-276.	3.8	15
133	Mechanisms of Pulsed Laser Ablation of Biological Tissues. Chemical Reviews, 2003, 103, 577-644.	47.7	1,669
134	Near-surface laserâ€“vapour coupling in nanosecond pulsed laser ablation. Journal Physics D: Applied Physics, 2003, 36, 2962-2971.	2.8	38
135	Optical breakdown in aluminum vapor induced by ultraviolet laser radiation. Journal of Applied Physics, 2003, 93, 56-66.	2.5	34
136	Cathode erosion in high-current high-pressure arc. Journal Physics D: Applied Physics, 2003, 36, 704-712.	2.8	50
137	Alloying element vaporization during laser spot welding of stainless steel. Journal Physics D: Applied Physics, 2003, 36, 3079-3088.	2.8	77
138	A thermodynamic model of plasma generation by pulsed laser irradiation in vacuum. Journal Physics D: Applied Physics, 2003, 36, 1254-1268.	2.8	3
139	Modeling of the compressible vapor flow induced in a keyhole during laser welding. Journal of Applied Physics, 2003, 93, 4289-4296.	2.5	39
140	Kinetic-Fluid Coupling in the Field of the Atomic Vapor Laser Isotopic Separation: Numerical Results in the Case of a Monospecies Perfect Gas. AIP Conference Proceedings, 2003, , .	0.4	6
141	Ionization and ablation phenomena in an ablative plasma accelerator. Journal of Applied Physics, 2004, 96, 5420-5428.	2.5	25
142	Composition change of stainless steel during microjoining with short laser pulse. Journal of Applied Physics, 2004, 96, 4547-4555.	2.5	48
143	On the vaporization of Teflon and heated compound-materials in ablation-controlled arcs. Journal of Applied Physics, 2004, 95, 3339-3343.	2.5	21
144	A Thermo-Hydraulic Numerical Model for High Energy Welding Processes. Revue Europeenne Des Elements, 2004, 13, 207-229.	0.1	4

#	Article	IF	Citations
145	Analysis of laser-induced evaporation of Al target under conditions of vapour plasma formation. Thin Solid Films, 2004, 453-454, 353-361.	1.8	28
146	Evaporation of diesel fuel droplets: kinetic versus hydrodynamic models. International Journal of Heat and Mass Transfer, 2004, 47, 2541-2549.	4.8	109
147	Nanosecond laser ablation of Cu: modeling of the expansion in He background gas, and comparison with expansion in vacuum. Journal of Analytical Atomic Spectrometry, 2004, 19, 1169-1176.	3.0	48
148	Theory of shock wave propagation during laser ablation. Physical Review B, 2004, 69, .	3.2	48
149	The effect of ionization on cluster formation in laser ablation plumes. Nanotechnology, 2004, 15, 390-403.	2.6	103
150	1.1 Fundamentals of laser-induced processes. , 0, , 25-68.		0
151	<title>Analysis of plasma-controlled laser evaporation of Al target in vacuum</title>. , 2004, , .		0
152	Time scale effects in laser material removal: a review. International Journal of Advanced Manufacturing Technology, 2005, 26, 598-608.	3.0	102
153	Modeling laser keyhole-welding with adaptive mesh refinement. , 2005, , .		1
154	Effect of pulsing parameters on laser ablative cleaning of copper oxides. , 2005, , .		2
155	Welding heat transfer. , 2005, , 32-98.		2
156	A Numerical Method for Multiphase Incompressible Thermal Flows with Solidâ€“Liquid and Liquidâ€“Vapor Phase Transformations. Numerical Heat Transfer, Part B: Fundamentals, 2005, 48, 125-145.	0.9	32
157	Gas-kinetic simulation of carbon vapour molecular composition at nanosecond laser ablation of graphite in vacuum. Journal Physics D: Applied Physics, 2005, 38, 2881-2889.	2.8	5
158	Laser ablation of Cu and plume expansion into 1atm ambient gas. Journal of Applied Physics, 2005, 97, 063305.	2.5	162
159	Thermal model of nanosecond pulsed laser ablation:â€ƒAnalysis of energy and mass transfer. Journal of Applied Physics, 2005, 97, 014307.	2.5	110
160	Boundary conditions and evaporation front instabilities. Journal Physics D: Applied Physics, 2005, 38, 3703-3714.	2.8	8
161	Ionization degree for strong evaporation of metals. Physics of Plasmas, 2005, 12, 083503.	1.9	9
162	Radiative Gas Dynamics of Linear-Stabilized Surface Discharge in Atmospheric Gases. , 2005, , .		1

#	Article	IF	Citations
163	Nonequilibrium thermal boundary layer in a capillary discharge with an ablative wall. Physics of Plasmas, 2006, 13, 114503.	1.9	11
164	Investigation of transport phenomena and defect formation in pulsed laser keyhole welding of zinc-coated steels. Journal Physics D: Applied Physics, 2006, 39, 5338-5355.	2.8	76
165	Kinetics of plasma particles and electron transport in the current-carrying plasma adjacent to an evaporating and electron emitting wall. IEEE Transactions on Plasma Science, 2006, 34, 855-866.	1.3	6
166	Mass removal modes in the laser ablation of silicon by a Q-switched diode-pumped solid-state laser (DPSSL). Journal Physics D: Applied Physics, 2006, 39, 2624-2635.	2.8	28
167	Modelling of plasma particle interactions and coating growth for plasma spraying of hydroxyapatite. Surface and Coatings Technology, 2006, 200, 3757-3769.	4.8	58
168	Advanced models of fuel droplet heating and evaporation. Progress in Energy and Combustion Science, 2006, 32, 162-214.	31.2	667
169	Transport Phenomena and Keyhole Dynamics during Pulsed Laser Welding. Journal of Heat Transfer, 2006, 128, 680-690.	2.1	116
170	Effect of pulsing parameters on laser ablative cleaning of copper oxides. Journal of Applied Physics, 2006, 99, 064902.	2.5	18
171	Thermal Choke of the Evaporation Wave During Laser Ablation. AIAA Journal, 2007, 45, 3006-3009.	2.6	3
172	Ion emission at the target of the radiographic devices PIVAIR and AIRIX. Journal Physics D: Applied Physics, 2007, 40, 1712-1732.	2.8	18
173	Kinetic theory analysis of laser ablation of carbon: Applicability of one-dimensional models. Journal of Applied Physics, 2007, 101, 033529.	2.5	12
174	Modeling of plasma-controlled evaporation and surface condensation of Al induced by 1.06 and 0.248Î¼m laser radiations. Journal of Applied Physics, 2007, 101, 024922.	2.5	31
175	Modeling and experimental verification of plasmas induced by high-power nanosecond laser-aluminum interactions in air. Physical Review E, 2007, 76, 026405.	2.1	45
176	FEM simulation of the laser plasma interaction during laser nitriding of titanium. Applied Surface Science, 2007, 254, 888-892.	6.1	22
177	A comparative study of the residual deformation of an automotive gear-case assembly due to deep-penetration high-energy welding. Journal of Materials Processing Technology, 2007, 190, 109-116.	6.3	8
178	Laserâ€“target interaction during highâ€power pulsed laser deposition of superconducting thin films. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 4241-4248.	1.8	9
179	Rapid evaporation and condensation of gas between two surfaces in the limit of low values of Knudsen number. High Temperature, 2007, 45, 518-522.	1.0	1
180	Fast Modeling of Phase Changes in a Particle Injected Within a d.c Plasma Jet. Journal of Thermal Spray Technology, 2007, 16, 744-750.	3.1	12

#	Article	IF	Citations
181	Effects of electromagnetic force on melt flow and porosity prevention in pulsed laser keyhole welding. International Journal of Heat and Mass Transfer, 2007, 50, 2217-2235.	4.8	95
182	Modeling of plasma-controlled surface evaporation and condensation of Al target under pulsed laser irradiation in the nanosecond regime. Applied Surface Science, 2007, 253, 7686-7691.	6.1	14
183	Time-space distribution of laser-induced plasma parameters and its influence on emission spectra of the laser plumes. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2008, 63, 1024-1037.	2.9	28
184	Improved thermal model and its application in UV high-power pulsed laser ablation of metal target. Solid State Communications, 2008, 145, 556-560.	1.9	38
185	Predicting dynamic and thermal histories of agglomerated particles injected within a d.c. plasma jet. Surface and Coatings Technology, 2008, 202, 4491-4495.	4.8	32
186	Modeling of transport phenomena in hybrid laser-MIG keyhole welding. International Journal of Heat and Mass Transfer, 2008, 51, 4353-4366.	4.8	156
187	The effect of condensation coefficient on the parameters of flow in problems on strong re-condensation. High Temperature, 2008, 46, 381-385.	1.0	0
188	Characterization and comparison of iron and aluminium laser ablation with time-integrated emission spectroscopy of induced plasma. Journal Physics D: Applied Physics, 2008, 41, 225202.	2.8	20
189	Self-consistent radiation-based simulation of electric arcs: II. Application to gas circuit breakers. Journal Physics D: Applied Physics, 2008, 41, 135206.	2.8	48
190	Measurement of laser absorptivity for operating parameters characteristic of laser drilling regime. Journal Physics D: Applied Physics, 2008, 41, 155502.	2.8	39
191	Laser ablation of metallic targets with high fluences: Self-consistent approach. Journal of Applied Physics, 2009, 105, 083302.	2.5	6
192	Investigation of mixing and diffusion processes in hybrid spot laserâ€“MIG keyhole welding. Journal Physics D: Applied Physics, 2009, 42, 095502.	2.8	17
193	Comparison of LII derived soot temperature measurements withÂLII model predictions forÂsoot in aÂlaminar diffusion flame. Applied Physics B: Lasers and Optics, 2009, 96, 657-669.	2.2	63
194	Effect of the mode of gas-surface interaction on intensive monatomic gas evaporation. Fluid Dynamics, 2009, 44, 80-87.	0.9	3
195	Weld pool flows during initial stages of keyhole formation in laser welding. Journal Physics D: Applied Physics, 2009, 42, 175502.	2.8	98
196	Laser Ablation: Beam Wavelength Optimization and Communication through Plasma. , 2009, , .		0
197	The Theory of Laser Materials Processing. Springer Series in Materials Science, 2009, , .	0.6	73
198	Laser Cutting and Drilling. , 0, , 431-501.		1

#	Article	IF	Citations
199	Thermal processes in laserâ€“materials interactions. , 0, , 60-86.		0
200	Three-dimensional simulation transient keyhole evolution during laser keyhole welding. Proceedings of SPIE, 2009, , .	0.8	0
201	Dynamics of plasma expansion in the pulsed laser material interaction. Sadhana - Academy Proceedings in Engineering Sciences, 2010, 35, 493-511.	1.3	16
202	Modeling of the formation of a vapor cloud in a windflow with intense evaporation. Journal of Engineering Physics and Thermophysics, 2010, 83, 809-814.	0.6	1
203	On vaporization in laser material interaction. Journal of Applied Physics, 2010, 107, .	2.5	12
204	The numerical studies of the laser processing parameters on copper and aluminum during laser cutting. , 2010, , .		5
205	Modelling of electromagnetic processes in system â€˜welding arc â€“ evaporating anodeâ€™ Part 1 â€“ Model of anode region. Science and Technology of Welding and Joining, 2010, 15, 457-462.	3.1	16
206	Laser Cleaning. , 2010, , 417-440.		2
207	Laser Material Processing. , 2010, , .		535
208	Study of Different Models of the Wall Ablation Process in Capillary Discharge. IEEE Transactions on Plasma Science, 2010, 38, 1033-1041.	1.3	23
209	A three-dimensional sharp interface model for self-consistent keyhole and weld pool dynamics in deep penetration laser welding. Journal Physics D: Applied Physics, 2011, 44, 025301.	2.8	203
210	Experimental determination of temperature threshold for melt surface deformation during laser interaction on iron at atmospheric pressure. Journal Physics D: Applied Physics, 2011, 44, 435402.	2.8	77
211	Expansion of a multi-component laser-ablated plume. EPJ Applied Physics, 2011, 56, 11101.	0.7	7
212	1D modelling of nanosecond laser ablation of copper samples in argon at Pâ€‰=â€‰1 atm with a wavelength of 532 nm. Journal of Applied Physics, 2011, 110, 083307.	2.5	30
214	Recoil pressure and surface temperature in laser drilling. , 2011, , .		6
215	Thermodynamics of Nanoparticle Formation in Laser Ablation. , 0, , .		1
216	Numerical studies of laser cutting on an active electrode material for lithium-ion batteries. , 2011, , .		2
217	The effect of laser wavelength on heating of ablated carbon plume. Applied Physics A: Materials Science and Processing, 2011, 104, 815-819.	2.3	25

#	Article	IF	Citations
218	About evaporationâ€“condensation coefficients on the vaporâ€“liquid interface of high thermal conductivity matters. International Journal of Heat and Mass Transfer, 2011, 54, 3042-3048.	4.8	53
219	A simple model for laser drilling. Mathematics and Computers in Simulation, 2011, 81, 1541-1552.	4.4	29
220	Spatter in laser welding. Journal of Laser Applications, 2011, 23, .	1.7	133
221	Modelling of binary alloy (Alâ€“Mg) anode evaporation in arc welding. Modelling and Simulation in Materials Science and Engineering, 2012, 20, 055009.	2.0	9
222	Hybrid laser-arc welding of aerospace and other materials. , 2012, , 109-141.		5
223	Fresnel absorption of 1Î¼m- and 10Î¼m-laser beams at the keyhole wall during laser beam welding: Comparison between smooth and wavy surfaces. Applied Surface Science, 2012, 258, 3354-3363.	6.1	65
224	Infrared long nanosecond laser pulse ablation of silicon: Integrated two-dimensional modeling and time-resolved experimental study. Applied Surface Science, 2012, 258, 7766-7773.	6.1	45
225	Local absorptivity modulation of a 1Î¼m-laser beam through surface waviness. Applied Surface Science, 2012, 258, 9732-9736.	6.1	38
226	Unsteady rarefied-gas expansion on evaporation of a condensed material from its overheated surface. Fluid Dynamics, 2012, 47, 543-555.	0.9	4
227	Ultraviolet versus infrared: Effects of ablation laser wavelength on the expansion of laser-induced plasma into one-atmosphere argon gas. Journal of Applied Physics, 2012, 111, .	2.5	59
228	Generation and expansion of laser-induced plasma as a spectroscopic emission source. Frontiers of Physics, 2012, 7, 649-669.	5.0	53
229	Absorptivity modulation on wavy molten steel surfaces: The influence of laser wavelength and angle of incidence. Applied Physics Letters, 2012, 101, .	3.3	33
230	Study on temperature dependence of recoil pressure near the boiling temperature - Towards better modeling simulation. , 2012, , .		3
231	Numerical studies of laser cutting of an anode for lithium-ion batteries. , 2012, , .		2
232	Hrbrid Laser-Arc Welding. , 2012, , .		2
233	Computational and experimental studies of laser cutting of the current collectors for lithium-ion batteries. Journal of Power Sources, 2012, 210, 327-338.	7.8	54
234	Momentum and velocity of the ablated material in laser machining of carbon fiber preforms. Applied Physics A: Materials Science and Processing, 2013, 113, 361-366.	2.3	15
235	The role of mass removal mechanisms in the onset of ns-laser induced plasma formation. Journal of Applied Physics, 2013, 114, 023301.	2.5	52

#	Article	IF	Citations
236	Plasma in Space Propulsion. , 2013, , 173-285.		1
237	Revisiting the interplay between ablation, collisional, and radiative processes during ns-laser ablation. Applied Physics Letters, 2013, 103, .	3.3	23
238	Plasma formation on a metal surface under combined action of laser and microwave radiation. Quantum Electronics, 2013, 43, 943-948.	1.0	1
239	Laser Technology in Biomimetics. Biological and Medical Physics Series, 2013, , .	0.4	14
240	High speed remote laser cutting of electrodes for lithium-ion batteries: Anode. Journal of Power Sources, 2013, 240, 368-380.	7.8	54
241	Experimental analysis of laser ablated plumes for asteroid deflection and exploitation. Acta Astronautica, 2013, 90, 85-97.	3.2	27
242	Simulation of laser interaction with ablative plasma and hydrodynamic behavior of laser supported plasma. Journal of Applied Physics, 2013, 113, 043106.	2.5	2
243	The effect of laser wavelength on laser-induced carbon plasma. Journal of Applied Physics, 2013, 114, .	2.5	17
244	Developments in pulsed and continuous wave laser welding technologies. , 2013, , 103-148e.		3
245	Analysis of laser remote fusion cutting based on a mathematical model. Journal of Applied Physics, 2013, 114, .	2.5	22
246	Investigation of keyhole plume and molten pool based on a three-dimensional dynamic model with sharp interface formulation. Journal Physics D: Applied Physics, 2013, 46, 055501.	2.8	124
247	Controlled Efficiency During Drilling With a High Intensity Beam. , 2013, , .		0
248	Complete heat and fluid flow modeling of keyhole formation and collapse during spot laser welding. , 2013, , .		1
249	Thermohydraulic modeling of pulsed laser welding. , 2013, , .		1
250	Comment on â€œLaser ablation of Cu and plume expansion into 1 atm ambient gasâ€•[J. Appl. Phys. 97, 063305 (2005)]. Journal of Applied Physics, 2014, 115, 166101.	2.5	14
251	The combined effect of optical laser and microwave radiations on a metal surface. Chinese Physics B, 2014, 23, 025205.	1.4	0
252	Analysis of multi-phase interaction and its effects on keyhole dynamics with a multi-physics numerical model. Journal Physics D: Applied Physics, 2014, 47, 345501.	2.8	82
253	Incapability of Drilling With a High-Power-Density Beam. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2014, 4, 2026-2034.	2.5	0

#	Article	IF	Citations
254	Laser Drilling of Metallic and Nonmetallic Substrates. , 2014, , 115-175.		11
255	Recent advances in laser ablation modelling for asteroid deflection methods. , 2014, , .		6
256	Two-dimensional simulation of laser ablation with 235 nanosecond pulses. Journal of Laser Applications, 2014, 26, .	1.7	13
257	Laserâ€“Matter Interaction in LIBS Experiments. Springer Series in Optical Sciences, 2014, , 3-29.	0.7	2
258	Gas Flowâ€“Particle Interaction. , 2014, , 113-226.		2
259	Modeling nanosecond pulsed laser ablation: A focus on temperature dependence of material properties. Manufacturing Letters, 2014, 2, 13-16.	2.2	24
260	Improved laser ablation model for asteroid deflection. Acta Astronautica, 2014, 103, 382-394.	3.2	26
261	A model of laser ablation with temperature-dependent material properties, vaporization, phase explosion and plasma shielding. Applied Physics A: Materials Science and Processing, 2014, 116, 273-285.	2.3	74
262	Gas Dynamics of Sublimed Nanoclusters in High-Fluence Time-Resolved Laser-Induced Incandescence. Numerical Heat Transfer, Part B: Fundamentals, 2014, 65, 393-409.	0.9	7
263	A complete model of keyhole and melt pool dynamics to analyze instabilities and collapse during laser welding. Journal of Laser Applications, 2014, 26, .	1.7	102
264	Analysis of moving surface structures at a laser-induced boiling front. Applied Surface Science, 2014, 317, 560-567.	6.1	15
265	Droplets and Sprays. , 2014, , .		113
266	Evaporation model for beam based additive manufacturing using free surface lattice Boltzmann methods. Journal Physics D: Applied Physics, 2014, 47, 275303.	2.8	112
267	Experimental and Numerical Analysis of Gas Dynamics in the Keyhole During Laser Metal Welding. Physics Procedia, 2014, 56, 1268-1276.	1.2	21
268	Modeling of transport phenomena and solidification cracking in laser spot bead-on-plate welding of AA6063-T6 alloy. Part Iâ€”the mathematical model. International Journal of Advanced Manufacturing Technology, 2014, 73, 1705-1716.	3.0	17
269	Fluctuation emergence of bubbles under a rapid drop of pressure in a liquid. Thermophysics and Aeromechanics, 2015, 22, 441-452.	0.5	5
270	Liquid nanodroplet formation through phase explosion mechanism in laser-irradiated metal targets. Physical Review E, 2015, 92, 031301.	2.1	22
271	Laser powder bed fusion additive manufacturing of metals; physics, computational, and materials challenges. Applied Physics Reviews, 2015, 2, 041304.	11.3	750

#	Article	IF	Citations
272	The effect of recoil pressure in the ablation of polycrystalline graphite by a nanosecond laser pulse. Journal Physics D: Applied Physics, 2015, 48, 235201.	2.8	21
273	A unified model to determine the energy partitioning between target and plasma in nanosecond laser ablation of silicon. Journal of Applied Physics, 2015, 117, 123101.	2.5	14
274	3D transient multiphase model for keyhole, vapor plume, and weld pool dynamics in laser welding including the ambient pressure effect. Optics and Lasers in Engineering, 2015, 74, 47-58.	3.8	148
275	Deflection of uncooperative targets using laser ablation. Proceedings of SPIE, 2015, , .	0.8	3
276	Simulation of Motion, Heating, and Breakup of Molten Metal Droplets in the Plasma Jet at Plasma-Arc Spraying. Journal of Thermal Spray Technology, 2015, 24, 659-670.	3.1	18
277	Local flashing events at the keyhole front in laser welding. Optics and Lasers in Engineering, 2015, 68, 35-41.	3.8	23
278	Evaporation of a highly superheated liquid. International Journal of Heat and Mass Transfer, 2015, 88, 203-209.	4.8	4
279	Numerical analysis of weld pool oscillation in laser welding. Journal of Mechanical Science and Technology, 2015, 29, 1715-1722.	1.5	18
280	Effect of recondensation of sublimed species on nanoparticle temperature evolution in time-resolved laser-induced incandescence. Applied Physics B: Lasers and Optics, 2015, 119, 607-620.	2.2	4
281	Mathematical Modeling of Pulsed Electron Beam Induced Heating and Sublimation in Graphite. ECS Journal of Solid State Science and Technology, 2015, 4, P369-P375.	1.8	4
282	Explanation of penetration depth variation during laser welding under variable ambient pressure. Journal of Laser Applications, 2015, 27, .	1.7	77
283	Laser Welding Process â€“ A Review of Keyhole Welding Modelling. Physics Procedia, 2015, 78, 182-191.	1.2	103
284	Multi-scale modeling of solidification and microstructure development in laser keyhole welding process for austenitic stainless steel. Computational Materials Science, 2015, 98, 446-458.	3.0	106
285	Mission and system design for the manipulation of PHOs with space-borne lasers. , 2016, , .		0
286	Three dimensional simulation of high speed remote laser cutting of cathode for lithium-ion batteries. Journal of Laser Applications, 2016, 28, .	1.7	18
287	Analysis of the physical processes occurring during deep penetration laser welding under reduced pressure. Journal of Laser Applications, 2016, 28, .	1.7	35
288	Numerical and experimental study on the effect of the pulse format in laser drilling. Journal of Laser Applications, 2016, 28, .	1.7	4
289	Effects of laser beam spatial distribution on laser-material interaction. Journal of Laser Applications, 2016, 28, .	1.7	32

#	Article	IF	Citations
290	Modeling of weld pool phenomena in tungsten inert gas, CO2-laser and hybrid (TIG+CO2-laser) welding. Journal of Laser Applications, 2016, 28, .	1.7	21
291	Optimal control of a space-borne laser system for a 100 m asteroid deflection under uncertainties. , 2016, , .		0
292	Estimation of Al2O3 critical temperature using a Langmuir probe in laser ablation. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	4
293	The Effects of Drilling Parameters on Pore Size in Keyhole Mode Welding. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2016, 138, .	2.2	0
294	Limit Superheating of Stretched Liquid. High Temperature, 2016, 54, 338-343.	1.0	5
295	On mechanism of explosive boiling in nanosecond regime. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	5
296	Evaluation of explosive sublimation as the mechanism of nanosecond laser ablation of tungsten under vacuum conditions. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 122, 1-8.	2.9	10
297	[INVITED] An overview of the state of art in laser welding simulation. Optics and Laser Technology, 2016, 78, 2-14.	4.6	123
298	Influences of energy density on microstructure and consolidation of selective laser melted bismuth telluride thermoelectric powder. Journal of Manufacturing Processes, 2017, 25, 411-417.	5.9	43
299	Theoretical peak performance and optical constraints for the deflection of an S-type asteroid with a continuous wave laser. Advances in Space Research, 2017, 59, 1353-1367.	2.6	4
300	Wall ablation of heated compound-materials into non-equilibrium discharge plasmas. Journal Physics D: Applied Physics, 2017, 50, 074005.	2.8	19
301	3D transient model to predict temperature and ablated areas during laser processing of metallic surfaces. AIP Advances, 2017, 7, 025007.	1.3	2
302	Modeling of Plasma Expansion during Pulsed Electron Beam Ablation of Graphite. MRS Advances, 2017, 2, 905-911.	0.9	2
303	Numerical simulation of multi-component evaporation during selective electron beam melting of TiAl. Journal of Materials Processing Technology, 2017, 247, 280-288.	6.3	99
304	Investigation on Weld Pool Dynamics in Laser Welding of AISI 304 Stainless Steel With an Interface Gap Via a Three-Dimensional Dynamic Model and Experiments. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2017, 139, .	2.2	3
305	The Theory of Laser Materials Processing. Springer Series in Materials Science, 2017, , .	0.6	9
306	Multiphysics modeling of pulsed laser welding. Journal of Laser Applications, 2017, 29, .	1.7	9
307	Two-dimensional laser-induced thermal ablation modeling with integrated melt flow and vapor dynamics. Journal of Laser Applications, 2017, 29, 022212.	1.7	7

#	Article	IF	Citations
308	A multi-component evaporation model for beam melting processes. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 025003.	2.0	42
309	Simulation of phase explosion in the nanosecond laser ablation of aluminum. Journal of Colloid and Interface Science, 2017, 489, 126-130.	9.4	27
310	Model of convection mass transfer in titanium alloy at low energy high current electron beam action. IOP Conference Series: Materials Science and Engineering, 2017, 168, 012031.	0.6	0
311	Nanosecond Laser Ablation: Mathematical Models, Computational Algorithms, Modeling. , 2017, , .		2
312	An all-optical single-step process for production of nanometric-sized fluorescent diamonds. Nanoscale, 2018, 10, 5738-5744.	5.6	18
313	Laser ablation in an ambient gas: Modelling and experiment. Journal of Applied Physics, 2018, 123, .	2.5	9
314	Effects of momentum transfer on sizing of current collectors for lithium-ion batteries during laser cutting. Optics and Laser Technology, 2018, 99, 315-325.	4.6	21
315	Non-equilibrium Evaporation and Condensation Processes. Mathematical Engineering, 2018, , .	0.2	10
316	Nonequilibrium Effects on the Phase Interface. Mathematical Engineering, 2018, , 17-45.	0.2	0
317	Introduction to the Problem. Mathematical Engineering, 2018, , 1-15.	0.2	0
318	Investigation of the microstructure change due to phase transition in nanosecond pulsed laser processing of diamond. Carbon, 2018, 127, 349-365.	10.3	23
319	Laser-Inducing Extreme Thermodynamic Conditions in Condensed Matter to Produce Nanomaterials for Catalysis and the Photocatalysis. Springer Series in Materials Science, 2018, , 89-106.	0.6	3
320	A review of computational modeling in powder-based additive manufacturing for metallic part qualification. Rapid Prototyping Journal, 2018, 24, 1245-1264.	3.2	26
321	Analysis of energy occupying ratio of Coulomb explosion and thermal effect in picosecond pulse laser processing. Optics Communications, 2018, 424, 190-197.	2.1	8
322	Plasma in Space Propulsion. , 2018, , 213-363.		0
323	Experimental study on the transformation of the W₇₀Cu₃₀ anode erosion mode in DC gaseous arcsâ€"better insights into mechanisms of electrode erosion behavior using in situ diagnosis. Journal Physics D: Applied Physics, 2019, 52, 474001.	2.8	9
324	Numerical simulation on nanosecond laser ablation of titanium considering plasma shield and evaporation-affected surface thermocapillary convection. Optics Communications, 2019, 453, 124384.	2.1	39
325	Evaluation of the possibility of ignition of a hydrogenâ€"oxygen mixture by erosive flame of the impulse laser. Laser Physics, 2019, 29, 096001.	1.2	5

#	Article	IF	Citations
326	Paint Removal on the 5A06 Aluminum Alloy Using a Continuous Wave Fiber Laser. Coatings, 2019, 9, 488.	2.6	25
327	Arc-cathode attachment in GMA welding. Journal Physics D: Applied Physics, 2019, 52, 364003.	2.8	11
328	Numerical simulation and experimental study on laser micromachining of 304L stainless steel in ambient air. International Journal of Heat and Mass Transfer, 2019, 140, 978-991.	4.8	14
329	Effect of Laser-Matter Interaction on Molten Pool Flow and Keyhole Dynamics. Physical Review Applied, 2019, 11, .	3.8	107
330	Pulsed laser melting of bismuth telluride thermoelectric materials. Journal of Manufacturing Processes, 2019, 43, 35-46.	5.9	23
331	Printability of 316 stainless steel. Science and Technology of Welding and Joining, 2019, 24, 412-419.	3.1	28
333	Sequences of Sub-Microsecond Laser Pulses for Material Processing: Modeling of Coupled Gas Dynamics and Heat Transfer. Applied Sciences (Switzerland), 2019, 9, 4785.	2.5	1
334	Joint liquid-vapor approach development at solution of different heat and mass transfer problems. Journal of Physics: Conference Series, 2019, 1370, 012019.	0.4	0
335	Numerical and experimental study on keyhole and melt flow dynamics during laser welding of aluminium alloys under subatmospheric pressures. International Journal of Heat and Mass Transfer, 2019, 133, 812-826.	4.8	59
336	Treatment of long-range interactions arising in the Enskogâ€“Vlasov description of dense fluids. Journal of Computational Physics, 2019, 378, 129-142.	3.8	14
337	Simulation of melt pool behaviour during additive manufacturing: Underlying physics and progress. Additive Manufacturing, 2020, 31, 100909.	3.0	66
338	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.	2.8	26
339	A conservative level set method on unstructured meshes for modeling multiphase thermo-fluid flow in additive manufacturing processes. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113348.	6.6	34
340	Personality traits and entrepreneurial intention: The mediating role of risk aversion. Journal of Public Affairs, 2022, 22, e2275.	3.1	28
341	Evaporation Model for Keyhole Dynamics During Additive Manufacturing of Metal. Physical Review Applied, 2020, 14, .	3.8	52
342	Numerical weld pool simulation for the accuracy improvement of inline weld depth measurement based on optical coherence tomography. Journal of Laser Applications, 2020, 32, 022036.	1.7	5
343	Increasing the efficiency of material removal using dual laser micromachining. International Journal of Advanced Manufacturing Technology, 2020, 107, 3995-4007.	3.0	5
344	Revealing transient powder-gas interaction in laser powder bed fusion process through multi-physics modeling and high-speed synchrotron x-ray imaging. Additive Manufacturing, 2020, 35, 101362.	3.0	20

#	Article	IF	Citations
345	Concept for the calculation of the distribution of heat input in the cathode area by GMA welding. Welding in the World, Le Soudage Dans Le Monde, 2020, 64, 1605-1614.	2.5	1
346	Simulation of evaporation and propulsion of small particles in a laser beam. Acta Mechanica, 2020, 231, 2273-2285.	2.1	1
347	Depth Dependence and Keyhole Stability at Threshold, for Different Laser Welding Regimes. Applied Sciences (Switzerland), 2020, 10, 1487.	2.5	30
348	Effects of Mg content on keyhole behaviour during deep penetration laser welding of Al-Mg alloys. Optics and Laser Technology, 2020, 125, 106056.	4.6	11
349	Effects of evaporation-determined model of arc-cathode coupling on weld pool formation in GMAW process simulation. Welding in the World, Le Soudage Dans Le Monde, 2020, 64, 847-856.	2.5	5
350	Expansion Waves Accompanying Material Evaporation into a Vacuum or a Low-Density Medium. Fluid Dynamics, 2020, 55, 252-263.	0.9	1
351	Mechanistic models for additive manufacturing of metallic components. Progress in Materials Science, 2021, 116, 100703.	32.8	246
352	Microstructural banding of directed energy deposition-additively manufactured 316L stainless steel. Journal of Materials Science and Technology, 2021, 69, 96-105.	10.7	10
353	Hybrid laser-arc welding in aerospace engineering. , 2021, , 123-156.		1
354	Visualisation and numerical analysis of laser powder bed fusion under cross-flow. Additive Manufacturing, 2021, 37, 101690.	3.0	9
355	Metal evaporation flux across Knudsen layer in laser keyhole welding of Alâ€“Mg alloys with pressure balance condition method. Applied Surface Science, 2021, 536, 147838.	6.1	7
356	Introduction to the Problem. Mathematical Engineering, 2021, , 1-15.	0.2	0
357	Non-equilibrium Effects on the Phase Interface. Mathematical Engineering, 2021, , 17-45.	0.2	0
358	Physics and modeling. , 2021, , 79-117.		1
359	Transient dynamics and stability of keyhole at threshold in laser powder bed fusion regime investigated by finite element modeling. Journal of Laser Applications, 2021, 33, 012024.	1.7	9
360	Evolution of ns pulsed laser induced shock wave on aluminum surface by numerical simulation. Results in Physics, 2021, 22, 103920.	4.1	10
361	Laser Ablation of Aluminum Near the Critical Regime: A Computational Gas-Dynamical Model with Temperature-Dependent Physical Parameters. Micromachines, 2021, 12, 300.	2.9	5
362	Improving thermal efficiency and stability of laser welding process for magnesium alloy by combining power modulation and subatmospheric pressure environment. Journal of Magnesium and Alloys, 2022, 10, 2788-2800.	11.9	20

#	Article	IF	Citations
363	Influence of Laser Energy Input and Shielding Gas Flow on Evaporation Fume during Laser Powder Bed Fusion of Zn Metal. Materials, 2021, 14, 2677.	2.9	9
364	A review of high energy density beam processes for welding and additive manufacturing applications. Welding in the World, Le Soudage Dans Le Monde, 2021, 65, 1235-1306.	2.5	26
365	Heat and mass transfer at condensateâ€“vapor interfaces. Physics-Uspekhi, 2021, 64, 109-140.	2.2	7
366	The Qualitative and Quantitative Study of Radiation Sources with a Model Configuration of the Electrode System. Symmetry, 2021, 13, 927.	2.2	23
367	A study on transient molten pool dynamics in laser polishing of Ti6Al4V using numerical simulation. Journal of Manufacturing Processes, 2021, 65, 478-490.	5.9	25
368	Nanoparticle Formation and Deposition by Pulsed Laser Ablation. , 0, , .		0
369	Numerical simulation of nanosecond laser ablation and plasma characteristics considering a real gas equation of state. Plasma Science and Technology, 2021, 23, 125001.	1.5	4
370	Experimentally constrained multidimensional simulation of laser-generated plasmas and its application to UV nanosecond ablation of Se and Te. Plasma Sources Science and Technology, 0, , .	3.1	1
371	Effects of energy density attenuation on the stability of keyhole and molten pool during deep penetration laser welding process: A combined numerical and experimental study. International Journal of Heat and Mass Transfer, 2021, 176, 121410.	4.8	31
372	Modelling the complex evaporated gas flow and its impact on particle spattering during laser powder bed fusion. Additive Manufacturing, 2021, 47, 102332.	3.0	4
373	Approximate Kinetic Analysis of Strong Evaporation. Mathematical Engineering, 2021, , 47-107.	0.2	0
374	The formulation of mathematical models for calculating heat fluxes on a metal barrier. AIP Conference Proceedings, 2021, , .	0.4	0
375	Precision ablation processing. , 1998, , 473-522.		4
376	Laser Keyhole Welding: The Vapour Phase. Springer Series in Materials Science, 2017, , 113-151.	0.6	1
377	Laser-Induced Thermal Processes: Heat Transfer, Generation of Stresses, Melting and Solidification, Vaporization, and Phase Explosion. , 2020, , 1-81.		7
378	Biomimetic Coatings by Pulsed Laser Deposition. Biological and Medical Physics Series, 2013, , 163-191.	0.4	2
379	Acceleration of metal drops in a laser beam. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	2.3	5
380	Numerical simulation of laser ablation driven melt waves. Journal of Manufacturing Processes, 2017, 30, 303-312.	5.9	8

#	Article	IF	Citations
381	Mean-field kinetic theory approach to evaporation of a binary liquid into vacuum. Physical Review Fluids, 2018, 3, .	2.5	35
382	Optical vortex-induced forward mass transfer: manifestation of helical trajectory of optical vortex. Optics Express, 2019, 27, 38019.	3.4	9
384	Two-dimensional modeling of conduction-mode laser welding. , 1984, , .		2
385	Plasma studies CO2 laser-material interaction application to laser welding. , 1988, , .		1
386	Computational model of drilling with high radiance pulsed lasers. , 1994, , .		10
387	Surface depression and ablation for a weld pool in material processing: A mathematical model. , 1998, , .		1
388	Laser cutting with a Gaussian beam: â€œDaâ€•or â€œNietâ€?. , 1999, , .		1
389	The threshold and efficiency of material removal. , 2000, , .		4
390	Numerical Simulation of Transport Phenomena for Laser Full Penetration Welding. Journal of Welding and Joining, 2017, 35, 13-22.	1.3	5
391	CO2 laser-plume interaction in materials processing. , 2000, , .		0
392	Laser drilling: Energy partitioning. , 2001, , .		1
393	Transient axis symmetrie model for laser drilling. , 2001, , .		1
394	Recoil force measurements during pulsed Nd:YAG laser spot welds. , 2003, , .		2
395	Laser Cleaning. , 2003, , 327-350.		0
396	Modeling of frictions on keyhole walls during vapor flow in laser welding. , 2004, , .		2
397	Excimer laser induced microstructures on the surface of free standing gallium nitride wafers. , 2008, , .		1
398	Laser Keyhole Welding: The Vapour Phase. Springer Series in Materials Science, 2009, , 95-128.	0.6	3
399	Numerical investigation of the efffect of the pulse format on drilling performance. , 2010, , .		0

#	Article	IF	Citations
400	General Problems of Propagation of Laser Radiation in Gases and Plasma and Physical Processes on the Surface of Condensed Media. Springer Series in Materials Science, 2011, , 1-44.	0.6	0
401	Modeling of Heat and Mass Transfer in Fusion Welding. , 2011, , 766-788.		0
402	A study of laser albation near the critical point. , 2011, , .		0
403	Simulation of the laser drilling process with the constraint natural element method. , 2012, , .		0
404	Structure of the Plume Emitted during Laser Ablation of Materials. , 2012, , 777-782.		1
405	Background for Pure (One Component) Substance. SpringerBriefs in Applied Sciences and Technology, 2013, , 3-7.	0.4	0
406	Kinetic Modelling of Droplet Heating and Evaporation. , 2014, , 179-244.		0
407	Laser-Metal Interaction: The Gasdynamic of the Emitted Vapours. , 1984, , 703-712.		0
408	Dynamics of melting and evaporation in pulsed laser deposition: Numerical simulation. , 1993, , .		0
409	Measurement and Interpretation of the Atomic Vapor Velocities Produced by Electron Bombardment. , 1994, , 67-76.		0
410	Mathematical Modeling of Laser Ablation in Liquids with Application to Laser Ultrasonics. , 1997, , 491-498.		0
411	Diffusion controlled and convection dominated vaporization. , 1997, , .		1
412	Interaction Phenomena. , 1998, , 1-102.		0
415	Modeling of weld pool behaviour in spot welding by pulsed laser radiation. The Paton Welding Journal, 2014, 2014, 17-21.	0.4	0
416	Computational Model and Calculation Method of Flammable Oxyhydrogen Mixture Ignition with Laser-Induced Plasma. , 2014, , .		0
418	Mathematical modeling of chemical composition of welding fumes in manual arc welding with high-alloyed electrodes. Avtomaticheskaya Svarka, 2017, 2017, 35-38.	0.1	0
419	Mathematical modeling of chemical composition of welding fumes in manual arc welding with high-alloyed electrodes. The Paton Welding Journal, 2017, 2017, 28-31.	0.4	0
420	Plasma-Particle Momentum, Heat and Mass Transfer. , 2018, , 1-73.		0

#	Article	IF	Citations
421	Selective Laser Melting of Metal Powders in Additive Manufacturing. Journal of Fluid Flow, Heat and Mass Transfer, 0, , .	0.0	0
422	Nonequilibrium Effects on the Phase Interface. Mathematical Engineering, 2019, , 17-44.	0.2	0
423	Introduction to the Problem. Mathematical Engineering, 2019, , 1-15.	0.2	0
424	Optical vortex-induced forward mass transfer: manifestation of helical trajectory of optical vortex. Optics Express, 2019, 27, 38019.	3.4	18
425	Atom Vaporization and Electron Emission from a Metal Surface. Springer Series on Atomic, Optical, and Plasma Physics, 2020, , 37-67.	0.2	0
426	Laser-Induced Thermal Processes: Heat Transfer, Generation of Stresses, Melting and Solidification, Vaporization, and Phase Explosion. , 2021, , 83-163.		10
427	A general model for thermochemical ablation into a vacuum. , 1987, , .		0
428	A verified model of laser-generated sound propagation. , 1989, , .		0
429	Evolution of anodic erosion components and heat transfer efficiency for W and W₈₀Ag₂₀ in atmospheric-pressure arcs. Journal Physics D: Applied Physics, 2020, 53, 475203.	2.8	3
430	Picosecond laser ablation of metals and semiconductors with low-transverse order Gaussian beams. Optical Engineering, 2020, 60, .	1.0	0
431	Physics-based modeling and micro-burr removal mechanism analysis for laser-induced plasma deburring. Journal of Manufacturing Processes, 2022, 75, 1217-1229.	5.9	1
432	Numerical Modeling of Individual Plasma Dynamic Characteristics of a Light-Erosion MPC Discharge in Gases. Applied Sciences (Switzerland), 2022, 12, 3610.	2.5	14
433	Dynamic evolution of keyhole during multi-pulse drilling with a millisecond laser on 304 stainless steel. Optics and Laser Technology, 2022, 152, 108151.	4.6	9
434	Analysis of element loss, densification, and defects in laser-based powder-bed fusion of magnesium alloy WE43. Journal of Magnesium and Alloys, 2022, 10, 2118-2136.	11.9	10
435	Numerical simulation of the effect of laser wavelength on nanosecond laser ablation and plasma characteristic. Physics of Plasmas, 2022, 29, .	1.9	4
436	Influence of the wrinkle surface structures on the vapor flow and keyhole stability in 20 kW high power laser welding. International Journal of Heat and Mass Transfer, 2022, 193, 122958.	4.8	8
438	Physics-based computational modeling and time-resolved imaging of plasma plume generated by nanosecond laser interaction with a bed of micro metallic powder. Additive Manufacturing, 2022, 58, 102984.	3.0	2
440	Mathematical model to study the keyhole formation in pulsed Nd:YAG laser welding of SS 316L material and its experimental verification. Journal of Laser Applications, 2022, 34, 032010.	1.7	0

#	Article	IF	Citations
441	Spatial distribution of laser energy and its influence on the stability of extreme narrow keyholes during ultra-high power laser welding. Science China Technological Sciences, 2022, 65, 2079-2088.	4.0	3
442	Investigating laser ablated plume dynamics of carbon and aluminum targets. Physics of Plasmas, 2022, 29, .	1.9	5
443	Understanding the effects of temporal waveform modulation of the laser emission power in laser powder bed fusion: Part I - Analytical modelling. Journal Physics D: Applied Physics, 2022, 55, 495101.	2.8	2
444	Two-dimensional axisymmetric radiation hydrodynamics model of moderate-intensity nanosecond laser-produced plasmas. Journal Physics D: Applied Physics, 2022, 55, 505205.	2.8	2
445	Physical mechanisms of conduction-to-keyhole transition in laser welding and additive manufacturing processes. Optics and Laser Technology, 2023, 158, 108811.	4.6	5
446	Emissivity Prediction for an IR Camera During Laser Welding of Aluminum. International Journal of Thermodynamics, 2022, 25, 24-34.	1.0	4
449	Thermo-hydraulic analysis of melt pool dynamics and material removal on anode in electrical discharge machining. International Journal of Heat and Mass Transfer, 2023, 203, 123816.	4.8	7
450	Fume emissions by electric arc during gas metal arc welding. Physics of Aerodisperse Systems, 2022, , 120-142.	0.1	0
451	Melt flow and ripple formation induced by continuous wave laser irradiating of copper foil at 10ÂPa. Optics and Laser Technology, 2023, 161, 109169.	4.6	1
452	Modeling the process behavior in laser additive manufacturing of metallic materialsâ€”A tribute to professor Jyoti Mazumder. Journal of Laser Applications, 2023, 35, .	1.7	1
453	Real optical imaging simulation of laser-produced aluminum plasmas. Optics Express, 2023, 31, 7249.	3.4	0
455	Diffusive and convective evaporation of irradiated droplets. , 1986, , .		0
456	Lightâ€“matter interaction empowered by orbital angular momentum: Control of matter at the micro- and nanoscale. Progress in Quantum Electronics, 2023, 88, 100459.	7.0	16
457	Laser light absorption and Brewster angle on liquid metal. Journal of Applied Physics, 2023, 133, .	2.5	1
458	Temporally modulated laser power dynamic drilling strategy with comprehensive optimization of quality and efficiency. Journal of Manufacturing Processes, 2023, 101, 38-52.	5.9	2
459	In-situ study of keyhole behavior during a laser pulse applied to the dissimilar metal joint. Metallurgical Research and Technology, 2023, 120, 412.	0.7	0
460	A numerical study of powder wetting influence on the morphology of laser powder bed fusion manufactured thin walls. Additive Manufacturing, 2023, 74, 103705.	3.0	1
461	Modelling and simulation of surface formation in electrical discharge machining based on thermo-hydraulic coupling. Precision Engineering, 2024, 85, 126-135.	3.4	0

#	Article	IF	Citations
462	Radiation Plasmodynamic Structures and Spectral Brightness Characteristics of Magneto-Plasma Compressor Discharges. High Energy Chemistry, 2023, 57, S11-S14.	0.9	0
463	A Through Method for Solving Problems of Heat and Mass Transfer in Vaporâ€“Liquid Systems That Takes Account of Many-Particle Interactions. Journal of Engineering Physics and Thermophysics, 0, , .	0.6	0
464	Mesoscale Simulation of Laser Powder Bed Fusion with an Increased Layer Thickness for AlSi10Mg Alloy. Journal of Manufacturing and Materials Processing, 2024, 8, 7.	2.2	0
465	Surface morphology evolution mechanisms of pulse laser polishing mold steel. International Journal of Mechanical Sciences, 2024, 269, 109039.	6.7	0
466	KiSSAM: efficient simulation of melt pool dynamics during PBF using GPUs. Progress in Additive Manufacturing, 0, , .	4.8	0
467	Hydrodynamic expansion and plume splitting of the ultrafast laser-induced plasma during ablation of multi-element metallic materials under atmospheric condition. Journal of Applied Physics, 2024, 135, .	2.5	0
468	Plasma evolution in laser powder bed fusion using a double pulse format: Time-resolved measurements and physics-based modeling. Additive Manufacturing, 2024, 84, 104067.	3.0	0
469	A computational model to understand the interaction of nanosecond pulsed laser with ultra-thin SiN<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si9.svg" display="inline" id="d1e430"><mml:msub><mml:mrow/><mml:mrow><mml:mi mathvariant="normal">x</mml:mi></mml:mrow></mml:msub></mml:math> layer-coated silicon substrate. Journal of Manufacturing Processes, 2024, 119, 1-15.	5.9	0
470	Simulation of evaporation ablation dynamics of materials by nanosecond pulse laser of Gaussian beam and flat-top beam. Wuli Xuebao/Acta Physica Sinica, 2024, 73, 095202.	0.5	0