

Leonid V Zhigilei

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174
papers

8,995
citations

50
h-index

90
g-index

192
ext. papers

9,870
ext. citations

4.5
avg, IF

6.5
L-index

#	Paper	IF	Citations
174	Electron-phonon coupling and electron heat capacity of metals under conditions of strong electron-phonon nonequilibrium. <i>Physical Review B</i> , 2008 , 77,	3.3	882
173	Combined atomistic-continuum modeling of short-pulse laser melting and disintegration of metal films. <i>Physical Review B</i> , 2003 , 68,	3.3	521
172	Microscopic mechanisms of laser ablation of organic solids in the thermal and stress confinement irradiation regimes. <i>Journal of Applied Physics</i> , 2000 , 88, 1281-1298	2.5	349
171	Atomistic Modeling of Short Pulse Laser Ablation of Metals: Connections between Melting, Spallation, and Phase Explosion. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 11892-11906	3.8	310
170	Computer simulations of laser ablation of molecular substrates. <i>Chemical Reviews</i> , 2003 , 103, 321-48	68.1	253
169	Effects of temperature and disorder on thermal boundary conductance at solid-solid interfaces: Nonequilibrium molecular dynamics simulations. <i>International Journal of Heat and Mass Transfer</i> , 2007 , 50, 3977-3989	4.9	245
168	Dynamics of the plume formation and parameters of the ejected clusters in short-pulse laser ablation. <i>Applied Physics A: Materials Science and Processing</i> , 2003 , 76, 339-350	2.6	226
167	Microscopic mechanisms of laser spallation and ablation of metal targets from large-scale molecular dynamics simulations. <i>Applied Physics A: Materials Science and Processing</i> , 2014 , 114, 11-32	2.6	206
166	Metal ablation by picosecond laser pulses: A hybrid simulation. <i>Physical Review B</i> , 2002 , 66,	3.3	204
165	Molecular Dynamics Model for Laser Ablation and Desorption of Organic Solids. <i>Journal of Physical Chemistry B</i> , 1997 , 101, 2028-2037	3.4	181
164	Photomechanical spallation of molecular and metal targets: molecular dynamics study. <i>Applied Physics A: Materials Science and Processing</i> , 2004 , 79, 1643-1655	2.6	179
163	Explosive Boiling of Water Films Adjacent to Heated Surfaces: A Microscopic Description. <i>Journal of Physical Chemistry A</i> , 2001 , 105, 2748-2755	2.8	154
162	A Microscopic View of Laser Ablation. <i>Journal of Physical Chemistry B</i> , 1998 , 102, 2845-2853	3.4	149
161	Two mechanisms of nanoparticle generation in picosecond laser ablation in liquids: the origin of the bimodal size distribution. <i>Nanoscale</i> , 2018 , 10, 6900-6910	7.7	130
160	Enhancing and tuning phonon transport at vibrationally mismatched solid-solid interfaces. <i>Physical Review B</i> , 2012 , 85,	3.3	130
159	Molecular dynamics simulation study of the ejection and transport of polymer molecules in matrix-assisted pulsed laser evaporation. <i>Journal of Applied Physics</i> , 2007 , 102, 074914	2.5	123
158	Fundamentals of ultrafast laser-material interaction. <i>MRS Bulletin</i> , 2016 , 41, 960-968	3.2	117

157	Atomistic modeling of nanoparticle generation in short pulse laser ablation of thin metal films in water. <i>Journal of Colloid and Interface Science</i> , 2017 , 489, 3-17	9.3	96
156	Kinetic limit of heterogeneous melting in metals. <i>Physical Review Letters</i> , 2007 , 98, 195701	7.4	95
155	Limit of overheating and the threshold behavior in laser ablation. <i>Physical Review E</i> , 2003 , 68, 041501	2.4	95
154	Molecular dynamics simulation study of the fluence dependence of particle yield and plume composition in laser desorption and ablation of organic solids. <i>Applied Physics Letters</i> , 1999 , 74, 1341-1344	3.4	95
153	Effect of pressure relaxation on the mechanisms of short-pulse laser melting. <i>Physical Review Letters</i> , 2003 , 91, 105701	7.4	93
152	Numerical modeling of short pulse laser interaction with Au nanoparticle surrounded by water. <i>Applied Surface Science</i> , 2007 , 253, 6394-6399	6.7	90
151	Velocity distributions of molecules ejected in laser ablation. <i>Applied Physics Letters</i> , 1997 , 71, 551-553	3.4	89
150	Scaling laws and mesoscopic modeling of thermal conductivity in carbon nanotube materials. <i>Physical Review Letters</i> , 2010 , 104, 215902	7.4	88
149	Generation of subsurface voids and a nanocrystalline surface layer in femtosecond laser irradiation of a single-crystal Ag target. <i>Physical Review B</i> , 2015 , 91,	3.3	87
148	Computational study of the generation of crystal defects in a bcc metal target irradiated by short laser pulses. <i>Physical Review B</i> , 2008 , 77,	3.3	84
147	The mechanism of nanobump formation in femtosecond pulse laser nanostructuring of thin metal films. <i>Applied Physics A: Materials Science and Processing</i> , 2008 , 92, 791-796	2.6	79
146	Time-resolved diffraction profiles and atomic dynamics in short-pulse laser-induced structural transformations: Molecular dynamics study. <i>Physical Review B</i> , 2006 , 73,	3.3	79
145	On the threshold behavior in laser ablation of organic solids. <i>Chemical Physics Letters</i> , 1997 , 276, 269-273	2.5	78
144	Molecular dynamics model of ultraviolet matrix-assisted laser desorption/ionization including ionization processes. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 22947-57	3.4	78
143	Molecular dynamics simulations of thermal conductivity of carbon nanotubes: Resolving the effects of computational parameters. <i>International Journal of Heat and Mass Transfer</i> , 2014 , 70, 954-964	4.9	77
142	Materials science under extreme conditions of pressure and strain rate. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2004 , 35, 2587-2607	2.3	74
141	Pressure-transmitting boundary conditions for molecular-dynamics simulations. <i>Computational Materials Science</i> , 2002 , 24, 421-429	3.2	74
140	Mechanisms of small clusters production by short and ultra-short laser ablation. <i>Applied Surface Science</i> , 2007 , 253, 7656-7661	6.7	72

139	Growth Twinning and Generation of High-Frequency Surface Nanostructures in Ultrafast Laser-Induced Transient Melting and Resolidification. <i>ACS Nano</i> , 2016 , 10, 6995-7007	16.7	71
138	Temperature dependences of the electron-phonon coupling, electron heat capacity and thermal conductivity in Ni under femtosecond laser irradiation. <i>Applied Surface Science</i> , 2007 , 253, 6295-6300	6.7	69
137	Molecular Dynamics Simulation of Laser Melting of Nanocrystalline Au. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 5686-5699	3.8	66
136	Generation of Subsurface Voids, Incubation Effect, and Formation of Nanoparticles in Short Pulse Laser Interactions with Bulk Metal Targets in Liquid: Molecular Dynamics Study. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 16549-16567	3.8	64
135	Mechanisms of laser ablation from molecular dynamics simulations: dependence on the initial temperature and pulse duration. <i>Applied Physics A: Materials Science and Processing</i> , 1999 , 69, S75-S80	2.6	63
134	Implications of cross-species interactions on the temperature dependence of Kapitza conductance. <i>Physical Review B</i> , 2011 , 84,	3.3	61
133	Structural stability of carbon nanotube films: the role of bending buckling. <i>ACS Nano</i> , 2010 , 4, 6187-95	16.7	61
132	Molecular dynamics simulations of matrix-assisted laser desorption/ionization connections to experiment. <i>International Journal of Mass Spectrometry</i> , 2003 , 226, 85-106	1.9	60
131	A combined molecular dynamics and finite element method technique applied to laser induced pressure wave propagation. <i>Computer Physics Communications</i> , 1999 , 118, 11-16	4.2	58
130	Nanocrystalline structure of nanobump generated by localized photoexcitation of metal film. <i>Journal of Applied Physics</i> , 2010 , 107, 013519	2.5	55
129	Velocity distributions of analyte molecules in matrix-assisted laser desorption from computer simulations. <i>Rapid Communications in Mass Spectrometry</i> , 1998 , 12, 1273-1277	2.2	55
128	Heat conduction in carbon nanotube materials: Strong effect of intrinsic thermal conductivity of carbon nanotubes. <i>Applied Physics Letters</i> , 2012 , 101, 043113	3.4	54
127	Mesoscopic model for dynamic simulations of carbon nanotubes. <i>Physical Review B</i> , 2005 , 71,	3.3	54
126	Mechanism of single-pulse ablative generation of laser-induced periodic surface structures. <i>Physical Review B</i> , 2017 , 96,	3.3	52
125	Mesoscopic Interaction Potential for Carbon Nanotubes of Arbitrary Length and Orientation. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 5513-5531	3.8	52
124	Molecular dynamics simulations of MALDI: laser fluence and pulse width dependence of plume characteristics and consequences for matrix and analyte ionization. <i>Journal of Mass Spectrometry</i> , 2010 , 45, 333-46	2.2	48
123	Computer simulation study of damage and ablation of submicron particles from short-pulse laser irradiation. <i>Applied Surface Science</i> , 1998 , 127-129, 142-150	6.7	48
122	Combined molecular dynamics/direct simulation Monte Carlo computational study of laser ablation plume evolution. <i>Journal of Applied Physics</i> , 2002 , 92, 2181-2193	2.5	48

121	Nanocrystalline and Polyicosahedral Structure of a Nanospire Generated on Metal Surface Irradiated by a Single Femtosecond Laser Pulse. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 4438-4447	3.8	47
120	Computer modeling of laser melting and spallation of metal targets 2004 , 5448, 505		47
119	The effect of pulse duration on nanoparticle generation in pulsed laser ablation in liquids: insights from large-scale atomistic simulations. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 7077-7099	3.6	46
118	Computational and experimental study of the cluster size distribution in MAPLE. <i>Applied Surface Science</i> , 2007 , 253, 6456-6460	6.7	46
117	Thermal excitation of d band electrons in Au: implications for laser-induced phase transformations 2006 ,		45
116	Combined atomistic-continuum model for simulation of laser interaction with metals: application in the calculation of melting thresholds in Ni targets of varying thickness. <i>Applied Physics A: Materials Science and Processing</i> , 2004 , 79, 977-981	2.6	45
115	Microscopic Mechanisms of Matrix Assisted Laser Desorption of Analyte Molecules: Insights from Molecular Dynamics Simulation. <i>Journal of Physical Chemistry B</i> , 2002 , 106, 303-310	3.4	41
114	Graphene reinforced carbon fibers. <i>Science Advances</i> , 2020 , 6, eaaz4191	14.3	40
113	What determines MALDI ion yields? A molecular dynamics study of ion loss mechanisms. <i>Analytical and Bioanalytical Chemistry</i> , 2012 , 402, 2511-9	4.4	40
112	Making molecular balloons in laser-induced explosive boiling of polymer solutions. <i>Physical Review Letters</i> , 2007 , 98, 216101	7.4	40
111	Channels of energy redistribution in short-pulse laser interactions with metal targets. <i>Applied Surface Science</i> , 2005 , 248, 433-439	6.7	40
110	The role of the photochemical fragmentation in laser ablation: a molecular dynamics study. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2001 , 145, 173-181	4.7	40
109	Molecular dynamics simulation of the laser disintegration of aerosol particles. <i>Analytical Chemistry</i> , 2000 , 72, 5143-50	7.8	40
108	Pulsed laser ablation and incubation of nickel, iron and tungsten in liquids and air. <i>Applied Surface Science</i> , 2018 , 433, 772-779	6.7	39
107	Simulation of shock-induced melting of Ni using molecular dynamics coupled to a two-temperature model. <i>Physical Review B</i> , 2006 , 74,	3.3	39
106	Fractal Structures in Fullerene Layers: Simulation of the Growth Process. <i>Journal of Physical Chemistry C</i> , 2008 , 112, 4687-4695	3.8	38
105	Substrate-Assisted Laser-Initiated Ejection of Proteins Embedded in Water Films. <i>Journal of Physical Chemistry B</i> , 2003 , 107, 2362-2365	3.4	37
104	Atomistic modeling of femtosecond laser-induced melting and atomic mixing in Au film [Cu substrate system. <i>Applied Surface Science</i> , 2009 , 255, 9605-9612	6.7	36

103	Runaway lattice-mismatched interface in an atomistic simulation of femtosecond laser irradiation of Ag film/Cu substrate system. <i>Applied Physics A: Materials Science and Processing</i> , 2011 , 104, 781-792	2.6	35
102	Laser ablation of bicomponent systems: A probe of molecular ejection mechanisms. <i>Applied Physics Letters</i> , 2001 , 78, 1631-1633	3.4	35
101	Nanoparticle generation and transport resulting from femtosecond laser ablation of ultrathin metal films: Time-resolved measurements and molecular dynamics simulations. <i>Applied Physics Letters</i> , 2014 , 104, 193106	3.4	34
100	Effect of bending buckling of carbon nanotubes on thermal conductivity of carbon nanotube materials. <i>Journal of Applied Physics</i> , 2012 , 111, 053501	2.5	34
99	Generation of surface features in films deposited by matrix-assisted pulsed laser evaporation: the effects of the stress confinement and droplet landing velocity. <i>Applied Physics A: Materials Science and Processing</i> , 2008 , 92, 821-829	2.6	33
98	Thickness effects of water overlayer on its explosive evaporation at heated metal surfaces. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2001 , 180, 105-111	1.2	32
97	Matrix-assisted pulsed laser evaporation of polymeric materials: a molecular dynamics study. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2001 , 180, 238-244	1.2	32
96	Atomistic simulation study of short pulse laser interactions with a metal target under conditions of spatial confinement by a transparent overlayer. <i>Journal of Applied Physics</i> , 2014 , 115, 183501	2.5	30
95	The effect of the target structure and composition on the ejection and transport of polymer molecules and carbon nanotubes in matrix-assisted pulsed laser evaporation. <i>Applied Physics A: Materials Science and Processing</i> , 2011 , 105, 529-546	2.6	30
94	Laser processing of polymer nanocomposite thin films. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2006 , 24, 1618-1622	2.9	30
93	Atomistic simulations, mesoscopic modeling, and theoretical analysis of thermal conductivity of bundles composed of carbon nanotubes. <i>Journal of Applied Physics</i> , 2013 , 114, 104301	2.5	29
92	Angular-dependent embedded atom method potential for atomistic simulations of metal-covalent systems. <i>Physical Review B</i> , 2009 , 80,	3.3	29
91	Spallation-induced roughness promoting high spatial frequency nanostructure formation on Cr. <i>Applied Physics A: Materials Science and Processing</i> , 2018 , 124, 1	2.6	28
90	Melt dynamics and melt-through time in continuous wave laser heating of metal films: Contributions of the recoil vapor pressure and Marangoni effects. <i>International Journal of Heat and Mass Transfer</i> , 2017 , 112, 300-317	4.9	27
89	Generation of nanocrystalline surface layer in short pulse laser processing of metal targets under conditions of spatial confinement by solid or liquid overlayer. <i>Applied Surface Science</i> , 2017 , 417, 54-63	6.7	26
88	The minimum amount of "matrix" needed for matrix-assisted pulsed laser deposition of biomolecules. <i>Journal of Physical Chemistry B</i> , 2014 , 118, 13290-9	3.4	26
87	Generation and characterization of carbon fiber microstructures by atomistic simulations. <i>Carbon</i> , 2019 , 152, 396-408	10.4	25
86	Computational study of cooling rates and recrystallization kinetics in short pulse laser quenching of metal targets. <i>Journal of Physics: Conference Series</i> , 2007 , 59, 413-417	0.3	25

85	Effect of a liquid environment on single-pulse generation of laser induced periodic surface structures and nanoparticles. <i>Nanoscale</i> , 2020 , 12, 7674-7687	7.7	24
84	Vibrational dynamics of the CH stretching mode of H-terminated diamond surfaces. <i>Surface Science</i> , 1997 , 374, 333-344	1.8	24
83	Microscopic mechanisms of short pulse laser spallation of molecular solids. <i>Applied Physics A: Materials Science and Processing</i> , 2004 , 79, 753-756	2.6	24
82	Laser-Rewritable Ferromagnetism at Thin-Film Surfaces. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 15232-15239	9.5	22
81	Thermal conductance of carbon nanotube contacts: Molecular dynamics simulations and general description of the contact conductance. <i>Physical Review B</i> , 2016 , 94,	3.3	22
80	Molecular dynamics study of femtosecond laser interactions with Cr targets 2012 ,		22
79	Molecular dynamics study of medium-range order in metallic glasses. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1994 , 69, 421-436		21
78	Acoustic Enhancement of Surface Diffusion. <i>Journal of Physical Chemistry C</i> , 2013 , 117, 9252-9258	3.8	20
77	Atomic/Molecular-Level Simulations of Laser-Materials Interactions. <i>Springer Series in Materials Science</i> , 2010 , 43-79	0.9	20
76	Ejection of matrix-polymer clusters in matrix-assisted laser evaporation: Experimental observations. <i>Journal of Physics: Conference Series</i> , 2007 , 59, 314-317	0.3	18
75	Molecular dynamics simulation of sputtering from a cylindrical track: EAM versus pair potentials. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2005 , 228, 163-169	1.2	18
74	Molecular dynamics simulations of laser disintegration of amorphous aerosol particles with spatially nonuniform absorption. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2001 , 180, 245-250	1.2	18
73	Mesoscopic modeling of the uniaxial compression and recovery of vertically aligned carbon nanotube forests. <i>Composites Science and Technology</i> , 2018 , 166, 66-85	8.6	17
72	Short-laser-pulse-driven emission of energetic ions into a solid target from a surface layer spalled by a laser prepulse. <i>Applied Physics A: Materials Science and Processing</i> , 2001 , 73, 741-747	2.6	17
71	Hydrodynamic multi-phase model for simulation of laser-induced non-equilibrium phase transformations. <i>Journal of Physics: Conference Series</i> , 2007 , 59, 640-645	0.3	16
70	Molecular dynamics investigation of desorption and ion separation following picosecond infrared laser (PIRL) ablation of an ionic aqueous protein solution. <i>Journal of Chemical Physics</i> , 2016 , 145, 204202	3.9	16
69	Unveiling Carbon Ring Structure Formation Mechanisms in Polyacrylonitrile-Derived Carbon Fibers. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 42288-42297	9.5	15
68	Photochemical fragmentation processes in laser ablation of organic solids. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2001 , 180, 171-175	1.2	15

67	Microscopic simulation of short-pulse laser damage of melanin particles 1998 ,		15
66	Computational Study of Short-Pulse Laser-Induced Generation of Crystal Defects in Ni-Based Single-Phase Binary Solid Solution Alloys. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 2202-2215	3.8	15
65	Experimental and computational study of the effect of 1 atm background gas on nanoparticle generation in femtosecond laser ablation of metals. <i>Applied Surface Science</i> , 2018 , 435, 1114-1119	6.7	15
64	Strong enhancement of surface diffusion by nonlinear surface acoustic waves. <i>Physical Review B</i> , 2015 , 91,	3.3	14
63	Acoustic energy dissipation and thermalization in carbon nanotubes: Atomistic modeling and mesoscopic description. <i>Physical Review B</i> , 2012 , 86,	3.3	14
62	Ejection of matrix-polymer clusters in matrix-assisted laser evaporation: Coarse-grained molecular dynamics simulations. <i>Journal of Physics: Conference Series</i> , 2007 , 59, 126-131	0.3	14
61	Phase transformation as the mechanism of mechanical deformation of vertically aligned carbon nanotube arrays: Insights from mesoscopic modeling. <i>Carbon</i> , 2019 , 143, 587-597	10.4	14
60	Femtosecond laser generation of microbumps and nanojets on single and bilayer Cu/Ag thin films. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 11846-11860	3.6	13
59	Limited Elemental Mixing in Nanoparticles Generated by Ultrashort Pulse Laser Ablation of AgCu Bilayer Thin Films in a Liquid Environment: Atomistic Modeling and Experiments. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 2132-2155	3.8	13
58	Big molecule ejection—IMS vs. MALDI. <i>Applied Surface Science</i> , 2003 , 203-204, 69-71	6.7	12
57	Laser expulsion of an organic molecular nanojet from a spatially confined domain. <i>Journal of Applied Physics</i> , 2001 , 90, 4755-4760	2.5	12
56	Experimental characterization and atomistic modeling of interfacial void formation and detachment in short pulse laser processing of metal surfaces covered by solid transparent overlayers. <i>Applied Physics A: Materials Science and Processing</i> , 2016 , 122, 1	2.6	12
55	Mesoscopic modeling of structural self-organization of carbon nanotubes into vertically aligned networks of nanotube bundles. <i>Carbon</i> , 2018 , 130, 69-86	10.4	11
54	Interatomic potentials for atomic scale modeling of metal-matrix ceramic particle reinforced nanocomposites. <i>Composites Part B: Engineering</i> , 2009 , 40, 461-467	10	11
53	Intermediate metastable structure of the C{111}/(1 $\bar{1}$)H-C{111}/(2 $\bar{1}$) surface phase transition. <i>Physical Review B</i> , 1997 , 55, 1838-1843	3.3	11
52	Time-resolved diffraction profiles and structural dynamics of Ni film under short laser pulse irradiation. <i>Journal of Physics: Conference Series</i> , 2007 , 59, 11-15	0.3	11
51	Thermodynamic analysis and atomistic modeling of subsurface cavitation in photomechanical spallation. <i>Computational Materials Science</i> , 2019 , 166, 311-317	3.2	10
50	Phase-Change Magnetic Memory: Rewritable Ferromagnetism by Laser Quenching of Chemical Disorder in Fe ₆₀ Al ₄₀ Alloy. <i>Physical Review Applied</i> , 2018 , 10,	4.3	10

49	Multiscale simulation of laser ablation of organic solids: evolution of the plume. <i>Applied Surface Science</i> , 2002 , 197-198, 27-34	6.7	10
48	Computational model for multiscale simulation of laser ablation. <i>Materials Research Society Symposia Proceedings</i> , 2001 , 677, 211		10
47	Atomic Movies of Laser-Induced Structural and Phase Transformations from Molecular Dynamics Simulations. <i>Springer Series in Materials Science</i> , 2014 , 67-100	0.9	10
46	High energy electron sintering of icy regoliths: Formation of the PacMan thermal anomalies on the icy Saturnian moons. <i>Icarus</i> , 2017 , 285, 211-223	3.8	9
45	Phase transition at low fluences in laser desorption of organic solids: a molecular dynamics study. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1999 , 153, 167-171	1.2	9
44	Molecular Dynamics Study of Thermal Boundary Resistance: Evidence of Strong Inelastic Scattering Transport Channels 2004 , 37		8
43	Laser ablation in a model two-phase system. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2001 , 180, 209-215	1.2	8
42	Molecular Dynamics Simulations of Laser-Materials Interactions: General and Material-Specific Mechanisms of Material Removal and Generation of Crystal Defects. <i>Springer Series in Materials Science</i> , 2014 , 27-49	0.9	8
41	Insights into Laser-Materials Interaction Through Modeling on Atomic and Macroscopic Scales. <i>Springer Series in Materials Science</i> , 2018 , 107-148	0.9	8
40	Selective ablation of Xe from silicon surfaces: molecular dynamics simulations and experimental laser patterning. <i>Journal of Physical Chemistry A</i> , 2011 , 115, 6250-9	2.8	7
39	Generation of nanoparticles by laser ablation: Combined MD-DSMC computational study. <i>Journal of Physics: Conference Series</i> , 2007 , 59, 44-49	0.3	7
38	Molecular dynamics modeling of nonlinear propagation of surface acoustic waves. <i>Journal of Applied Physics</i> , 2020 , 128, 045117	2.5	7
37	Atomistic View of Laser Fragmentation of Gold Nanoparticles in a Liquid Environment. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 13413-13432	3.8	7
36	Computational study of the role of gas-phase oxidation in CW laser ablation of Al target in an external supersonic air flow. <i>Applied Physics A: Materials Science and Processing</i> , 2013 , 110, 537-546	2.6	6
35	Mechanism of acoustically induced diffusional structuring of surface adatoms. <i>Applied Physics Letters</i> , 2013 , 103, 221601	3.4	5
34	Molecular dynamics study of nanoparticle evolution in a background gas under laser ablation conditions. <i>Applied Surface Science</i> , 2009 , 255, 5116-5119	6.7	5
33	Mesosopic Simulation of Self-assembly of Carbon Nanotubes into a Network of Bundles 2009 ,		5
32	Laser-Induced Thermal Processes: Heat Transfer, Generation of Stresses, Melting and Solidification, Vaporization, and Phase Explosion 2021 , 83-163		5

31	Laser-Induced Thermal Processes: Heat Transfer, Generation of Stresses, Melting and Solidification, Vaporization, and Phase Explosion 2020 , 1-81		5
30	Evolution of Dirac Cone in Disclinated Graphene. <i>Reviews on Advanced Materials Science</i> , 2018 , 57, 137-142		5
29	Acoustic processes in materials. <i>MRS Bulletin</i> , 2019 , 44, 345-349	3.2	4
28	Thermal conductivity of two-dimensional disordered fibrous materials defined by interfiber thermal contact conductance and intrinsic conductivity of fibers. <i>Journal of Applied Physics</i> , 2020 , 127, 065102	2.5	4
27	Mesoscopic Model for Simulation of CNT-Based Materials 2008 ,		4
26	Molecular Dynamics Study of Short-Pulse Laser Melting, Recrystallization, Spallation, and Ablation of Metal Targets 2006 , 725		4
25	Computational study of laser fragmentation in liquid: Phase explosion, inverse Leidenfrost effect at the nanoscale, and evaporation in a nanobubble. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022 , 65,	3.6	4
24	Computational Studies of Thermal Transport Properties of Carbon Nanotube Materials 2017 , 129-161		3
23	Laser interaction with materials: introduction. <i>Applied Optics</i> , 2014 , 53, LIM1-3	0.2	3
22	Molecular dynamics simulation study of the ejection of polymer molecules and generation of molecular balloons in matrix-assisted pulsed laser evaporation 2008 ,		3
21	The Role of Thermal Excitation of D Band Electrons in Ultrafast Laser Interaction With Noble (Cu) and Transition (Pt) Metals 2007 ,		3
20	Compression of dry lysozyme targets: The target preparation pressure as a new parameter in protein thin film production by pulsed laser deposition. <i>Applied Surface Science</i> , 2019 , 481, 120-124	6.7	2
19	A Hybrid MD-DSMC Model of Picosecond Laser Ablation and Desorption. <i>AIP Conference Proceedings</i> , 2003 ,	0	2
18	Molecular Dynamics Simulations of Shocks Including Electronic Heat Conduction and Electron-Phonon Coupling. <i>AIP Conference Proceedings</i> , 2004 ,	0	2
17	Direct Simulation Monte Carlo Calculation: Strategies for Using Complex Initial Conditions. <i>Materials Research Society Symposia Proceedings</i> , 2002 , 731, 381		2
16	Laser interaction with materials: introduction. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2018 , 35, LIM1	1.7	2
15	Generation and Annealing of Crystalline Disorder in Laser Processing of Silicon 2020 , 1-31		2
14	Kinetics of solid-liquid interface motion in molecular dynamics and phase-field models: crystallization of chromium and silicon. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021 , 379, 20200320	3	2

13	Atomistic simulation of the generation of vacancies in rapid crystallization of metals. <i>Acta Materialia</i> , 2021 , 203, 116465	8.4	2
12	Formation of nanoparticles by short and ultra-short laser pulses 2008 ,		1
11	Evolution of a Plume in Laser Ablation: Dependence on the Spot Size 2003 ,		1
10	Thermoelastic modeling of laser-induced generation of strong surface acoustic waves. <i>Journal of Applied Physics</i> , 2021 , 130, 185108	2.5	1
9	Mechanisms of Acoustic Desorption of Atomic Clusters and Exfoliation of Graphene Multilayers. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 23313-23326	3.8	1
8	Massively Parallel Mesoscopic Simulations of Gas Permeability of Thin Films Composed of Carbon Nanotubes 2011 , 823-831		1
7	Computational study of the effect of core-shell structure on the mechanical properties of carbon nanofibers. <i>Journal of Materials Science</i> , 2021 , 56, 14598-14610	4.3	1
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