Leonid V Zhigilei

List of Publications by Year
in descending order

186 papers	10,795 citations	30070 54 h-index	33894 99 g-index
192 all docs	192 docs citations	192 times ranked	6505 citing authors

#	Article	IF	Citations
1	Electron-phonon coupling and electron heat capacity of metals under conditions of strong electron-phonon nonequilibrium. Physical Review B, 2008, 77, .	3.2	1,073
2	Combined atomistic-continuum modeling of short-pulse laser melting and disintegration of metal films. Physical Review B, 2003, 68, .	3.2	614
3	Microscopic mechanisms of laser ablation of organic solids in the thermal and stress confinement irradiation regimes. Journal of Applied Physics, 2000, 88, 1281-1298.	2.5	387
4	Atomistic Modeling of Short Pulse Laser Ablation of Metals: Connections between Melting, Spallation, and Phase Explosion. Journal of Physical Chemistry C, 2009, 113, 11892-11906.	3.1	383
5	Effects of temperature and disorder on thermal boundary conductance at solidâ€“solid interfaces: Nonequilibrium molecular dynamics simulations. International Journal of Heat and Mass Transfer, 2007, 50, 3977-3989.	4.8	306
6	Computer Simulations of Laser Ablation of Molecular Substrates. Chemical Reviews, 2003, 103, 321-348.	47.7	278
7	Microscopic mechanisms of laser spallation and ablation of metal targets from large-scale molecular dynamics simulations. Applied Physics A: Materials Science and Processing, 2014, 114, 11-32.	2.3	267
8	Dynamics of the plume formation and parameters of the ejected clusters in short-pulse laser ablation. Applied Physics A: Materials Science and Processing, 2003, 76, 339-350.	2.3	263
9	Metal ablation by picosecond laser pulses: A hybrid simulation. Physical Review B, 2002, 66, .	3.2	236
10	Photomechanical spallation of molecular and metal targets: molecular dynamics study. Applied Physics A: Materials Science and Processing, 2004, 79, 1643-1655.	2.3	202
11	Molecular Dynamics Model for Laser Ablation and Desorption of Organic Solids. Journal of Physical Chemistry B, 1997, 101, 2028-2037.	2.6	193
12	Explosive Boiling of Water Films Adjacent to Heated Surfaces:Â A Microscopic Descriptionâ€. Journal of Physical Chemistry A, 2001, 105, 2748-2755.	2.5	185
13	Fundamentals of ultrafast laserâ€“material interaction. MRS Bulletin, 2016, 41, 960-968.	3.5	185
14	Two mechanisms of nanoparticle generation in picosecond laser ablation in liquids: the origin of the bimodal size distribution. Nanoscale, 2018, 10, 6900-6910.	5.6	173
15	A Microscopic View of Laser Ablation. Journal of Physical Chemistry B, 1998, 102, 2845-2853.	2.6	170
16	Enhancing and tuning phonon transport at vibrationally mismatched solid-solid interfaces. Physical Review B, 2012, 85, .	3.2	157
17	Molecular dynamics simulation study of the ejection and transport of polymer molecules in matrix-assisted pulsed laser evaporation. Journal of Applied Physics, 2007, 102, .	2.5	135
18	Atomistic modeling of nanoparticle generation in short pulse laser ablation of thin metal films in water. Journal of Colloid and Interface Science, 2017, 489, 3-17.	9.4	114

#	Article	IF	Citations
19	Kinetic Limit of Heterogeneous Melting in Metals. Physical Review Letters, 2007, 98, 195701.	7.8	110
20	Effect of Pressure Relaxation on the Mechanisms of Short-Pulse Laser Melting. Physical Review Letters, 2003, 91, 105701.	7.8	108
21	Limit of overheating and the threshold behavior in laser ablation. Physical Review E, 2003, 68, 041501.	2.1	106
22	Scaling Laws and Mesoscopic Modeling of Thermal Conductivity in Carbon Nanotube Materials. Physical Review Letters, 2010, 104, 215902.	7.8	105
23	Molecular dynamics simulation study of the fluence dependence of particle yield and plume composition in laser desorption and ablation of organic solids. Applied Physics Letters, 1999, 74, 1341-1343.	3.3	103
24	Numerical modeling of short pulse laser interaction with Au nanoparticle surrounded by water. Applied Surface Science, 2007, 253, 6394-6399.	6.1	101
25	Generation of subsurface voids and a nanocrystalline surface layer in femtosecond laser irradiation of a single-crystal Ag target. Physical Review B, 2015, 91, .	3.2	101
26	Velocity distributions of molecules ejected in laser ablation. Applied Physics Letters, 1997, 71, 551-553.	3.3	98
27	Molecular dynamics simulations of thermal conductivity of carbon nanotubes: Resolving the effects of computational parameters. International Journal of Heat and Mass Transfer, 2014, 70, 954-964.	4.8	96
28	Time-resolved diffraction profiles and atomic dynamics in short-pulse laser-induced structural transformations: Molecular dynamics study. Physical Review B, 2006, 73, .	3.2	95
29	The mechanism of nanobump formation in femtosecond pulse laser nanostructuring of thin metal films. Applied Physics A: Materials Science and Processing, 2008, 92, 791-796.	2.3	95
30	Computational study of the generation of crystal defects in a bcc metal target irradiated by short laser pulses. Physical Review B, 2008, 77, .	3.2	95
31	Growth Twinning and Generation of High-Frequency Surface Nanostructures in Ultrafast Laser-Induced Transient Melting and Resolidification. ACS Nano, 2016, 10, 6995-7007.	14.6	90
32	Temperature dependences of the electronâ€“phonon coupling, electron heat capacity and thermal conductivity in Ni under femtosecond laser irradiation. Applied Surface Science, 2007, 253, 6295-6300.	6.1	87
33	Graphene reinforced carbon fibers. Science Advances, 2020, 6, eaaz4191.	10.3	87
34	Pressure-transmitting boundary conditions for molecular-dynamics simulations. Computational Materials Science, 2002, 24, 421-429.	3.0	85
35	Mechanisms of small clusters production by short and ultra-short laser ablation. Applied Surface Science, 2007, 253, 7656-7661.	6.1	83
36	On the threshold behavior in laser ablation of organic solids. Chemical Physics Letters, 1997, 276, 269-273.	2.6	82

#	Article	IF	Citations
37	Materials science under extreme conditions of pressure and strain rate. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 2587-2607.	2.2	82
38	Molecular Dynamics Model of Ultraviolet Matrix-Assisted Laser Desorption/Ionization Including Ionization Processes. Journal of Physical Chemistry B, 2005, 109, 22947-22957.	2.6	82
39	Structural Stability of Carbon Nanotube Films: The Role of Bending Buckling. ACS Nano, 2010, 4, 6187-6195.	14.6	80
40	Molecular Dynamics Simulation of Laser Melting of Nanocrystalline Au. Journal of Physical Chemistry C, 2010, 114, 5686-5699.	3.1	80
41	The effect of pulse duration on nanoparticle generation in pulsed laser ablation in liquids: insights from large-scale atomistic simulations. Physical Chemistry Chemical Physics, 2020, 22, 7077-7099.	2.8	79
42	Generation of Subsurface Voids, Incubation Effect, and Formation of Nanoparticles in Short Pulse Laser Interactions with Bulk Metal Targets in Liquid: Molecular Dynamics Study. Journal of Physical Chemistry C, 2017, 121, 16549-16567.	3.1	75
43	Mechanisms of laser ablation from molecular dynamics simulations: dependence on the initial temperature and pulse duration. Applied Physics A: Materials Science and Processing, 1999, 69, S75-S80.	2.3	74
44	Mechanism of single-pulse ablative generation of laser-induced periodic surface structures. Physical Review B, 2017, 96, .	3.2	69
45	Molecular dynamics simulations of matrix-assisted laser desorptionâ€"connections to experiment. International Journal of Mass Spectrometry, 2003, 226, 85-106.	1.5	68
46	A combined molecular dynamics and finite element method technique applied to laser induced pressure wave propagation. Computer Physics Communications, 1999, 118, 11-16.	7.5	65
47	Mesoscopic model for dynamic simulations of carbon nanotubes. Physical Review B, 2005, 71, .	3.2	65
48	Mesoscopic Interaction Potential for Carbon Nanotubes of Arbitrary Length and Orientation. Journal of Physical Chemistry C, 2010, 114, 5513-5531.	3.1	64
49	Heat conduction in carbon nanotube materials: Strong effect of intrinsic thermal conductivity of carbon nanotubes. Applied Physics Letters, 2012, 101, 043113.	3.3	64
50	Velocity distributions of analyte molecules in matrix-assisted laser desorption from computer simulations. Rapid Communications in Mass Spectrometry, 1998, 12, 1273-1277.	1.5	62
51	Implications of cross-species interactions on the temperature dependence of Kapitza conductance. Physical Review B, 2011, 84, .	3.2	62
52	Nanocrystalline structure of nanobump generated by localized photoexcitation of metal film. Journal of Applied Physics, 2010, 107, .	2.5	59
53	Molecular dynamics simulations of MALDI: laser fluence and pulse width dependence of plume characteristics and consequences for matrix and analyte ionization. Journal of Mass Spectrometry, 2010, 45, 333-346.	1.6	58
54	Combined atomistic-continuum model for simulation of laser interaction with metals: application in the calculation of melting thresholds in Ni targets of varying thickness. Applied Physics A: Materials Science and Processing, 2004, 79, 977-981.	2.3	57

#	Article	IF	Citations
55	Fractal Structures in Fullerene Layers:â€‰ Simulation of the Growth Process. Journal of Physical Chemistry C, 2008, 112, 4687-4695.	3.1	57
56	Computer simulation study of damage and ablation of submicron particles from short-pulse laser irradiation. Applied Surface Science, 1998, 127-129, 142-150.	6.1	54
57	Combined molecular dynamicsâ€“direct simulation Monte Carlo computational study of laser ablation plume evolution. Journal of Applied Physics, 2002, 92, 2181-2193.	2.5	54
58	Pulsed laser ablation and incubation of nickel, iron and tungsten in liquids and air. Applied Surface Science, 2018, 433, 772-779.	6.1	53
59	Computer modeling of laser melting and spallation of metal targets. , 2004, 5448, 505.		51
60	Thermal excitation of d band electrons in Au: implications for laser-induced phase transformations. , 2006, , .		51
61	Nanocrystalline and Polyicosahedral Structure of a Nanospike Generated on Metal Surface Irradiated by a Single Femtosecond Laser Pulse. Journal of Physical Chemistry C, 2016, 120, 4438-4447.	3.1	51
62	Generation and characterization of carbon fiber microstructures by atomistic simulations. Carbon, 2019, 152, 396-408.	10.3	49
63	Computational and experimental study of the cluster size distribution in MAPLE. Applied Surface Science, 2007, 253, 6456-6460.	6.1	48
64	Molecular Dynamics Simulation of the Laser Disintegration of Aerosol Particles. Analytical Chemistry, 2000, 72, 5143-5150.	6.5	46
65	Simulation of shock-induced melting of Ni using molecular dynamics coupled to a two-temperature model. Physical Review B, 2006, 74, .	3.2	46
66	Channels of energy redistribution in short-pulse laser interactions with metal targets. Applied Surface Science, 2005, 248, 433-439.	6.1	45
67	Making Molecular Balloons in Laser-Induced Explosive Boiling of Polymer Solutions. Physical Review Letters, 2007, 98, 216101.	7.8	45
68	What determines MALDI ion yields? A molecular dynamics study of ion loss mechanisms. Analytical and Bioanalytical Chemistry, 2012, 402, 2511-2519.	3.7	45
69	Microscopic Mechanisms of Matrix Assisted Laser Desorption of Analyte Molecules:Â Insights from Molecular Dynamics Simulation. Journal of Physical Chemistry B, 2002, 106, 303-310.	2.6	42
70	Nanoparticle generation and transport resulting from femtosecond laser ablation of ultrathin metal films: Time-resolved measurements and molecular dynamics simulations. Applied Physics Letters, 2014, 104, .	3.3	42
71	The role of the photochemical fragmentation in laser ablation: a molecular dynamics study. Journal of Photochemistry and Photobiology A: Chemistry, 2001, 145, 173-181.	3.9	40
72	Melt dynamics and melt-through time in continuous wave laser heating of metal films: Contributions of the recoil vapor pressure and Marangoni effects. International Journal of Heat and Mass Transfer, 2017, 112, 300-317.	4.8	40

#	Article	IF	Citations
73	Atomistic modeling of femtosecond laser-induced melting and atomic mixing in Au film â€“ Cu substrate system. Applied Surface Science, 2009, 255, 9605-9612.	6.1	39
74	Substrate-Assisted Laser-Initiated Ejection of Proteins Embedded in Water Films. Journal of Physical Chemistry B, 2003, 107, 2362-2365.	2.6	38
75	Generation of surface features in films deposited byÂmatrix-assisted pulsed laser evaporation: the effects ofÂtheÂstress confinement and droplet landing velocity. Applied Physics A: Materials Science and Processing, 2008, 92, 821-829.	2.3	37
76	Runaway lattice-mismatched interface in an atomistic simulation of femtosecond laser irradiation of Ag filmâ€“Cu substrate system. Applied Physics A: Materials Science and Processing, 2011, 104, 781-792.	2.3	37
77	Effect of bending buckling of carbon nanotubes on thermal conductivity of carbon nanotube materials. Journal of Applied Physics, 2012, 111, .	2.5	37
78	Spallation-induced roughness promoting high spatial frequency nanostructure formation on Cr. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	37
79	Matrix-assisted pulsed laser evaporation of polymeric materials: a molecular dynamics study. Nuclear Instruments & Methods in Physics Research B, 2001, 180, 238-244.	1.4	36
80	Laser ablation of bicomponent systems: A probe of molecular ejection mechanisms. Applied Physics Letters, 2001, 78, 1631-1633.	3.3	36
81	Unveiling Carbon Ring Structure Formation Mechanisms in Polyacrylonitrile-Derived Carbon Fibers. ACS Applied Materials & Interfaces, 2019, 11, 42288-42297.	8.0	36
82	Angular-dependent embedded atom method potential for atomistic simulations of metal-covalent systems. Physical Review B, 2009, 80, .	3.2	35
83	Thickness effects of water overlayer on its explosive evaporation at heated metal surfaces. Nuclear Instruments & Methods in Physics Research B, 2001, 180, 105-111.	1.4	34
84	Effect of a liquid environment on single-pulse generation of laser induced periodic surface structures and nanoparticles. Nanoscale, 2020, 12, 7674-7687.	5.6	34
85	Atomistic simulations, mesoscopic modeling, and theoretical analysis of thermal conductivity of bundles composed of carbon nanotubes. Journal of Applied Physics, 2013, 114, 104301.	2.5	33
86	Laser processing of polymer nanocomposite thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 1618-1622.	2.1	32
87	Atomistic simulation study of short pulse laser interactions with a metal target under conditions of spatial confinement by a transparent overlayer. Journal of Applied Physics, 2014, 115, .	2.5	32
88	Laser-Rewriteable Ferromagnetism at Thin-Film Surfaces. ACS Applied Materials & Interfaces, 2018, 10, 15232-15239.	8.0	32
89	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. Applied Physics A: Materials Science and Processing, 2011, 105, 529-546.	2.3	31
90	Thermal conductance of carbon nanotube contacts: Molecular dynamics simulations and general description of the contact conductance. Physical Review B, 2016, 94, .	3.2	31

#	Article	IF	Citations
91	Computational study of cooling rates and recrystallization kinetics in short pulse laser quenching of metal targets. Journal of Physics: Conference Series, 2007, 59, 413-417.	0.4	30
92	The Minimum Amount of â€œMatrixâ€•Needed for Matrix-Assisted Pulsed Laser Deposition of Biomolecules. Journal of Physical Chemistry B, 2014, 118, 13290-13299.	2.6	30
93	Generation of nanocrystalline surface layer in short pulse laser processing of metal targets under conditions of spatial confinement by solid or liquid overlayer. Applied Surface Science, 2017, 417, 54-63.	6.1	28
94	Vibrational dynamics of the CH stretching mode of H-terminated diamond surfaces. Surface Science, 1997, 374, 333-344.	1.9	27
95	Microscopic mechanisms of short pulse laser spallation of molecular solids. Applied Physics A: Materials Science and Processing, 2004, 79, 753-756.	2.3	27
96	Atomistic View of Laser Fragmentation of Gold Nanoparticles in a Liquid Environment. Journal of Physical Chemistry C, 2021, 125, 13413-13432.	3.1	27
97	Molecular dynamics study of femtosecond laser interactions with Cr targets. AIP Conference Proceedings, 2012, , .	0.4	26
98	Femtosecond laser generation of microbumps and nanojets on single and bilayer Cu/Ag thin films. Physical Chemistry Chemical Physics, 2019, 21, 11846-11860.	2.8	24
99	Computational Study of Short-Pulse Laser-Induced Generation of Crystal Defects in Ni-Based Single-Phase Binary Solidâ€“Solution Alloys. Journal of Physical Chemistry C, 2019, 123, 2202-2215.	3.1	24
100	Limited Elemental Mixing in Nanoparticles Generated by Ultrashort Pulse Laser Ablation of AgCu Bilayer Thin Films in a Liquid Environment: Atomistic Modeling and Experiments. Journal of Physical Chemistry C, 2021, 125, 2132-2155.	3.1	24
101	Molecular dynamics study of medium-range order in metallic glasses. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1994, 69, 421-436.	0.6	23
102	Mesoscopic modeling of the uniaxial compression and recovery of vertically aligned carbon nanotube forests. Composites Science and Technology, 2018, 166, 66-85.	7.8	23
103	Atomic/Molecular-Level Simulations of Laserâ€“Materials Interactions. Springer Series in Materials Science, 2010, , 43-79.	0.6	23
104	Ejection of matrix-polymer clusters in matrix-assisted laser evaporation: Experimental observations. Journal of Physics: Conference Series, 2007, 59, 314-317.	0.4	21
105	Acoustic Enhancement of Surface Diffusion. Journal of Physical Chemistry C, 2013, 117, 9252-9258.	3.1	21
106	Molecular dynamics simulations of laser disintegration of amorphous aerosol particles with spatially nonuniform absorption. Nuclear Instruments & Methods in Physics Research B, 2001, 180, 245-250.	1.4	20
107	Short-laser-pulse-driven emission of energetic ions into a solid target from a surface layer spalled by a laser prepulse. Applied Physics A: Materials Science and Processing, 2001, 73, 741-747.	2.3	19
108	Molecular dynamics simulation of sputtering from a cylindrical track: EAM versus pair potentials. Nuclear Instruments & Methods in Physics Research B, 2005, 228, 163-169.	1.4	19

#	Article	IF	Citations
109	Molecular dynamics investigation of desorption and ion separation following picosecond infrared laser (PIRL) ablation of an ionic aqueous protein solution. Journal of Chemical Physics, 2016, 145, 204202.	3.0	19
110	Phase transformation as the mechanism of mechanical deformation of vertically aligned carbon nanotube arrays: Insights from mesoscopic modeling. Carbon, 2019, 143, 587-597.	10.3	19
111	Experimental and computational study of the effect of 1â€‰atm background gas on nanoparticle generation in femtosecond laser ablation of metals. Applied Surface Science, 2018, 435, 1114-1119.	6.1	18
112	Hydrodynamic multi-phase model for simulation of laser-induced non-equilibrium phase transformations. Journal of Physics: Conference Series, 2007, 59, 640-645.	0.4	17
113	Acoustic energy dissipation and thermalization in carbon nanotubes: Atomistic modeling and mesoscopic description. Physical Review B, 2012, 86, .	3.2	17
114	Phase-Change Magnetic Memory: Rewritable Ferromagnetism by Laser Quenching of Chemical Disorder in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mrow><mml:msub><mml:mi>Fe</mml:mi><mml:mn>60</mml:mn></mml:msub><mml:msub><mml:mi>Al</m Alloy. Physical Review Applied, 2018, 10, .	3.8	17
115	Photochemical fragmentation processes in laser ablation of organic solids. Nuclear Instruments & Methods in Physics Research B, 2001, 180, 171-175.	1.4	16
116	Ejection of matrix-polymer clusters in matrix-assisted laser evaporation: Coarse-grained molecular dynamics simulations. Journal of Physics: Conference Series, 2007, 59, 126-131.	0.4	16
117	Strong enhancement of surface diffusion by nonlinear surface acoustic waves. Physical Review B, 2015, 91, .	3.2	16
118	Thermodynamic analysis and atomistic modeling of subsurface cavitation in photomechanical spallation. Computational Materials Science, 2019, 166, 311-317.	3.0	16
119	Microscopic simulation of short-pulse laser damage of melanin particles. , 1998, , .		15
120	Laser expulsion of an organic molecular nanojet from a spatially confined domain. Journal of Applied Physics, 2001, 90, 4755-4760.	2.5	15
121	Interatomic potentials for atomic scale modeling of metalâ€“matrix ceramic particle reinforced nanocomposites. Composites Part B: Engineering, 2009, 40, 461-467.	12.0	15
122	Intermediate metastable structure of the C{111}/(1Ã—1)H-C{111}/(2Ã—1) surface phase transition. Physical Review B, 1997, 55, 1838-1843.	3.2	14
123	Computational study of laser fragmentation in liquid: Phase explosion, inverse Leidenfrost effect at the nanoscale, and evaporation in a nanobubble. Science China: Physics, Mechanics and Astronomy, 2022, 65, .	5.1	14
124	Big molecule ejectionâ€”SIMS vs. MALDI. Applied Surface Science, 2003, 203-204, 69-71.	6.1	13
125	Time-resolved diffraction profiles and structural dynamics of Ni film under short laser pulse irradiation. Journal of Physics: Conference Series, 2007, 59, 11-15.	0.4	13
126	Experimental characterization and atomistic modeling of interfacial void formation and detachment in short pulse laser processing of metal surfaces covered by solid transparent overlayers. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	13

#	Article	IF	Citations
127	High energy electron sintering of icy regoliths: Formation of the PacMan thermal anomalies on the icy Saturnian moons. Icarus, 2017, 285, 211-223.	2.5	13
128	Mesoscopic modeling of structural self-organization of carbon nanotubes into vertically aligned networks of nanotube bundles. Carbon, 2018, 130, 69-86.	10.3	13
129	Insights into Laser-Materials Interaction Through Modeling on Atomic and Macroscopic Scales. Springer Series in Materials Science, 2018, , 107-148.	0.6	12
130	Atomistic simulation of the generation of vacancies in rapid crystallization of metals. Acta Materialia, 2021, 203, 116465.	7.9	12
131	Atomic Movies of Laser-Induced Structural and Phase Transformations from Molecular Dynamics Simulations. Springer Series in Materials Science, 2014, , 67-100.	0.6	11
132	Phase transition at low fluences in laser desorption of organic solids: a molecular dynamics study. Nuclear Instruments & Methods in Physics Research B, 1999, 153, 167-171.	1.4	10
133	Computational model for multiscale simulation of laser ablation. Materials Research Society Symposia Proceedings, 2001, 677, 211.	0.1	10
134	Laser ablation in a model two-phase system. Nuclear Instruments & Methods in Physics Research B, 2001, 180, 209-215.	1.4	10
135	Multiscale simulation of laser ablation of organic solids: evolution of the plume. Applied Surface Science, 2002, 197-198, 27-34.	6.1	10
136	Kinetics of solidâ€“liquid interface motion in molecular dynamics and phase-field models: crystallization of chromium and silicon. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200320.	3.4	10
137	Laser-Induced Thermal Processes: Heat Transfer, Generation of Stresses, Melting and Solidification, Vaporization, and Phase Explosion. , 2021, , 83-163.		10
138	Molecular Dynamics Study of Thermal Boundary Resistance: Evidence of Strong Inelastic Scattering Transport Channels. , 2004, , 37.		9
139	Molecular dynamics modeling of nonlinear propagation of surface acoustic waves. Journal of Applied Physics, 2020, 128, .	2.5	9
140	Molecular Dynamics Simulations of Laser-Materials Interactions: General and Material-Specific Mechanisms of Material Removal and Generation of Crystal Defects. Springer Series in Materials Science, 2014, , 27-49.	0.6	9
141	Thermoelastic modeling of laser-induced generation of strong surface acoustic waves. Journal of Applied Physics, 2021, 130, .	2.5	9
142	Generation of nanoparticles by laser ablation: Combined MD-DSMC computational study. Journal of Physics: Conference Series, 2007, 59, 44-49.	0.4	8
143	Selective Ablation of Xe from Silicon Surfaces: Molecular Dynamics Simulations and Experimental Laser Patterning. Journal of Physical Chemistry A, 2011, 115, 6250-6259.	2.5	8
144	Thermal conductivity of two-dimensional disordered fibrous materials defined by interfiber thermal contact conductance and intrinsic conductivity of fibers. Journal of Applied Physics, 2020, 127, .	2.5	8

#	Article	IF	Citations
145	Computational study of the role of gas-phase oxidation in CW laser ablation of Al target in an external supersonic air flow. Applied Physics A: Materials Science and Processing, 2013, 110, 537-546.	2.3	7
146	Evolution of Dirac Cone in Disclinated Graphene. Reviews on Advanced Materials Science, 2018, 57, 137-142.	3.3	7
147	Computational study of the effect of coreâ€“skin structure on the mechanical properties of carbon nanofibers. Journal of Materials Science, 2021, 56, 14598-14610.	3.7	7
148	Laser-Induced Thermal Processes: Heat Transfer, Generation of Stresses, Melting and Solidification, Vaporization, and Phase Explosion. , 2020, , 1-81.		7
149	Mesoscopic Model for Simulation of CNT-Based Materials. , 2008, , .		6
150	Mesoscopic Simulation of Self-assembly of Carbon Nanotubes into a Network of Bundles. , 2009, , .		6
151	Mechanism of acoustically induced diffusional structuring of surface adatoms. Applied Physics Letters, 2013, 103, 221601.	3.3	6
152	Computational Studies of Thermal Transport Properties of Carbon Nanotube Materials. , 2017, , 129-161.		6
153	Molecular dynamics study of nanoparticle evolution in a background gas under laser ablation conditions. Applied Surface Science, 2009, 255, 5116-5119.	6.1	5
154	Ultrashort pulse laser ablation in liquids: probing the first nanoseconds of underwater phase explosion. Light: Science and Applications, 2022, 11, 111.	16.6	5
155	Molecular Dynamics Simulations of Shocks Including Electronic Heat Conduction and Electron-Phonon Coupling. AIP Conference Proceedings, 2004, , .	0.4	4
156	Molecular Dynamics Study of Short-Pulse Laser Melting, Recrystallization, Spallation, and Ablation of Metal Targets. , 2006, , 725.		4
157	Laser interaction with materials: introduction. Applied Optics, 2014, 53, LIM1.	2.1	4
158	Acoustic processes in materials. MRS Bulletin, 2019, 44, 345-349.	3.5	4
159	Molecular dynamics simulation study of the ejection of polymer molecules and generation of molecular balloons in matrix-assisted pulsed laser evaporation. , 2008, , .		3
160	The Role of Thermal Excitation of D Band Electrons in Ultrafast Laser Interaction With Noble (Cu) and Transition (Pt) Metals. , 2007, , .		3
161	Laser interaction with materials: introduction. Journal of the Optical Society of America B: Optical Physics, 2018, 35, LIM1.	2.1	3
162	Computational Study of Nanomaterials: From Large-Scale Atomistic Simulations to Mesoscopic Modeling. , 2016, , 633-645.		3

#	Article	IF	Citations
163	Direct Simulation Monte Carlo Calculation: Strategies for Using Complex Initial Conditions. Materials Research Society Symposia Proceedings, 2002, 731, 381.	0.1	2
164	A Hybrid MD-DSMC Model of Picosecond Laser Ablation and Desorption. AIP Conference Proceedings, 2003, , .	0.4	2
165	Compression of dry lysozyme targets: The target preparation pressure as a new parameter in protein thin film production by pulsed laser deposition. Applied Surface Science, 2019, 481, 120-124.	6.1	2
166	Generation and Annealing of Crystalline Disorder in Laser Processing of Silicon. , 2020, , 1-31.		2
167	Evolution of a Plume in Laser Ablation: Dependence on the Spot Size. , 2003, , .		1
168	Formation of nanoparticles by short and ultra-short laser pulses. Proceedings of SPIE, 2008, , .	0.8	1
169	Carbon Nanotube-Metal Contact. , 2012, , 388-391.		1
170	Highly-regular laser-induced periodic surface structures: Experiment and atomistic modelling. , 2017, , .		1
171	The Effect of Interstitial Layers on Thermal Boundary Conductance Between Lennard-Jones Crystals. , 2010, , .		1
172	Mechanisms of Acoustic Desorption of Atomic Clusters and Exfoliation of Graphene Multilayers. Journal of Physical Chemistry C, 2021, 125, 23313-23326.	3.1	1
173	Atomistic simulation study of misfit strain relaxation mechanisms in heteroepitaxial islands. Materials Research Society Symposia Proceedings, 2002, 749, 1.	0.1	0
174	Computer Simulations of Laser Ablation of Molecular Substrates. ChemInform, 2003, 34, no.	0.0	0
175	Ã‰volution temporelle des agrÃ©gats crÃ©Ã©s par impulsions laser courtesÂ: Ã©vaporation et condensation. European Physical Journal Special Topics, 2006, 138, 83-88.	0.2	0
176	Biography of Barbara J. Garrison. Journal of Physical Chemistry C, 2010, 114, 5241-5246.	3.1	0
177	Vibrational Contribution to Thermal Conductivity of Silicon Near Solid-Liquid Transition. , 2011, , .		0
178	Capacitive MEMS Switches. , 2012, , 363-374.		0
179	Chitosan Nanoparticles. , 2012, , 427-433.		0
180	Laser interaction with materials: introduction. Journal of the Optical Society of America B: Optical Physics, 2014, 31, LIM1.	2.1	0

#	Article	IF	Citations
181	Molecular Dynamics Simulations of Laser-Materials Interactions. , 2016, , .		0
182	Mechanism of Single-pulse Ablative Generation of Laser-induced Periodic Surface Structures. , 2018, , .		0
183	COMPUTATIONAL INVESTIGATION OF THE EFFECT OF CLUSTER IMPACT ENERGY ON THE MICROSTRUCTURE OF FILMS GROWN BY CLUSTER DEPOSITION. , 2005, , .		0
184	Computational Study of Nanomaterials: From Large-Scale Atomistic Simulations to Mesoscopic Modeling. , 2015, , 1-14.		0
185	Atomistic Simulations of the Generation of Nanoparticles in Short-Pulse Laser Ablation of Metals: Effect of Background Gas and Liquid Environments. , 2018, , 425-470.		0
186	Generation and Annealing of Crystalline Disorder in Laser Processing of Silicon. , 2021, , 797-827.		0