Andrey Gusarov

List of Publications by Year
in descending order

112 papers	3,826 citations	172457 29 h-index	128289 60 g-index
114 all docs	114 docs citations	114 times ranked	2527 citing authors

#	Article	IF	Citations
1	Single track formation in selective laser melting of metal powders. Journal of Materials Processing Technology, 2010, 210, 1624-1631.	6.3	627
2	Model of Radiation and Heat Transfer in Laser-Powder Interaction Zone at Selective Laser Melting. Journal of Heat Transfer, 2009, 131, .	2.1	264
3	Heat transfer modelling and stability analysis of selective laser melting. Applied Surface Science, 2007, 254, 975-979.	6.1	239
4	Modelling of radiation transfer in metallic powders at laser treatment. International Journal of Heat and Mass Transfer, 2005, 48, 3423-3434.	4.8	187
5	Mechanisms of selective laser sintering and heat transfer in Ti powder. Rapid Prototyping Journal, 2003, 9, 314-326.	3.2	168
6	Contact thermal conductivity of a powder bed in selective laser sintering. International Journal of Heat and Mass Transfer, 2003, 46, 1103-1109.	4.8	164
7	Modeling the interaction of laser radiation with powder bed at selective laser melting. Physics Procedia, 2010, 5, 381-394.	1.2	163
8	Gas-dynamic boundary conditions of evaporation and condensation: Numerical analysis of the Knudsen layer. Physics of Fluids, 2002, 14, 4242-4255.	4.0	121
9	Photopyroelectric measurement of thermal conductivity of metallic powders. Journal of Applied Physics, 2005, 97, 024905.	2.5	118
10	Thermal model of nanosecond pulsed laser ablation:â€ƒAnalysis of energy and mass transfer. Journal of Applied Physics, 2005, 97, 014307.	2.5	110
11	Residual Stresses at Laser Surface Remelting and Additive Manufacturing. Physics Procedia, 2011, 12, 248-254.	1.2	110
12	Gas dynamics of laser ablation: Influence of ambient atmosphere. Journal of Applied Physics, 2000, 88, 4352.	2.5	103
13	On productivity of laser additive manufacturing. Journal of Materials Processing Technology, 2018, 261, 213-232.	6.3	96
14	Model of thermal conductivity in powder beds. Physical Review B, 2009, 80, .	3.2	89
15	On the Possibility of Selective Laser Melting of Quartz Glass. Physics Procedia, 2014, 56, 345-356.	1.2	69
16	Homogenization of radiation transfer in two-phase media with irregular phase boundaries. Physical Review B, 2008, 77, .	3.2	58
17	Light extinction in metallic powder beds: Correlation with powder structure. Journal of Applied Physics, 2005, 98, 013533.	2.5	53
18	Experimental Approbation of Selective Laser Melting of Powders by the Use of Non-Gaussian Power Density Distributions. Physics Procedia, 2014, 56, 48-57.	1.2	50

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19	Crack-free selective laser melting of silica glass: single beads and monolayers on the substrate of the same material. International Journal of Advanced Manufacturing Technology, 2016, 85, 1461-1469.	3.0	50
20	Obtaining Crack-free WC-Co Alloys by Selective Laser Melting. Physics Procedia, 2016, 83, 874-881.	1.2	49
21	Two-dimensional numerical modelling of radiation transfer in powder beds at selective laser melting. Applied Surface Science, 2009, 255, 5595-5599.	6.1	39
22	Near-surface laserâ€"vapour coupling in nanosecond pulsed laser ablation. Journal Physics D: Applied Physics, 2003, 36, 2962-2971.	2.8	38
23	Selective laser melting of fused silica: Interdependent heat transfer and powder consolidation. International Journal of Heat and Mass Transfer, 2017, 104, 665-674.	4.8	38
24	A model for nanoparticles synthesis by pulsed laser evaporation. Journal Physics D: Applied Physics, 1999, 32, 2162-2168.	2.8	37
25	Model of radiative heat transfer in heterogeneous multiphase media. Physical Review B, 2010, 81, .	3.2	36
26	Distortions and Residual Stresses at Layer-by-Layer Additive Manufacturing by Fusion. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2017, 139, .	2.2	36
27	Pulsed laser deposition of antifriction thin-film MoSex coatings at the different vacuum conditions. Surface and Coatings Technology, 2007, 201, 7813-7821.	4.8	34
28	Two-dimensional gas-dynamic model of laser ablation in an ambient gas. Applied Surface Science, 2000, 154-155, 66-72.	6.1	33
29	Synthesis of Nanostructured WC-Co Hardmetal by Selective Laser Melting. Procedia IUTAM, 2017, 23, 114-119.	1.2	33
30	Radiation transfer in metallic powder beds used in laser processing. Journal of Quantitative Spectroscopy and Radiative Transfer, 2010, 111, 2517-2527.	2.3	30
31	Target-vapour interaction and atomic collisions in pulsed laser ablation. Journal Physics D: Applied Physics, 2001, 34, 1147-1156.	2.8	29
32	Modeling of granular packed beds, their statistical analyses and evaluation of effective thermal conductivity. International Journal of Thermal Sciences, 2017, 114, 327-341.	4.9	29
33	Possibilities of Manufacturing Products from Cermet Compositions Using Nanoscale Powders by Additive Manufacturing Methods. Materials, 2019, 12, 3425.	2.9	27
34	Laser beam profiling: experimental study of its influence on single-track formation by selective laser melting. Mechanics and Industry, 2015, 16, 709.	1.3	24
35	Evaporation-induced gas-phase flows at selective laser melting. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	24
36	Phase composition and microstructure of WCâ€"Co alloys obtained by selective laser melting. Mechanics and Industry, 2017, 18, 714.	1.3	23

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37	Morphology of random packing of micro-particles and its effect on the absorption of laser radiation during selective melting of powders. International Journal of Engineering Science, 2020, 157, 103378.	5.0	21
38	Normal-directional and normal-hemispherical reflectances of micron- and submicron-sized powder beds at 633 and 790nm. Journal of Applied Physics, 2006, 99, 113528.	2.5	19
39	Thermoelastic Residual Stresses and Deformations at Laser Treatment. Physics Procedia, 2013, 41, 896-903.	1.2	18
40	Radiative transfer in porous carbon-fiber materials for thermal protection systems. International Journal of Heat and Mass Transfer, 2019, 144, 118582.	4.8	17
41	Radiative transfer, absorption, and reflection by metal powder beds in laser powder-bed processing. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 257, 107366.	2.3	17
42	Beam Shaping in Laser Powder Bed Fusion: PÃ©clet Number and Dynamic Simulation. Metals, 2022, 12, 722.	2.3	15
43	Simulation of nanoscale particles elaboration in laser-produced erosive flow. Applied Surface Science, 2000, 154-155, 331-336.	6.1	14
44	Thermodynamic functions and formation enthalpies of scandium trihalides molecules. High Temperature, 2015, 53, 817-822.	1.0	14
45	Models of thermal conductivity of multilayer wear resistant coatings. Surface and Coatings Technology, 2009, 204, 629-634.	4.8	13
46	Radiation transfer in metallic-powder beds during laser forming. Quantum Electronics, 2010, 40, 451-459.	1.0	13
47	New Approach of True Temperature Restoration in Optical Diagnostics Using IR-Camera. Journal of Thermal Spray Technology, 2017, 26, 648-660.	3.1	13
48	Means of Optical Diagnostics of Selective Laser Melting with Non-Gaussian Beams. Measurement Techniques, 2015, 58, 872-877.	0.6	12
49	Experimental Study of Residual Stresses in Metal Parts Obtained by Selective Laser Melting. Physics Procedia, 2016, 83, 825-832.	1.2	12
50	Statistical Approach to Radiative Transfer in the Heterogeneous Media of Thin-Wall Morphologyâ€"I: Theory. Journal of Heat Transfer, 2018, 140, .	2.1	12
51	Submicron particles synthesis by laser evaporation at low power density: a numerical analysis. Applied Surface Science, 2000, 154-155, 508-513.	6.1	11
52	A model of averaged radiation transfer in two-phase heterogeneous medium. High Temperature, 2009, 47, 375-389.	1.0	11
53	The multiphase radiation transfer model for two-phase layered systems. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 116, 156-168.	2.3	11
54	Anisotropic layered media with microinclusions: Thermal properties of arc-evaporation multilayer metal nitrides. International Journal of Thermal Sciences, 2014, 77, 75-83.	4.9	11

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55	Development of Laser Beam Modulation Assets for the Process Productivity Improvement of Selective Laser Melting. Procedia IUTAM, 2017, 23, 177-186.	1.2	10
56	Statistical Approach to Radiative Transfer in the Heterogeneous Media of Thin-Wall Morphologyâ€"II: Applications. Journal of Heat Transfer, 2019, 141, .	2.1	10
57	Hydrodynamics of laser erosive jet generating nanoscale particles. Applied Surface Science, 1997, 109-110, 74-79.	6.1	9
58	Ionization degree for strong evaporation of metals. Physics of Plasmas, 2005, 12, 083503.	1.9	9
59	Differential Approximations to the Radiation Transfer Equation by Chapmanâ€"Enskog Expansion. Journal of Heat Transfer, 2011, 133, .	2.1	9
60	Influence of atomic collisions in vapour phase on pulsed laser ablation. Applied Surface Science, 2000, 168, 96-99.	6.1	8
61	Features of micro-and nanostructures of Au â€" Ni alloys obtained on nickel due to different modes of pulse laser alloying. Metal Science and Heat Treatment, 2012, 54, 34-40.	0.6	8
62	Modeling the Effect of Beam Shaping at Selective Laser Melting. Procedia IUTAM, 2017, 23, 147-154.	1.2	8
63	Direct laser manufacturing with coaxial powder injection: Modelling of structure of deposited layers. Applied Surface Science, 2007, 253, 8316-8321.	6.1	7
64	Non-disturbing Boundary Conditions for Modeling of Laser Material Processing. Physics Procedia, 2014, 56, 421-428.	1.2	7
65	Entrainment flow of a jet emerging into a half-space with the no-slip boundary condition. Physics of Fluids, 2020, 32, 083107.	4.0	7
66	Effect of Thermal Fields on the Structure of Corrosion-Resistant Steels Under Different Modes of Laser Treatment. Metal Science and Heat Treatment, 2017, 59, 433-440.	0.6	6
67	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
68	Metallographic study of denudation in laser powder-bed fusion. Procedia CIRP, 2020, 94, 194-199.	1.9	5
69	Analytic similarity solutions of the Navierâ€"Stokes equations for a jet in a half space with the no-slip boundary condition. Physics of Fluids, 2020, 32, 053104.	4.0	5
70	Study Of Laser Beam Modulation Influence On Structure Of Materials Produced By Additive Manufacturing. Advanced Materials Letters, 2016, 7, 111-115.	0.6	5
71	Effect of Debye screening on heat transfer to a spherical particle from rarefied plasma. Plasma Chemistry and Plasma Processing, 1993, 13, 633-653.	2.4	4
72	Modelling chemical kinetics of small clusters after nanosecond laser ablation. Applied Surface Science, 2007, 253, 7672-7676.	6.1	4

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73	Quantum chemical calculations of dissociation energies of a series of diatomic manganese compounds. High Temperature, 2011, 49, 620-622.	1.0	4
74	Anharmonicity in the V2O3 molecule and thermodynamic properties of V2O3 in the gas phase. High Temperature, 2012, 50, 56-60.	1.0	4
75	Optimizing the Process Parameters for Additive Manufacturing of Glass Components by Selective Laser Melting: Soda-Lime Glass Versus Quartz Glass. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2022, 144, .	2.2	4
76	Estimation of a priori errors in ab initio calculations of thermochemical values for the example of the dissociation energies of the ZnO and ZnS molecules. Russian Journal of Physical Chemistry A, 2006, 80, 1864-1867.	0.6	3
77	Synthesis of Nanostructured WC-Co Hardmetal by Selective Laser Melting. Materials Science Forum, 0, 834, 77-83.	0.3	3
78	Interferometry of Gas-Phase Flows during Selective Laser Melting. Applied Sciences (Switzerland), 2020, 10, 231.	2.5	3
79	Modeling the Effect of Beam Shaping at Selective Laser Melting. Materials Science Forum, 2015, 834, 85-92.	0.3	2
80	Time-resolved Visualization of Laser Beam Melting of Silica Glass Powder. Physics Procedia, 2016, 83, 1013-1020.	1.2	2
81	Dissociation energy of a Sc2 molecule. High Temperature, 2016, 54, 771-774.	1.0	2
82	Optical diagnostics of selective laser melting and monitoring of single-track formation. MATEC Web of Conferences, 2017, 129, 01037.	0.2	2
83	Influence of the conditions of selective laser melting on evaporation. MATEC Web of Conferences, 2018, 224, 01060.	0.2	2
84	Experimental study and modeling of melt pool in laser powder-bed fusion of thin walls. Procedia CIRP, 2020, 94, 372-377.	1.9	2
85	Broadband, highly reflective thermal protection systems, exploiting photonic additives. International Journal of Thermal Sciences, 2021, 170, 107146.	4.9	2
86	Amorphous-Crystalline Composite Microstructure Formation in Zr₄₆Cu₄₆Al₈ Alloy at the Conditions of Selective Laser Melting. Key Engineering Materials, 0, 910, 959-965.	0.4	2
87	Influence of internal heat transfer on reactive force applied to powder particles in laser cladding. Optics and Laser Technology, 2022, 156, 108457.	4.6	2
88	Transition Regime of Gas-Phase Heat Transfer in Powder Beds. AIP Conference Proceedings, 2005, , .	0.4	1
89	Accuracy of high-temperature mass spectrometry measurements of vapor pressure. High Temperature, 2013, 51, 284-286.	1.0	1
90	Manufacturing individual beads of quartz glass via the selective laser melting of its powder. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 999-1002.	0.6	1

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91	Analysis of the structure of random packings of powder particles in laser additive technologies. MATEC Web of Conferences, 2017, 129, 01066.	0.2	1
92	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
93	Physics and modeling. , 2021, , 79-117.		1
94	Numerical study of the random packings structure of solid metal powder particles. AIP Conference Proceedings, 2017, , .	0.4	1
95	Mass-spectrometric study of ion-molecular equilibria in rubidium iodide vapor. Theoretical and Experimental Chemistry, 1980, 15, 465-469.	0.8	0
96	Kinetics of heat transfer to a spherical particle from a rarefied plasma. 3. Maxwellian ion approximation. Journal of Engineering Physics and Thermophysics, 1992, 62, 187-192.	0.6	0
97	Kinetics of heat transfer between a spherical particle and a rarefied plasma. 1. Cold ion approximation. Journal of Engineering Physics and Thermophysics, 1992, 62, 31-35.	0.6	0
98	Kinetics of heat transfer between a spherical particle and a rarefied plasma. 2. Monoenergetic ion approximation. Journal of Engineering Physics and Thermophysics, 1992, 62, 36-39.	0.6	0
99	Kinetics of heat transfer from a rarefied plasma to a spherical particle emitting thermoelectrons. Journal of Engineering Physics and Thermophysics, 1993, 64, 391-395.	0.6	0
100	Kinetic model of the action of a rarefied cold-ion plasma flow on a spherical metal particle. Journal of Engineering Physics and Thermophysics, 1995, 67, 949-955.	0.6	0
101	Rarefied plasma?metallic particle heat and momentum transfer under hypersonic flow conditions. Plasma Chemistry and Plasma Processing, 1996, 16, 79-97.	2.4	0
102	Condensation in the laminar-free jet of vapor flowing into a cool gas. , 1996, , .		0
103	<title>Gas dynamics of laser ablation: two-dimensional expansion of the vapor in an ambient atmosphere</title>. , 2001, , .		0
104	Discrete Velocity Numerical Approach to Strong Evaporation of Graphite. AIP Conference Proceedings, 2005, , .	0.4	0
105	A Fairly Common Error in Processing the Results of Knudsen Effusion Mass Spectrometry: Sublimation Enthalpy of Vanadium as an Example. ECS Transactions, 2013, 46, 223-227.	0.5	0
106	Selective Laser Melting of 3D Structures Produced from Heat-Resistant Cobalt Alloys. Materials Science Forum, 0, 834, 71-76.	0.3	0
107	Investigation of processes occurring above laser exposed area during powder bed fusion by optical diagnostics. IOP Conference Series: Materials Science and Engineering, 2020, 971, 022007.	0.6	0
108	Studying Gas-Phase Flows in the Laser Exposure Zone during Selective Laser Melting. Materials Science Forum, 0, 989, 806-810.	0.3	0

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109	Influence of the Powder Particle Size on the Denudated Zone Width at Selective Laser Melting. Materials Science Forum, 0, 989, 816-820.	0.3	0
110	Modelling of Selective Laser Melting Process of Quartz Glass at Elevated Temperatures. EPJ Web of Conferences, 2021, 248, 01001.	0.3	0
111	10.1063/5.0015040.1. , 2020, , .		0
112	Analysis of Practices for Assessing the Effectiveness of Civil servants in the Russian Federation. Humanities and Social Sciences Bulletin of the Financial University, 2020, 10, 104-108.	0.3	0