

Igor Mishustin

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

145 papers	3,136 citations	33 h-index	50 g-index
155 ext. papers	3,377 ext. citations	2.6 avg, IF	5.14 L-index

#	Paper	IF	Citations
145	Possible Bose-Einstein condensation of Ξ particles in the ground state of nuclear matter. <i>Physical Review C</i> , 2020 , 101,	2.7	2
144	Degeneracy effects and Bose condensation in warm nuclear matter with light and heavy clusters. <i>Nuclear Physics A</i> , 2020 , 1002, 121991	1.3	1
143	Condensation of interacting scalar bosons at finite temperatures. <i>Physical Review C</i> , 2019 , 100,	2.7	4
142	Phase transitions and Bose-Einstein condensation in Ξ nucleon matter. <i>Physical Review C</i> , 2019 , 99,	2.7	6
141	Phase Transitions and Bose-Einstein Condensation in Alpha-Nucleon Matter. <i>Ukrainian Journal of Physics</i> , 2019 , 64, 745	0.4	
140	Equilibrium nuclear ensembles taking into account vaporization of hot nuclei in dense stellar matter. <i>Physical Review C</i> , 2018 , 97,	2.7	6
139	Nuclear structure calculations for neutron star crusts. <i>European Physical Journal A</i> , 2018 , 54, 1	2.5	1
138	Lateral variations of radiobiological properties of therapeutic fields of H, He, C and O ions studied with Geant4 and microdosimetric kinetic model. <i>Physics in Medicine and Biology</i> , 2017 , 62, 5884-5907	3.8	3
137	Self-consistent calculation of the nuclear composition in hot and dense stellar matter. <i>Physical Review C</i> , 2017 , 95,	2.7	11
136	Q-balls of clusterized baryonic matter. <i>Modern Physics Letters A</i> , 2017 , 32, 1750010	1.3	5
135	Bose-Einstein condensation and liquid-gas phase transition in strongly interacting matter composed of Ξ particles. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2017 , 44, 125102	2.9	12
134	Entropy production in chemically nonequilibrium quark-gluon plasma created in central Pb+Pb collisions at energies available at the CERN Large Hadron Collider. <i>Physical Review C</i> , 2016 , 93,	2.7	8
133	Electromagnetic probes of a pure-gluon initial state in nucleus-nucleus collisions at energies available at the CERN Large Hadron Collider. <i>Physical Review C</i> , 2016 , 94,	2.7	18
132	Distributions of deposited energy and ionization clusters around ion tracks studied with Geant4 toolkit. <i>Physics in Medicine and Biology</i> , 2016 , 61, 3698-711	3.8	7
131	Glueballs amass at the RHIC and LHC! The early quarkless first-order phase transition at $T = 270$ MeV from pure Yang-Mills glue plasma to Hagedorn glueball states. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2016 , 43, 015105	2.9	20
130	Thermodynamically anomalous regions and possible new signals of mixed-phase formation. <i>European Physical Journal A</i> , 2016 , 52, 1	2.5	14
129	Thermodynamically anomalous regions as a mixed phase signal. <i>Physics of Particles and Nuclei Letters</i> , 2015 , 12, 238-245	0.5	18

128	Synthesis of neutron-rich transuranic nuclei in fissile spallation targets. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2015 , 349, 133-140	1.2	
127	Comparative study of dose distributions and cell survival fractions for 1H, 4He, 12C and 16O beams using Geant4 and Microdosimetric Kinetic model. <i>Physics in Medicine and Biology</i> , 2015 , 60, 3313-31	3.8	16
126	Instability of boson vacuum in highly compressed baryonic matter. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2015 , 42, 075104	2.9	2
125	Nonlinear oscillations of compact stars in the vicinity of the maximum mass configuration. <i>Europhysics Letters</i> , 2015 , 111, 29001	1.6	1
124	Equation of state and sound velocity of a hadronic gas with a hard-core interaction. <i>Physical Review C</i> , 2015 , 91,	2.7	16
123	Nonequilibrium phase transition in compact stars through a violent shock. <i>Physical Review C</i> , 2015 , 91,	2.7	10
122	Under-saturation of quarks at early stages of relativistic nuclear collisions: The hot glue initial scenario and its observable signatures. <i>Astronomische Nachrichten</i> , 2015 , 336, 744-748	0.7	11
121	Realistic electrostatic potentials in a neutron star crust. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2015 , 42, 105201	2.9	2
120	Possible Production of Neutron-Rich Heavy Nuclei in Fissile Spallation Targets 2015 , 151-161		2
119	Modeling a delayed phase transition in the early universe. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2014 , 41, 125005	2.9	1
118	Radial oscillations of neutral and charged hybrid stars. <i>Europhysics Letters</i> , 2014 , 105, 39001	1.6	26
117	Microdosimetry spectra and RBE of 1H, 4He, 7Li and 12C nuclei in water studied with Geant4. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2014 , 320, 89-99	1.2	23
116	Formation of droplets with high baryon density at the QCD phase transition in expanding matter. <i>Nuclear Physics A</i> , 2014 , 925, 14-24	1.3	39
115	TABULATED EQUATION OF STATE FOR SUPERNOVA MATTER INCLUDING FULL NUCLEAR ENSEMBLE. <i>Astrophysical Journal</i> , 2014 , 789, 33	4.7	28
114	Monte Carlo modeling of spallation targets containing uranium and americium. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2014 , 334, 8-17	1.2	9
113	The QCD phase transition in a fully dynamical model of heavy-ion collisions. <i>Journal of Physics: Conference Series</i> , 2014 , 509, 012065	0.3	5
112	How spinodal decomposition influences observables at FAIR energies. <i>Journal of Physics: Conference Series</i> , 2014 , 503, 012004	0.3	
111	Strangeness in Quark Matter: Opening Talk. <i>Journal of Physics: Conference Series</i> , 2014 , 509, 012002	0.3	4

110	Implementation of chromomagnetic gluons in Yang-Mills thermodynamics. <i>Physical Review D</i> , 2014 , 89,	4.9	2
109	Dynamics and stability of chiral fluid. <i>Physics of Atomic Nuclei</i> , 2014 , 77, 1130-1144	0.4	
108	EMMI rapid reaction task force meeting on quark matter in compact stars. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2014 , 41, 123001	2.9	49
107	Monte Carlo Modeling of Minor Actinide Burning in Fissile Spallation Targets 2014 ,		2
106	Microdosimetry of radiation field from a therapeutic ¹² C beam in water: A study with Geant4 toolkit. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2013 , 310, 37-53	1.2	15
105	The impact of dissipation and noise on fluctuations in chiral fluid dynamics. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2013 , 40, 055108	2.9	36
104	Evolution of antibaryon abundances in the early universe and in heavy-ion collisions. <i>Physical Review C</i> , 2013 , 88,	2.7	7
103	Chiral fluid dynamics with explicit propagation of the Polyakov loop. <i>Physical Review C</i> , 2013 , 87,	2.7	54
102	Monte Carlo simulations of Microdosimetry for Space Research at FAIR. <i>Journal of Physics: Conference Series</i> , 2013 , 426, 012006	0.3	4
101	Chemical freeze-out of strange particles and possible root of strangeness suppression. <i>Europhysics Letters</i> , 2013 , 104, 22002	1.6	53
100	Superheavies: Short-Term Experiments and Far-Reaching Designs 2013 , 55-67		
99	Hydrodynamic modeling of deconfinement phase transition in nuclear collision. <i>Physics of Atomic Nuclei</i> , 2012 , 75, 776-780	0.4	3
98	Isotopic yields and symmetry energy in nuclear multifragmentation reactions. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2012 , 39, 115102	2.9	11
97	Neutron production and energy deposition in fissile spallation targets studied with Geant4 toolkit. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2012 , 289, 79-90	1.2	19
96	Nanolesions induced by heavy ions in human tissues: Experimental and theoretical studies. <i>Beilstein Journal of Nanotechnology</i> , 2012 , 3, 556-63	3	5
95	Baryon deceleration and partonic plasma creation by strong chromofields in ultrarelativistic heavy-ion collisions. <i>Physics of Atomic Nuclei</i> , 2012 , 75, 371-392	0.4	3
94	Nonequilibrium effects in hadronic fireball expansion. <i>Physical Review C</i> , 2012 , 85,	2.7	2
93	Phase structure of a chiral model with dilatons in hot and dense matter. <i>Physical Review C</i> , 2012 , 85,	2.7	14

92	Effects of medium on nuclear properties in multifragmentation. <i>Physical Review C</i> , 2012 , 86,	2.7	3
91	Production of exotic hypernuclei from excited nuclear systems. <i>Physical Review C</i> , 2012 , 86,	2.7	9
90	Modeling spallation reactions in tungsten and uranium targets with the Geant4 toolkit. <i>EPJ Web of Conferences</i> , 2012 , 21, 10006	0.3	6
89	Isospin-dependent multifragmentation of relativistic projectiles. <i>Physical Review C</i> , 2011 , 83,	2.7	74
88	Electromagnetic and hadronic interactions of ultrarelativistic nuclei. <i>Physics of Atomic Nuclei</i> , 2011 , 74, 139-150	0.4	2
87	Production of heavy and superheavy neutron-rich nuclei in neutron capture processes. <i>Physical Review C</i> , 2011 , 84,	2.7	41
86	Baryon stopping and partonic plasma production by strong chromofields. <i>Physical Review C</i> , 2011 , 84,	2.7	4
85	Hydrodynamic modeling of the deconfinement phase transition in heavy-ion collisions in the NICA/BAR energy domain. <i>Physical Review C</i> , 2011 , 84,	2.7	29
84	Production of spectator hypermatter in relativistic heavy-ion collisions. <i>Physical Review C</i> , 2011 , 84,	2.7	37
83	Thermodynamics of dense hadronic matter in a parity doublet model. <i>Physical Review C</i> , 2010 , 82,	2.7	46
82	Possibility of cold nuclear compression in antiproton-nucleus collisions. <i>Physical Review C</i> , 2010 , 82,	2.7	12
81	Nuclear liquid-gas phase transition at large N_c in the van der Waals approximation. <i>Physical Review C</i> , 2010 , 82,	2.7	19
80	POSSIBILITY OF SYNTHESIZING SUPERHEAVY ELEMENTS IN NUCLEAR EXPLOSIONS. <i>International Journal of Modern Physics E</i> , 2010 , 19, 2063-2075	0.7	8
79	Towards the equation of state for dense stellar matter. <i>Journal of Physics: Conference Series</i> , 2010 , 202, 012003	0.3	1
78	Nuclear fragmentation reactions in extended media studied with Geant4 toolkit. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2010 , 268, 604-615	1.2	42
77	Physics of ion beam cancer therapy: a multiscale approach. <i>Physical Review E</i> , 2009 , 79, 011909	2.4	107
76	Universality of the diffusion wake from stopped and punch-through jets in heavy-ion collisions. <i>Physical Review C</i> , 2009 , 79,	2.7	60
75	Antiproton-nucleus collisions simulation within a kinetic approach with relativistic mean fields. <i>Physical Review C</i> , 2009 , 80,	2.7	24

74	Elliptic flow and dissipation in heavy-ion collisions at Elab? (1160)A GeV. <i>Physical Review C</i> , 2009 , 80,	2.7	15
73	Surface and symmetry energies in isoscaling for multifragmentation reactions. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2009 , 36, 115106	2.9	17
72	Cold compression of nuclei induced by antiprotons. <i>Hyperfine Interactions</i> , 2009 , 194, 263-269	0.8	1
71	Equation of state of hadron resonance gas and the phase diagram of strongly interacting matter. <i>Physics of Atomic Nuclei</i> , 2009 , 72, 1390-1415	0.4	64
70	Cold compression of nuclei induced by antiprotons 2009 , 611-617		
69	Bulk-viscosity-driven clusterization of quark-gluon plasma and early freeze-out in relativistic heavy-ion collisions. <i>Physical Review C</i> , 2008 , 77,	2.7	76
68	Ion-beam therapy: from electron production in tissue like media to DNA damage estimations 2008 ,		4
67	Dynamical simulation of bound antiproton-nuclear systems and observable signals of cold nuclear compression. <i>Physical Review C</i> , 2008 , 78,	2.7	23
66	Role of bulk energy in nuclear multifragmentation. <i>Physical Review C</i> , 2008 , 77,	2.7	10
65	Instability of boost-invariant hydrodynamics with a QCD-inspired bulk viscosity. <i>Physical Review C</i> , 2008 , 78,	2.7	60
64	Comparative study of depth dose distributions for beams of light and heavy nuclei in tissue-like media. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2008 , 266, 1094-1098	1.2	33
63	Stellar matter in supernova explosions and nuclear multifragmentation. <i>Physics of Atomic Nuclei</i> , 2008 , 71, 1088-1093	0.4	2
62	TOWARDS MONTE CARLO CALCULATIONS OF BIOLOGICAL DOSE IN HEAVY-ION THERAPY: MODELING OF NUCLEAR FRAGMENTATION REACTIONS 2008 , 401-410		1
61	PROPERTIES OF HEAVY AND SUPERHEAVY NUCLEI IN SUPERNOVA ENVIRONMENTS 2008 , 44-51		
60	PET monitoring of cancer therapy with ^3He and ^{12}C beams: a study with the GEANT4 toolkit. <i>Physics in Medicine and Biology</i> , 2007 , 52, 7295-312	3.8	25
59	(1 + 1) dimensional hydrodynamics for high-energy heavy-ion collisions. <i>Physics of Atomic Nuclei</i> , 2007 , 70, 1773-1796	0.4	10
58	Longitudinal fluid dynamics for ultrarelativistic heavy-ion collisions. <i>Physical Review C</i> , 2007 , 75,	2.7	32
57	MCHIT - Monte Carlo model for proton and Heavy-Ion Therapy 2007 ,		3

56	Possible glueball production in relativistic heavy-ion collisions. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2006 , 32, L59-L63	2.9	4
55	Modification of surface energy in nuclear multifragmentation. <i>Physical Review C</i> , 2006 , 74,	2.7	32
54	Distributions of positron-emitting nuclei in proton and carbon-ion therapy studied with GEANT4. <i>Physics in Medicine and Biology</i> , 2006 , 51, 6099-112	3.8	65
53	Statistical description of nuclear break-up. <i>European Physical Journal A</i> , 2006 , 30, 121	2.5	22
52	Possible links between the liquid-gas and deconfinement-hadronization phase transitions. <i>European Physical Journal A</i> , 2006 , 30, 311-316	2.5	9
51	Statistical description of nuclear break-up 2006 , 121-128		
50	Possible links between the liquid-gas and deconfinement-hadronization phase transitions 2006 , 311-316		
49	Neutrons from fragmentation of light nuclei in tissue-like media: a study with the GEANT4 toolkit. <i>Physics in Medicine and Biology</i> , 2005 , 50, 5493-507	3.8	49
48	Possible production of strongly bound baryonia in relativistic heavy-ion collisions. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2005 , 31, 803-808	2.9	2
47	Antibaryons bound in nuclei. <i>Physical Review C</i> , 2005 , 71,	2.7	53
46	Multifragmentation reactions and properties of stellar matter at subnuclear densities. <i>Physical Review C</i> , 2005 , 72,	2.7	32
45	Charge-changing interactions of ultrarelativistic Pb nuclei. <i>Physical Review C</i> , 2004 , 70,	2.7	36
44	Role of fluctuations in the linear σ model with quarks. <i>Physical Review C</i> , 2004 , 70,	2.7	42
43	Comment on "Investigating the phase diagram of finite extensive and nonextensive systems". <i>Physical Review Letters</i> , 2003 , 90, 179201; author 179202	7.4	4
42	Constraints on possible phase transitions above the nuclear saturation density. <i>Physical Review C</i> , 2002 , 66,	2.7	7
41	Collective deceleration of ultrarelativistic nuclei and creation of quark-gluon plasma. <i>Physical Review Letters</i> , 2002 , 88, 112501	7.4	32
40	Strange-quark matter within the Nambu-Jona-Lasinio model. <i>Physics of Atomic Nuclei</i> , 2001 , 64, 802-811	0.4	12
39	Mutual heavy ion dissociation in peripheral collisions at ultrarelativistic energies. <i>Physical Review C</i> , 2001 , 64,	2.7	45

38	Statistical evolution of isotope composition of nuclear fragments. <i>Physical Review C</i> , 2001 , 63,	2.7	74
37	Equilibration and freeze-out in an exploding system. <i>Physical Review C</i> , 2001 , 65,	2.7	6
36	Strange quark stars within the Nambu–Jona-Lasinio model. <i>Physical Review D</i> , 2001 , 64,	4.9	71
35	Chiral phase transition within effective models with constituent quarks. <i>Physical Review C</i> , 2001 , 64,	2.7	248
34	Studying phase transitions in nuclear collisions. <i>AIP Conference Proceedings</i> , 2000 ,	0	2
33	Unusual bound states of quark matter within the Nambu–Jona-Lasinio model. <i>Physical Review C</i> , 2000 , 62,	2.7	29
32	Exactly soluble model for nuclear liquid-gas phase transition. <i>Physical Review C</i> , 2000 , 62,	2.7	62
31	Partitioning composite finite systems. <i>Physical Review E</i> , 2000 , 62, R64-7	2.4	11
30	Effective model for hot gluodynamics. <i>Physical Review C</i> , 2000 , 61,	2.7	21
29	Metastable quark-antiquark droplets within the Nambu–Jona-Lasinio model. <i>Physical Review C</i> , 1999 , 59, 3343-3356	2.7	18
28	Chiral Fluid Dynamics and Collapse of Vacuum Bubbles. <i>Physical Review Letters</i> , 1999 , 83, 3134-3137	7.4	43
27	Microscopic study of freeze-out in relativistic heavy-ion collisions at 160 A GeV/c energy. <i>Physical Review C</i> , 1999 , 60,	2.7	29
26	Particle emission following Coulomb excitation in ultrarelativistic heavy-ion collisions. <i>Physical Review C</i> , 1999 , 60,	2.7	26
25	Nonequilibrium Phase Transition in Rapidly Expanding Matter. <i>Physical Review Letters</i> , 1999 , 82, 4779-4782	7.4	83
24	Collective mechanism of dilepton production in high-energy nuclear collisions. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 1998 , 24, L17-L21	2.9	2
23	Dilepton production by bremsstrahlung of meson fields in nuclear collisions. <i>Physical Review C</i> , 1998 , 57, 2552-2558	2.7	3
22	Nuclear multifragmentation induced by electromagnetic fields of ultrarelativistic heavy ions. <i>Physical Review C</i> , 1998 , 57, 1920-1926	2.7	25
21	Isotopic and microcanonical temperatures in nuclear multifragmentation. <i>Physical Review C</i> , 1998 , 58, R27-R30	2.7	38

20	Fluid dynamical description of the chiral transition. <i>Acta Physica Hungarica A Heavy Ion Physics</i> , 1997 , 5, 377-385		2
19	Microscopic model for rapid hadronization of supercooled Quark-Gluon Plasma. <i>Acta Physica Hungarica A Heavy Ion Physics</i> , 1996 , 3, 151-176		3
18	Rapid hadronization and strangeness production. <i>Acta Physica Hungarica A Heavy Ion Physics</i> , 1996 , 4, 45-54		
17	Bose-stimulated pion production in relativistic nuclear collisions. <i>Physical Review C</i> , 1995 , 51, 2099-2112	2.7	5
16	Fast hadronization of supercooled quark-gluon plasma. <i>Physical Review Letters</i> , 1995 , 74, 5005-5008	7.4	130
15	Baryon-antibaryon pair production in time-dependent meson fields. <i>Physical Review C</i> , 1995 , 52, 3315-3334	7	7
14	Formation and breakup of extra-large composite system in central Au+Au collisions. <i>Physical Review Letters</i> , 1994 , 73, 628-631	7.4	36
13	More-Fluid Models for Ultrarelativistic Nuclear Collisions. <i>NATO ASI Series Series B: Physics</i> , 1994 , 697-707		1
12	Multipion droplets. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 1993 , 19, L101-L109	2.9	14
11	Baryon-antibaryon pair production in strong meson fields. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 1993 , 19, 1303-1318	2.9	27
10	Mechanisms of fragment production in heavy-ion reactions at intermediate energies. <i>Zeitschrift für Physik A</i> , 1993 , 345, 297-303		17
9	The three-dimensional (2 + 1)-fluid model for relativistic nuclear collisions. <i>Zeitschrift für Physik A</i> , 1993 , 346, 209-216		47
8	The excitation function of Au + Au in the framework of the (2+1)-fluid model. <i>Zeitschrift für Physik A</i> , 1993 , 346, 251-252		3
7	Fluctuations and intermittency in multifragmentation processes. <i>Physical Review C</i> , 1992 , 45, R2541-R2544	4.4	16
6	Intermediate mass fragment emission in Fe+Au collisions. <i>Physical Review C</i> , 1992 , 46, 1404-1415	2.7	25
5	Evolution of pion phase-space density and Bose-enhancement effects in high-energy heavy-ion collisions. <i>Zeitschrift für Physik A</i> , 1992 , 342, 309-317		4
4	Antibaryon(\bar{p} , $\bar{\Lambda}$) production in relativistic nuclear collisions. <i>Zeitschrift für Physik A</i> , 1991 , 341, 47-52		43
3	RELATIVISTIC FLUID-DYNAMICAL APPROACH FOR NUCLEAR COLLISIONS AT ENERGIES FROM 1 TO 100 GeV PER NUCLEON. <i>International Review of Nuclear Physics</i> , 1991 , 179-218		3

2 Anomalous Fragments and Quasi-One-Dimensional Nuclear Systems. *Physica Scripta*, **1984**, 30, 293-296 2.6 2

1 Baryons and antibaryons in an anisotropic universe. *Astrophysics*, **1973**, 7, 158-163 0.6