Mikhail B Smirnov

List of Publications by Year
in descending order

130	3,525	218677	144013
papers	citations	26 h-index	57 g-index

131	131	131	4229
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Phonon dispersion and Raman scattering in hexagonal GaN and AlN. Physical Review B, 1998, 58, 12899-12907.	3.2	741
2	Spectroscopic characterization of the conformational states of the bis(trifluoromethanesulfonyl)imide anion (TFSIâ˜). Journal of Raman Spectroscopy, 2005, 36, 762-770.	2.5	321
3	Experimental and theoretical studies of phonons in hexagonal InN. Applied Physics Letters, 1999, 75, 3297-3299.	3.3	251
4	Raman Microspectrometry Study of Electrochemical Lithium Intercalation into Sputtered Crystalline V₂O₅ Thin Films. Chemistry of Materials, 2008, 20, 1916-1923.	6.7	199
5	Lattice Dynamics of Î²-V₂O₅: Raman Spectroscopic Insight into the Atomistic Structure of a High-Pressure Vanadium Pentoxide Polymorph. Inorganic Chemistry, 2012, 51, 3194-3201.	4.0	129
6	Vibrational and structural properties of glass and crystalline phases of TeO2. Journal of Non-Crystalline Solids, 2003, 330, 50-60.	3.1	117
7	Atomic structure and lattice dynamics of Ni and Mg hydroxides. Solid State Ionics, 2010, 181, 1764-1770.	2.7	81
8	Conformational isomerism and phase transitions in tetraethylammonium bis(trifluoromethanesulfonyl)imide Et4NTFSI. Journal of Molecular Structure, 2006, 783, 145-156.	3.6	79
9	Ab initiostudy of the nonlinear optical susceptibility ofTeO2-based glasses. Physical Review B, 2006, 73, .	3.2	77
10	Lattice-dynamical study of the cubic-tetragonal-monoclinic transformations of zirconia. Physical Review B, 1997, 55, 19-22.	3.2	57
11	The evolution of large clusters under the action of ultrashort superintense laser pulses. Physics-Uspekhi, 2000, 43, 901-920.	2.2	57
12	The Raman spectrum of the Î³â€²-V₂O₅polymorph: a combined experimental and DFT study. Journal of Raman Spectroscopy, 2015, 46, 406-412.	2.5	57
13	Phonon spectra evolution and soft-mode instabilities of zirconia during the câ€“tâ€“m transformation. Journal of Physics and Chemistry of Solids, 1999, 60, 985-992.	4.0	51
14	Raman investigation of the structural changes in anatase LixTiO2 upon electrochemical lithium insertion. Journal of Raman Spectroscopy, 2004, 35, 577-585.	2.5	51
15	Li intercalation in TiO2 anatase: Raman spectroscopy and lattice dynamic studies. Journal of Chemical Physics, 2004, 121, 2348-2355.	3.0	48
16	Lattice-Dynamical Study of theÎ±-Î²Phase Transition of Quartz: Soft-Mode Behavior and Elastic Anomalies. Physical Review Letters, 1997, 78, 2413-2416.	7.8	46
17	Raman spectra and lattice-dynamical calculations of natrolite. European Journal of Mineralogy, 2001, 13, 507-519.	1.3	44
18	Title is missing!. Physics-Uspekhi, 2007, 50, 907.	2.2	40

#	Article	IF	Citations
19	Bond-switching mechanism for the zircon-scheelite phase transition. Physical Review B, 2008, 78, .	3.2	36
20	Unraveling the Structureâ€“Raman Spectra Relationships in V₂O₅ Polymorphs via a Comprehensive Experimental and DFT Study. Inorganic Chemistry, 2018, 57, 9190-9204.	4.0	36
21	Molecular approach to the modeling of elasticity and piezoelectricity of SiC polytypes. Physical Review B, 1995, 52, 3993-4000.	3.2	34
22	Structural peculiarities and Raman spectra of TeO2/WO3-based glasses: A fresh look at the problem. Journal of Solid State Chemistry, 2012, 190, 45-51.	2.9	32
23	Lattice dynamics and thermal expansion of quartz. Physical Review B, 1999, 59, 4036-4043.	3.2	31
24	Structural polymorphism in multiferroic BiMnO3 at high pressures and temperatures. Journal of Alloys and Compounds, 2014, 585, 741-747.	5.5	28
25	CRYME: A program for simulating structural, vibrational, elastic, piezoelectric and dielectric properties of materials within a phenomenological model of their potential functions. Journal of Molecular Structure, 1995, 348, 159-162.	3.6	27
26	Theoretical study of the polymer molecules (TeO2)n as model systems for the local structure in TeO2 glass. Journal of Non-Crystalline Solids, 2004, 345-346, 734-737.	3.1	26
27	Local molecular orbitals and hyper-susceptibility of TeO2 glass. Journal of Non-Crystalline Solids, 2008, 354, 199-202.	3.1	26
28	Spectroscopic and Computational Study of Structural Changes in Î³-LiV₂O₅ Cathodic Material Induced by Lithium Intercalation. Journal of Physical Chemistry C, 2015, 119, 20801-20809.	3.1	25
29	Lattice dynamics and the ferroelectric phase transition inSn2P2S6. Physical Review B, 2000, 61, 15051-15060.	3.2	23
30	Raman investigation of hydrostatic and nonhydrostatic compressions of OHâ€•and Fâ€apophyllites up to 8 GPa. Journal of Raman Spectroscopy, 2012, 43, 439-447.	2.5	23
31	Atomistic mechanism of Î±â€“Î² phase transition in vanadium pentoxide. Journal of Physics and Chemistry of Solids, 2014, 75, 115-122.	4.0	23
32	Strain-induced destabilization of crystals: Lattice dynamics of the cubic-tetragonal phase transition inZrO2. Physical Review B, 1995, 52, 9111-9114.	3.2	22
33	Hot electrons in the tunnelling ionization of atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, L519-L524.	1.5	20
34	Lattice dynamics of piezoelectric copper metaborate CuB<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>4</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 88, .	3.2	20
35	Quantum Mechanical Study of Pre-Dissociation Enhancement of Linear and Nonlinear Polarizabilities of (TeO₂)_n Oligomers as a Key to Understanding the Remarkable Dielectric Properties of TeO₂ Glasses. Journal of Physical Chemistry A, 2012, 116, 9361-9369.	2.5	18
36	Comparative Analysis of the Electronic Structure and Nonlinear Optical Susceptibility of Î±-TeO₂ and Î²-TeO₃ Crystals. Journal of Physical Chemistry C, 2017, 121, 12365-12374.	3.1	17

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37	Hot electron generation in laser cluster plasma. Physics of Plasmas, 2003, 10, 443-447.	1.9	16
38	Lattice dynamics and phase transition in LaBGeO5. Physica Status Solidi (B): Basic Research, 2004, 241, 1017-1025.	1.5	15
39	Raman spectroscopy: A promising tool for the characterization of transition metal phosphides. Journal of Alloys and Compounds, 2021, 853, 156468.	5.5	15
40	Vibrational spectra and dynamic properties of ionic-covalent crystals. Solid State Communications, 1986, 58, 371-377.	1.9	14
41	Low-temperature anomalies of infrared band intensities and high-pressure behavior of edingtonite. Microporous and Mesoporous Materials, 2003, 61, 283-289.	4.4	14
42	X-ray emission by clusters in a strong electromagnetic field. Physical Review A, 2004, 69, .	2.5	14
43	Laser proton acceleration in a water spray target. Physics of Plasmas, 2008, 15, 083106.	1.9	14
44	Vibrational spectra of rhombohedral TeO₃ compared to those of ReO₃â€like protoâ€phase and Î±â€TeO₂ (paratellurite): lattice dynamic and crystal chemistry aspects. Journal of Raman Spectroscopy, 2011, 42, 758-764.	2.5	14
45	Vibrational spectroscopic study of the phase transition in the nickel orthoborate<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">N</mml:mi><mml:msub><mml:mi mathvariant="normal">i</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mrow><mml:mo>(</mml:mo><mml:mrow>	3.2	14
46	Phonons in Short-Period GaN/AlN Superlattices: Group-Theoretical Analysis, Ab initio Calculations, and Raman Spectra. Nanomaterials, 2021, 11, 286.	4.1	14
47	The role of internal tensions in pressure-induced second order phase transition. Solid State Communications, 1990, 73, 153-157.	1.9	13
48	Ionization of cluster atoms in a strong laser field. Physical Review A, 2004, 69, .	2.5	13
49	X-ray generation in laser-heated cluster beams. Physical Review A, 2006, 74, .	2.5	13
50	Vibrational spectrum of reiditeZrSiO4from first principles. Physical Review B, 2010, 82, .	3.2	13
51	Unified approach for determining tetragonal tungsten bronze crystal structures. Acta Crystallographica Section A: Foundations and Advances, 2014, 70, 283-290.	0.1	13
52	Experimental and theoretical studies of lattice dynamics of Mg-doped InN. Applied Physics Letters, 2007, 91, 111917.	3.3	12
53	Lattice dynamics of shortâ€period AlN/GaN superlattices: Theory and experiment. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 484-487.	1.8	12
54	Raman spectra and structural peculiarities of TeO₂â€“TeO₃mixed oxides. Journal of Physics Condensed Matter, 2018, 30, 475403.	1.8	12

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55	Lattice dynamics and Raman spectra of strained hexagonal GaN/AlN and GaN/AlGaN superlattices. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2035-2038.	0.8	11
56	Vibrational Spectra of AlNâˆ•GaN Superlattices: Theory and Experiment. Physics of the Solid State, 2005, 47, 742.	0.6	11
57	Third order nonlinear optical properties of a paratellurite single crystal. Journal of Applied Physics, 2018, 123, .	2.5	11
58	Mechanical treatment of structural phase transitions and related phenomena in crystals: a lattice dynamical study of pressure-induced structural transformations in perovskite-like ReO3. Journal of Physics Condensed Matter, 1993, 5, 3313-3324.	1.8	10
59	Independent anharmonic oscillator approximation in the theory of structural phase transitions in crystals. Physics of the Solid State, 2000, 42, 2288-2294.	0.6	10
60	Microdroplet evolution induced by a laser pulse. Journal of Experimental and Theoretical Physics, 2004, 98, 1123-1132.	0.9	10
61	Spectral properties of triphenyltin chloride toxin and its detectivity by SERS: Theory and experiment. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2021, 245, 118933.	3.9	10
62	The properties of a crystal relative to the hydrostatic compression and their use in evaluation of dynamic parameters. Solid State Communications, 1989, 70, 915-918.	1.9	9
63	Isosymmetric Reversible Pressure-Induced Phase Transition in Sodium Oxalate at 3.8 GPa. Doklady Physical Chemistry, 2003, 390, 154-157.	0.9	9
64	Specific heat of cubic relaxor ferroelectrics. Journal of Physics Condensed Matter, 2004, 16, 8981-8990.	1.8	9
65	Raman and infrared spectra of doped La_{8+x}Sr_{2â€“y}(SiO₄)₆O_{2+Î´} compounds compared to the ab initioâ€obtained spectroscopic characteristics of fully stoichiometric La₈Sr₂(SiO₄)₆O₂. Journal of Raman Spectroscopy, 2010, 41, 1700-1707.	2.5	9
66	Effects of Vibronic Interactions in Polar Microdomain Formation in Incipient Ferroelectric KTaO3: Comparison Analysis of Raman Scattering and Second-Harmonic Generation*. Zeitschrift Fur Physikalische Chemie, 1997, 201, 215-229.	2.8	8
67	Raman Spectroscopy as a Tool for Characterization of Strained Hexagonal GaN/AlxGa1?xN Superlattices. Physica Status Solidi (B): Basic Research, 2002, 234, 975-979.	1.5	8
68	Temperature dependent luminescence from quantum dot arrays: phonon-assisted line broadening versus carrier escape-induced narrowing. Physica Status Solidi (B): Basic Research, 2010, 247, 347-352.	1.5	8
69	Novel features of the Î±â€“Î² phase transition in quartz-type FePO4as evidenced by x-ray diffraction and lattice dynamics. Journal of Physics Condensed Matter, 2010, 22, 225403.	1.8	8
70	Evolution of the phonon density of states of LaCoO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>over the spin state transition. Physical Review B, 2011, 83, .	3.2	8
71	Calculation of Lattice Dynamics of Natrolite and Its Instability under Pressure. Doklady Physical Chemistry, 2000, 375, 263-267.	0.9	7
72	Behavior of phonons in short period GaN-AlN superlattices. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 2706-2710.	0.8	7

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73	SIMS and Raman studies of Mgâ€doped InN. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1648-1651.	0.8	7
74	Raman investigation on the behavior of parasibirskite CaHBO3 at high pressure. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2017, 173, 46-52.	3.9	7
75	A Computational and Spectroscopic Study of the Electronic Structure of V2O5-Based Cathode Materials. Journal of Physical Chemistry C, 2021, 125, 5848-5858.	3.1	7
76	DFT Modelling of Molecular Structure, Vibrational and UV-Vis Absorption Spectra of T-2 Toxin and 3-Deacetylcalonectrin. Materials, 2022, 15, 649.	2.9	7
77	Numerical simulation of the temperature dependence of the photoluminescence spectra of InAs/GaAs quantum dots. Physics of the Solid State, 2007, 49, 1184-1190.	0.6	6
78	Phonon Dispersion and Pressure Behavior of Hg₂Cl₂Crystals. Ferroelectrics, 2010, 397, 81-89.	0.6	6
79	Huge susceptibility increase within the (1â^'x) TeO2+x TeO3 crystal system: Ab initio calculation study. Journal of Alloys and Compounds, 2014, 587, 120-125.	5.5	6
80	Lattice dynamics and baric behavior of phonons in Hg2Cl2 crystals at high hydrostatic pressures. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 1033-1037.	0.6	6
81	Heating of deuterium clusters by a superatomic ultra-short laser pulse. Journal of Experimental and Theoretical Physics, 2001, 92, 626-633.	0.9	5
82	Distributions of ions in a cluster plasma created by a laser pulse. Journal of Experimental and Theoretical Physics, 2004, 99, 494-503.	0.9	5
83	Specific features of Raman spectra of IIIâ€“V nanowhiskers. Physics of the Solid State, 2011, 53, 1431-1439.	0.6	5
84	The Effect of Interface Diffusion on Raman Spectra of Wurtzite Short-Period GaN/AlN Superlattices. Nanomaterials, 2021, 11, 2396.	4.1	5
85	Title is missing!. Journal of Materials Science, 1999, 34, 4845-4851.	3.7	4
86	The Evolution of Large Metal Clusters in a Super-Intense Laser Field. Physica Scripta, 2001, 63, 157-163.	2.5	4
87	Charge composition of a cluster plasma upon irradiation of large atomic clusters by the field of a superatomic femtosecond laser pulse. Journal of Experimental and Theoretical Physics, 2002, 94, 745-750.	0.9	4
88	Investigation of Ferroelectric Phase Transition in DMAAS Crystals: Neutron Diffraction, Neutron Spectroscopy, Theoretical Model. Ferroelectrics, 2004, 299, 59-73.	0.6	4
89	Optical phonons in hexagonal GaN/AlN and GaN/AlGaN superlattices. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2389-2393.	0.8	4
90	Crystal chemistry peculiarities of Cs2Te4O12. Journal of Solid State Chemistry, 2011, 184, 637-643.	2.9	4

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91	Computer simulation of the structure and raman spectra of GaAs polytypes. Physics of the Solid State, 2013, 55, 1220-1230.	0.6	4
92	Lattice dynamics, force constants, and phonon dispersion in model ferroelastics Hg2I2. Technical Physics Letters, 2013, 39, 413-417.	0.7	4
93	Elastic strains and delocalized optical phonons in AlN/GaN superlattices. Semiconductors, 2016, 50, 1043-1048.	0.5	4
94	Coulomb interaction and phonon frequency dispersion. An analytic approximation of the long-range Coulomb part of dynamic matrix. Solid State Communications, 1993, 86, 459-465.	1.9	3
95	Surface heating of deuterium clusters by the field of a superintense ultrashort laser pulse for implementing the nuclear reaction d+d â† 3He+n. Physics of Atomic Nuclei, 2001, 64, 585-587.	0.4	3
96	Thermonuclear fusion in the irradiation of large clusters of deuterium iodide with a field of a superatomic femtosecond laser pulse. Physics of Atomic Nuclei, 2003, 66, 612-617.	0.4	3
97	Theoretical study of structural phase transition in a RbMnCl3 crystal by the Kim-Gordon method. Crystallography Reports, 2003, 48, 435-442.	0.6	3
98	Lattice dynamics and phonon dispersion in Hg2Br2 model ferroelastic crystals. Technical Physics Letters, 2012, 38, 361-364.	0.7	3
99	Influence of semiempirical long-range dispersion corrections of the density functional in the study of phase transitions in molecular crystals. Physics of the Solid State, 2015, 57, 467-471.	0.6	3
100	Internal coordinates in problems of lattice dynamics. Journal of Molecular Structure, 1992, 272, 51-71.	3.6	2
101	Rescattering of Photoelectrons in the Tunneling Ionization of Atoms by Strong Laser Radiation. Physica Scripta, 2000, 61, 75-78.	2.5	2
102	Cluster Beam in a Strong Laser Field. Physica Scripta, 2004, T107, 149-152.	2.5	2
103	Phonons and their dispersion in model ferroelastics Hg2Hal2. Physics of the Solid State, 2012, 54, 900-904.	0.6	2
104	Raman spectra and structural peculiarities of GaAs nanowires. Journal of Surface Investigation, 2014, 8, 104-110.	0.5	2
105	Influence of AlN/GaN superlattice period on frequency of polar optical modes. Journal of Physics: Conference Series, 2016, 741, 012123.	0.4	2
106	A computational study of the electronic structure and optical properties of the complex TeO2/TeO3 oxides as advanced materials for nonlinear optics. Materials Research Express, 2019, 6, 125903.	1.6	2
107	Disorder Induced IR Anomaly in Hexagonal AlGaN Short-Period Superlattices and Alloys. Materials Research Society Symposia Proceedings, 1999, 572, 427.	0.1	1
108	Crystal structure and lattice dynamic effects of rare-earth hexaborides under hydrostatic pressure. Physica B: Condensed Matter, 2000, 276-278, 320-321.	2.7	1

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109	Distribution and evolution of electrons in a cluster plasma created by a laser pulse. Journal of Experimental and Theoretical Physics, 2003, 97, 42-48.	0.9	1
110	Phonons and Raman spectra of lithiated titanate Li0.5TiO2. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 3138-3141.	0.8	1
111	Anomalous Behaviour of the Specific Heat of ABâ€²Bâ€³O3Complex Perovskites at Low Temperatures. Ferroelectrics, 2004, 302, 341-345.	0.6	1
112	Acoustic and optical phonons and their dispersion in model ferroelastics Hg2Cl2. Physics of the Solid State, 2009, 51, 1426-1430.	0.6	1
113	Dispersion of Phonons and Their Pressure Behavior in Model Ferroelastic Hg₂I₂. Ferroelectrics, 2013, 444, 33-39.	0.6	1
114	Ion spectrum under excitation of a cluster beam by a laser pulse. Journal of Experimental and Theoretical Physics, 2014, 119, 367-374.	0.9	1
115	Charge Composition of Ions in a Cluster Plasma Formed under the Action of a High-Power Laser Pulse. Journal of Experimental and Theoretical Physics, 2018, 126, 859-866.	0.9	1
116	Lattice dynamics in FeSi measured by inelastic x-ray scattering. Journal of Physics Condensed Matter, 2019, 31, 265402.	1.8	1
117	Raman spectra of interface phonons in long-period AlN/GaN superlattices as a tool for determination of the structure period. Journal of Physics: Conference Series, 2019, 1400, 066003.	0.4	1
118	Boson Peak Related to Ga Nanoclusters in AlGaN Layers Grown by Plasma-Assisted Molecular Beam Epitaxy at Ga-Rich Conditions. Semiconductors, 2019, 53, 1479-1488.	0.5	1
119	Structural and dynamic properties of short-period GaN/AlN superlattices grown by submonolayer digital epitaxy. Journal of Physics: Conference Series, 2020, 1697, 012155.	0.4	1
120	Analysis of the sharpness of interfaces in short-period GaN/AlN superlattices using Raman spectroscopy data. Journal of Physics: Conference Series, 2021, 2103, 012147.	0.4	1
121	Varying metric method in the gradient solution of the inverse mechanical problem of molecular vibrations. Journal of Applied Spectroscopy, 1984, 40, 711-716.	0.7	0
122	<title>X-rays from irradiation of large clusteres by superintense laser pulses</title>. , 2001, 4424, 328.		0
123	<title>Evolution of deuterium clusters irradiated by super-intense ultra-short laser pulses</title>. , 2002, , .		0
124	<title>Raman studies as a tool for characterization of the strained hexagonal GaN/Al<formula><inf><roman>x</roman></inf></formula>Ga<formula><inf><roman>1-x</roman></inf></formula>N superlattices</title>. , 2002, , .		0
125	Short wavelength X-ray emission generated by highly excited cluster beams. Laser Physics, 2010, 20, 1009-1018.	1.2	0
126	The applicability of Raman spectroscopy for estimation of interfaces thickness in the AlN/GaN superlattices. St Petersburg Polytechnical University Journal Physics and Mathematics, 2016, 2, 83-90.	0.3	0

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127	Modelling of dielectric properties of non-linear optic materials based on linear molecules. Journal of Physics: Conference Series, 2020, 1482, 012029.	0.4	0
128	Structural and Dynamical Properties of Short-Period GaN/AlN Superlattices: Experiment and Theory. Semiconductors, 2020, 54, 1706-1709.	0.5	0
129	Elastic strains effect on frequencies of delocalized polar phonons in AlN/GaN superlattices. AIP Conference Proceedings, 2016, , .	0.4	0
130	Raman spectra of folded acoustic phonons in short-period GaN/AlN superlattices as a tool for structure characterization. Journal of Physics: Conference Series, 2020, 1697, 012158.	0.4	0