

# Mikhail B Smirnov

## List of Publications by Year in descending order

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130  
papers

3,525  
citations

218677

26  
h-index

144013

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131  
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131  
docs citations

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times ranked

4229  
citing authors

#	ARTICLE	IF	CITATIONS
1	DFT Modelling of Molecular Structure, Vibrational and UV-Vis Absorption Spectra of T-2 Toxin and 3-Deacetylcalonecetrin. <i>Materials</i> , 2022, 15, 649.	2.9	7
2	Raman spectroscopy: A promising tool for the characterization of transition metal phosphides. <i>Journal of Alloys and Compounds</i> , 2021, 853, 156468.	5.5	15
3	Spectral properties of triphenyltin chloride toxin and its detectivity by SERS: Theory and experiment. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2021, 245, 118933.	3.9	10
4	Phonons in Short-Period GaN/AlN Superlattices: Group-Theoretical Analysis, Ab initio Calculations, and Raman Spectra. <i>Nanomaterials</i> , 2021, 11, 286.	4.1	14
5	A Computational and Spectroscopic Study of the Electronic Structure of V2O5-Based Cathode Materials. <i>Journal of Physical Chemistry C</i> , 2021, 125, 5848-5858.	3.1	7
6	The Effect of Interface Diffusion on Raman Spectra of Wurtzite Short-Period GaN/AlN Superlattices. <i>Nanomaterials</i> , 2021, 11, 2396.	4.1	5
7	Analysis of the sharpness of interfaces in short-period GaN/AlN superlattices using Raman spectroscopy data. <i>Journal of Physics: Conference Series</i> , 2021, 2103, 012147.	0.4	1
8	Modelling of dielectric properties of non-linear optic materials based on linear molecules. <i>Journal of Physics: Conference Series</i> , 2020, 1482, 012029.	0.4	0
9	Structural and Dynamical Properties of Short-Period GaN/AlN Superlattices: Experiment and Theory. <i>Semiconductors</i> , 2020, 54, 1706-1709.	0.5	0
10	Structural and dynamic properties of short-period GaN/AlN superlattices grown by submonolayer digital epitaxy. <i>Journal of Physics: Conference Series</i> , 2020, 1697, 012155.	0.4	1
11	Raman spectra of folded acoustic phonons in short-period GaN/AlN superlattices as a tool for structure characterization. <i>Journal of Physics: Conference Series</i> , 2020, 1697, 012158.	0.4	0
12	A computational study of the electronic structure and optical properties of the complex TeO <sub>2</sub> /TeO <sub>3</sub> oxides as advanced materials for nonlinear optics. <i>Materials Research Express</i> , 2019, 6, 125903.	1.6	2
13	Lattice dynamics in FeSi measured by inelastic x-ray scattering. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 265402.	1.8	1
14	Raman spectra of interface phonons in long-period AlN/GaN superlattices as a tool for determination of the structure period. <i>Journal of Physics: Conference Series</i> , 2019, 1400, 066003.	0.4	1
15	Boson Peak Related to Ga Nanoclusters in AlGaN Layers Grown by Plasma-Assisted Molecular Beam Epitaxy at Ga-Rich Conditions. <i>Semiconductors</i> , 2019, 53, 1479-1488.	0.5	1
16	Raman spectra and structural peculiarities of TeO <sub>2</sub> –TeO <sub>3</sub> mixed oxides. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 475403.	1.8	12
17	Charge Composition of Ions in a Cluster Plasma Formed under the Action of a High-Power Laser Pulse. <i>Journal of Experimental and Theoretical Physics</i> , 2018, 126, 859-866.	0.9	1
18	Third order nonlinear optical properties of a paratellurite single crystal. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	11



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37	Lattice dynamics of piezoelectric copper metaborate $\text{CuB}_2\text{O}_7$ . <a href="https://doi.org/10.1103/PhysRevB.83.114408">Physical Review B, 2011, 83, 114408</a> .	3.2	20
38	Computer simulation of the structure and raman spectra of GaAs polytypes. <i>Physics of the Solid State</i> , 2013, 55, 1220-1230.	0.6	4
39	Lattice dynamics, force constants, and phonon dispersion in model ferroelastics $\text{Hg}_2\text{I}_2$ . <i>Technical Physics Letters</i> , 2013, 39, 413-417.	0.7	4
40	Lattice dynamics of short-period AlN/GaN superlattices: Theory and experiment. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2013, 210, 484-487.	1.8	12
41	Dispersion of Phonons and Their Pressure Behavior in Model Ferroelastic $\text{Hg}_2\text{I}_2$ . <i>Ferroelectrics</i> , 2013, 444, 33-39.	0.6	1
42	Lattice Dynamics of $\text{V}_2\text{O}_5$ : Raman Spectroscopic Insight into the Atomistic Structure of a High-Pressure Vanadium Pentoxide Polymorph. <i>Inorganic Chemistry</i> , 2012, 51, 3194-3201.	4.0	129
43	Quantum Mechanical Study of Pre-Dissociation Enhancement of Linear and Nonlinear Polarizabilities of $\text{TeO}_2$ Oligomers as a Key to Understanding the Remarkable Dielectric Properties of $\text{TeO}_2$ Glasses. <i>Journal of Physical Chemistry A</i> , 2012, 116, 9361-9369.	2.5	18
44	Raman investigation of hydrostatic and nonhydrostatic compressions of $\text{OH}$ - and $\text{F}$ -apophyllites up to 8 GPa. <i>Journal of Raman Spectroscopy</i> , 2012, 43, 439-447.	2.5	23
45	Structural peculiarities and Raman spectra of $\text{TeO}_2/\text{WO}_3$ -based glasses: A fresh look at the problem. <i>Journal of Solid State Chemistry</i> , 2012, 190, 45-51.	2.9	32
46	Phonons and their dispersion in model ferroelastics $\text{Hg}_2\text{Hal}_2$ . <i>Physics of the Solid State</i> , 2012, 54, 900-904.	0.6	2
47	Lattice dynamics and phonon dispersion in $\text{Hg}_2\text{Br}_2$ model ferroelastic crystals. <i>Technical Physics Letters</i> , 2012, 38, 361-364.	0.7	3
48	Specific features of Raman spectra of $\text{InV}$ nanowhiskers. <i>Physics of the Solid State</i> , 2011, 53, 1431-1439.	0.6	5
49	Vibrational spectra of rhombohedral $\text{TeO}_3$ compared to those of $\text{ReO}_3$ -like proto-phase and $\text{TeO}_2$ (paratellurite): lattice dynamic and crystal chemistry aspects. <i>Journal of Raman Spectroscopy</i> , 2011, 42, 758-764.	2.5	14
50	Crystal chemistry peculiarities of $\text{Cs}_2\text{Te}_4\text{O}_{12}$ . <i>Journal of Solid State Chemistry</i> , 2011, 184, 637-643.	2.9	4
51	Evolution of the phonon density of states of $\text{LaCoO}_3$ over the spin state transition. <i>Physical Review B</i> , 2011, 83, 114408.	3.2	8
52	Short wavelength X-ray emission generated by highly excited cluster beams. <i>Laser Physics</i> , 2010, 20, 1009-1018.	1.2	0
53	Atomic structure and lattice dynamics of Ni and Mg hydroxides. <i>Solid State Ionics</i> , 2010, 181, 1764-1770.	2.7	81
54	Raman and infrared spectra of doped $\text{La}_{8-x}\text{Sr}_{2x}\text{(SiO}_4\text{)}_6\text{O}_{21}$ compounds compared to the <i>ab initio</i> obtained spectroscopic characteristics of fully stoichiometric $\text{La}_8\text{Sr}_2\text{(SiO}_4\text{)}_6\text{O}_{21}$ . <i>Journal of Raman Spectroscopy</i> , 2010, 41, 1700-1707.	2.5	9

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55	Temperature dependent luminescence from quantum dot arrays: phonon-assisted line broadening versus carrier escape-induced narrowing. <i>Physica Status Solidi (B): Basic Research</i> , 2010, 247, 347-352.	1.5	8
56	Vibrational spectrum of reiditeZrSiO <sub>4</sub> from first principles. <i>Physical Review B</i> , 2010, 82, .	3.2	13
57	Phonon Dispersion and Pressure Behavior of Hg <sub>2</sub> Cl <sub>2</sub> Crystals. <i>Ferroelectrics</i> , 2010, 397, 81-89.	0.6	6
58	Novel features of the $\hat{\Gamma}$ - $\hat{\Gamma}$ <sup>2</sup> phase transition in quartz-type FePO <sub>4</sub> as evidenced by x-ray diffraction and lattice dynamics. <i>Journal of Physics Condensed Matter</i> , 2010, 22, 225403.	1.8	8
59	Acoustic and optical phonons and their dispersion in model ferroelastics Hg <sub>2</sub> Cl <sub>2</sub> . <i>Physics of the Solid State</i> , 2009, 51, 1426-1430.	0.6	1
60	SIMS and Raman studies of Mg-doped InN. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2008, 5, 1648-1651.	0.8	7
61	Local molecular orbitals and hyper-susceptibility of TeO <sub>2</sub> glass. <i>Journal of Non-Crystalline Solids</i> , 2008, 354, 199-202.	3.1	26
62	Raman Microspectrometry Study of Electrochemical Lithium Intercalation into Sputtered Crystalline V <sub>2</sub> O <sub>5</sub> Thin Films. <i>Chemistry of Materials</i> , 2008, 20, 1916-1923.	6.7	199
63	Laser proton acceleration in a water spray target. <i>Physics of Plasmas</i> , 2008, 15, 083106.	1.9	14
64	Bond-switching mechanism for the zircon-scheelite phase transition. <i>Physical Review B</i> , 2008, 78, .	3.2	36
65	Title is missing!. <i>Physics-Uspexhi</i> , 2007, 50, 907.	2.2	40
66	Experimental and theoretical studies of lattice dynamics of Mg-doped InN. <i>Applied Physics Letters</i> , 2007, 91, 111917.	3.3	12
67	Numerical simulation of the temperature dependence of the photoluminescence spectra of InAs/GaAs quantum dots. <i>Physics of the Solid State</i> , 2007, 49, 1184-1190.	0.6	6
68	Ab initio study of the nonlinear optical susceptibility of TeO <sub>2</sub> -based glasses. <i>Physical Review B</i> , 2006, 73, .	3.2	77
69	Conformational isomerism and phase transitions in tetraethylammonium bis(trifluoromethanesulfonyl)imide Et <sub>4</sub> N <sup>+</sup> TFSI <sup>-</sup> . <i>Journal of Molecular Structure</i> , 2006, 783, 145-156.	3.6	79
70	X-ray generation in laser-heated cluster beams. <i>Physical Review A</i> , 2006, 74, .	2.5	13
71	Vibrational Spectra of AlN <sup>*</sup> /GaN Superlattices: Theory and Experiment. <i>Physics of the Solid State</i> , 2005, 47, 742.	0.6	11
72	Spectroscopic characterization of the conformational states of the bis(trifluoromethanesulfonyl)imide anion (TFSI <sup>-</sup> ). <i>Journal of Raman Spectroscopy</i> , 2005, 36, 762-770.	2.5	321

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73	Optical phonons in hexagonal GaN/AlN and GaN/AlGaN superlattices. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 2389-2393.	0.8	4
74	Ionization of cluster atoms in a strong laser field. <i>Physical Review A</i> , 2004, 69, .	2.5	13
75	X-ray emission by clusters in a strong electromagnetic field. <i>Physical Review A</i> , 2004, 69, .	2.5	14
76	Microdroplet evolution induced by a laser pulse. <i>Journal of Experimental and Theoretical Physics</i> , 2004, 98, 1123-1132.	0.9	10
77	Distributions of ions in a cluster plasma created by a laser pulse. <i>Journal of Experimental and Theoretical Physics</i> , 2004, 99, 494-503.	0.9	5
78	Lattice dynamics and phase transition in LaBGeO5. <i>Physica Status Solidi (B): Basic Research</i> , 2004, 241, 1017-1025.	1.5	15
79	Behavior of phonons in short period GaN-AlN superlattices. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2004, 1, 2706-2710.	0.8	7
80	Phonons and Raman spectra of lithiated titanate Li <sub>0.5</sub> TiO <sub>2</sub> . <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2004, 1, 3138-3141.	0.8	1
81	Raman investigation of the structural changes in anatase Li <sub>x</sub> TiO <sub>2</sub> upon electrochemical lithium insertion. <i>Journal of Raman Spectroscopy</i> , 2004, 35, 577-585.	2.5	51
82	Anomalous Behaviour of the Specific Heat of AB <sup>2</sup> B <sup>3</sup> O <sub>3</sub> Complex Perovskites at Low Temperatures. <i>Ferroelectrics</i> , 2004, 302, 341-345.	0.6	1
83	Li intercalation in TiO <sub>2</sub> anatase: Raman spectroscopy and lattice dynamic studies. <i>Journal of Chemical Physics</i> , 2004, 121, 2348-2355.	3.0	48
84	Specific heat of cubic relaxor ferroelectrics. <i>Journal of Physics Condensed Matter</i> , 2004, 16, 8981-8990.	1.8	9
85	Investigation of Ferroelectric Phase Transition in DMAAS Crystals: Neutron Diffraction, Neutron Spectroscopy, Theoretical Model. <i>Ferroelectrics</i> , 2004, 299, 59-73.	0.6	4
86	Theoretical study of the polymer molecules (TeO <sub>2</sub> ) <sub>n</sub> as model systems for the local structure in TeO <sub>2</sub> glass. <i>Journal of Non-Crystalline Solids</i> , 2004, 345-346, 734-737.	3.1	26
87	Cluster Beam in a Strong Laser Field. <i>Physica Scripta</i> , 2004, T107, 149-152.	2.5	2
88	Isosymmetric Reversible Pressure-Induced Phase Transition in Sodium Oxalate at 3.8 GPa. <i>Doklady Physical Chemistry</i> , 2003, 390, 154-157.	0.9	9
89	Low-temperature anomalies of infrared band intensities and high-pressure behavior of edingtonite. <i>Microporous and Mesoporous Materials</i> , 2003, 61, 283-289.	4.4	14
90	Lattice dynamics and Raman spectra of strained hexagonal GaN/AlN and GaN/AlGaN superlattices. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2003, 0, 2035-2038.	0.8	11

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91	Thermonuclear fusion in the irradiation of large clusters of deuterium iodide with a field of a superatomic femtosecond laser pulse. <i>Physics of Atomic Nuclei</i> , 2003, 66, 612-617.	0.4	3
92	Theoretical study of structural phase transition in a RbMnCl <sub>3</sub> crystal by the Kim-Gordon method. <i>Crystallography Reports</i> , 2003, 48, 435-442.	0.6	3
93	Distribution and evolution of electrons in a cluster plasma created by a laser pulse. <i>Journal of Experimental and Theoretical Physics</i> , 2003, 97, 42-48.	0.9	1
94	Vibrational and structural properties of glass and crystalline phases of TeO <sub>2</sub> . <i>Journal of Non-Crystalline Solids</i> , 2003, 330, 50-60.	3.1	117
95	Hot electron generation in laser cluster plasma. <i>Physics of Plasmas</i> , 2003, 10, 443-447.	1.9	16
96	<title>Evolution of deuterium clusters irradiated by super-intense ultra-short laser pulses</title>. , 2002, , .		0
97	<title>Raman studies as a tool for characterization of the strained hexagonal GaN/Al<math>x</math>Ga<math>1-x</math>N superlattices</title>. , 2002, , .		0
98	Raman Spectroscopy as a Tool for Characterization of Strained Hexagonal GaN/Al <sub>x</sub> Ga <sub>1-x</sub> N Superlattices. <i>Physica Status Solidi (B): Basic Research</i> , 2002, 234, 975-979.	1.5	8
99	Charge composition of a cluster plasma upon irradiation of large atomic clusters by the field of a superatomic femtosecond laser pulse. <i>Journal of Experimental and Theoretical Physics</i> , 2002, 94, 745-750.	0.9	4
100	Heating of deuterium clusters by a superatomic ultra-short laser pulse. <i>Journal of Experimental and Theoretical Physics</i> , 2001, 92, 626-633.	0.9	5
101	<title>X-rays from irradiation of large clusters by superintense laser pulses</title>. , 2001, 4424, 328.		0
102	Surface heating of deuterium clusters by the field of a superintense ultrashort laser pulse for implementing the nuclear reaction $d+d \rightarrow {}^3\text{He}+n$ . <i>Physics of Atomic Nuclei</i> , 2001, 64, 585-587.	0.4	3
103	Raman spectra and lattice-dynamical calculations of natrolite. <i>European Journal of Mineralogy</i> , 2001, 13, 507-519.	1.3	44
104	The Evolution of Large Metal Clusters in a Super-Intense Laser Field. <i>Physica Scripta</i> , 2001, 63, 157-163.	2.5	4
105	Crystal structure and lattice dynamic effects of rare-earth hexaborides under hydrostatic pressure. <i>Physica B: Condensed Matter</i> , 2000, 276-278, 320-321.	2.7	1
106	Independent anharmonic oscillator approximation in the theory of structural phase transitions in crystals. <i>Physics of the Solid State</i> , 2000, 42, 2288-2294.	0.6	10
107	Calculation of Lattice Dynamics of Natrolite and Its Instability under Pressure. <i>Doklady Physical Chemistry</i> , 2000, 375, 263-267.	0.9	7
108	The evolution of large clusters under the action of ultrashort superintense laser pulses. <i>Physics-Usppekhi</i> , 2000, 43, 901-920.	2.2	57

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109	Rescattering of Photoelectrons in the Tunneling Ionization of Atoms by Strong Laser Radiation. <i>Physica Scripta</i> , 2000, 61, 75-78.	2.5	2
110	Lattice dynamics and the ferroelectric phase transition in Sn <sub>2</sub> P <sub>2</sub> S <sub>6</sub> . <i>Physical Review B</i> , 2000, 61, 15051-15060.	3.2	23
111	Phonon spectra evolution and soft-mode instabilities of zirconia during the c <sup>+</sup> →m transformation. <i>Journal of Physics and Chemistry of Solids</i> , 1999, 60, 985-992.	4.0	51
112	Title is missing!. <i>Journal of Materials Science</i> , 1999, 34, 4845-4851.	3.7	4
113	Experimental and theoretical studies of phonons in hexagonal InN. <i>Applied Physics Letters</i> , 1999, 75, 3297-3299.	3.3	251
114	Lattice dynamics and thermal expansion of quartz. <i>Physical Review B</i> , 1999, 59, 4036-4043.	3.2	31
115	Disorder Induced IR Anomaly in Hexagonal AlGa <sub>N</sub> Short-Period Superlattices and Alloys. <i>Materials Research Society Symposia Proceedings</i> , 1999, 572, 427.	0.1	1
116	Phonon dispersion and Raman scattering in hexagonal GaN and AlN. <i>Physical Review B</i> , 1998, 58, 12899-12907.	3.2	741
117	Hot electrons in the tunnelling ionization of atoms. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1998, 31, L519-L524.	1.5	20
118	Lattice-Dynamical Study of the $\Gamma_1^-$ - $\Gamma_2^+$ Phase Transition of Quartz: Soft-Mode Behavior and Elastic Anomalies. <i>Physical Review Letters</i> , 1997, 78, 2413-2416.	7.8	46
119	Effects of Vibronic Interactions in Polar Microdomain Formation in Incipient Ferroelectric KTaO <sub>3</sub> : Comparison Analysis of Raman Scattering and Second-Harmonic Generation*. <i>Zeitschrift Fur Physikalische Chemie</i> , 1997, 201, 215-229.	2.8	8
120	Lattice-dynamical study of the cubic-tetragonal-monoclinic transformations of zirconia. <i>Physical Review B</i> , 1997, 55, 19-22.	3.2	57
121	CRYME: A program for simulating structural, vibrational, elastic, piezoelectric and dielectric properties of materials within a phenomenological model of their potential functions. <i>Journal of Molecular Structure</i> , 1995, 348, 159-162.	3.6	27
122	Strain-induced destabilization of crystals: Lattice dynamics of the cubic-tetragonal phase transition in ZrO <sub>2</sub> . <i>Physical Review B</i> , 1995, 52, 9111-9114.	3.2	22
123	Molecular approach to the modeling of elasticity and piezoelectricity of SiC polytypes. <i>Physical Review B</i> , 1995, 52, 3993-4000.	3.2	34
124	Coulomb interaction and phonon frequency dispersion. An analytic approximation of the long-range Coulomb part of dynamic matrix. <i>Solid State Communications</i> , 1993, 86, 459-465.	1.9	3
125	Mechanical treatment of structural phase transitions and related phenomena in crystals: a lattice dynamical study of pressure-induced structural transformations in perovskite-like ReO <sub>3</sub> . <i>Journal of Physics Condensed Matter</i> , 1993, 5, 3313-3324.	1.8	10
126	Internal coordinates in problems of lattice dynamics. <i>Journal of Molecular Structure</i> , 1992, 272, 51-71.	3.6	2



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127	The role of internal tensions in pressure-induced second order phase transition. Solid State Communications, 1990, 73, 153-157.	1.9	13
128	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
129	Vibrational spectra and dynamic properties of ionic-covalent crystals. Solid State Communications, 1986, 58, 371-377.	1.9	14
130	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