Aleksandr Fedorov

List of Publications by Year
in descending order

90	824	567247 15	610883 24
papers	citations	h-index	g-index

91	91	91	1169
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Structure and properties of BeO nanotubes. Physics of the Solid State, 2006, 48, 398-401.	0.6	72
2	Superlattices consisting of â€œlinesâ€•of adsorbed hydrogen atom pairs on graphene. JETP Letters, 2007, 85, 77-81.	1.4	62
3	High-capacity electrode material BC<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>for lithium batteries proposed byab initiosimulations. Physical Review B, 2012, 85, .	3.2	42
4	Structural properties and high-temperature spin and electronic transitions in GdCoO3: Experiment and theory. Physical Review B, 2013, 88, .	3.2	33
5	Theoretical study of the magnetic properties of ordered vacancies in 2D hexagonal structures: Graphene, 2D-SiC, and h-BN. JETP Letters, 2012, 95, 555-559.	1.4	29
6	DFT investigation of the influence of ordered vacancies on elastic and magnetic properties of graphene and grapheneâ€like SiC and BN structures. Physica Status Solidi (B): Basic Research, 2012, 249, 2549-2552.	1.5	28
7	Density functional study of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:mo>âŸ¨</mml:mo><mml:mrow><mml:mn>110</mml:mn></mml:mrow><mml:mo>âŸ© thin silicon nanowires. Physical Review B, 2008, 77, .	3.2	27
8	Influence of electron concentration and temperature on fullerene formation in a carbon plasma. Carbon, 2003, 41, 173-178.	10.3	25
9	Metal-semiconductor (semimetal) superlattices on a graphite sheet with vacancies. JETP Letters, 2006, 84, 115-118.	1.4	25
10	Magnetic, optical, and electrical properties of solid solutions VxFe1âˆ’x BO3. Journal of Experimental and Theoretical Physics, 2002, 94, 299-306.	0.9	21
11	Investigation of intrinsic defect magnetic properties in wurtzite ZnO materials. Journal of Magnetism and Magnetic Materials, 2017, 440, 5-9.	2.3	19
12	Relative Isomer Abundance of Fullerenes and Carbon Nanotubes Correlates with Kinetic Stability. Physical Review Letters, 2011, 107, 175506.	7.8	18
13	Density-functional theory study of the electronic structure of thinSiâˆ•SiO2quantum nanodots and nanowires. Physical Review B, 2007, 75, .	3.2	17
14	Mobility of vacancies under deformation and their effect on the elastic properties of graphene. Journal of Experimental and Theoretical Physics, 2011, 112, 820-824.	0.9	17
15	Si/Fe flux ratio influence on growth and physical properties of polycrystalline Î²-FeSi2 thin films on Si(100) surface. Journal of Magnetism and Magnetic Materials, 2017, 440, 144-152.	2.3	17
16	Theoretical study of the diffusion of lithium in crystalline and amorphous silicon. JETP Letters, 2012, 95, 143-147.	1.4	16
17	Unique Nanomechanical Properties of Diamondâ€“Lonsdaleite Biphases: Combined Experimental and Theoretical Consideration of Popigai Impact Diamonds. Nano Letters, 2019, 19, 1570-1576.	9.1	16
18	Thermoelectric properties and cost optimization of spark plasma sintered n-type Si0.9Ge0.1 - Mg2Si nanocomposites. Scripta Materialia, 2018, 146, 295-299.	5.2	15

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19	Band-gap unification of partially Si-substituted single-wall carbon nanotubes. Physical Review B, 2006, 74, .	3.2	13
20	Fe₃S₄and Fe₃O₄magnetic nanocrystals: magneto-optical and MÃ¶ssbauer spectroscopy study. Materials Research Express, 2014, 1, 025033.	1.6	13
21	Effect of A -site cation ordering on the thermoelectric properties of the complex cobalt oxides Gd 1-x Sr x CoO 3-Î´ (x â€¯=â€¯0.8 and 0.9). Ceramics International, 2018, 44, 10299-10305.	4.8	13
22	Thermoelectric properties of the SmCoO3 and NdCoO3 cobalt oxides. Ceramics International, 2020, 46, 17987-17991.	4.8	13
23	A theoretical study of lithium absorption in amorphous and crystalline silicon. Journal of Structural Chemistry, 2011, 52, 861-869.	1.0	12
24	First-principles calculations of the equations of state and relative stability of iron carbides at the Earthâ€™s core pressures. Russian Geology and Geophysics, 2015, 56, 164-171.	0.7	12
25	Ab initio investigation of a new boron nitride allotrope. Physica Status Solidi (B): Basic Research, 2014, 251, 1282-1285.	1.5	11
26	Theoretical study of Î³â€²-Fe4N and É›-Fe x N iron nitrides at pressures up to 500 GPa. JETP Letters, 2015, 101, 371-375.	1.4	11
27	Charge-transfer plasmons with narrow conductive molecular bridges: A quantum-classical theory. Journal of Chemical Physics, 2019, 151, 244125.	3.0	11
28	Theoretical study of vacancies and adatoms in white graphene. JETP Letters, 2011, 93, 335-338.	1.4	10
29	Ab initio calculations of phonon frequencies and dielectric constants in A4B6 compounds. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 164, 115-119.	2.1	9
30	Optical characteristics of an epitaxial Fe3Si/Si(111) iron silicide film. JETP Letters, 2014, 99, 565-569.	1.4	9
31	Influence of electron concentration and temperature on endohedral metallofullerene Me@C84 formation in a carbon plasma. Chemical Physics, 2003, 293, 253-261.	1.9	8
32	Energy and electronic properties of non-carbon nanotubes based on silicon dioxide. Physics of the Solid State, 2006, 48, 2021-2027.	0.6	8
33	Analysis of hydrogen adsorption in the bulk and on the surface of magnesium nanoparticles. Journal of Experimental and Theoretical Physics, 2008, 107, 126-132.	0.9	8
34	Dynamics of acousto-convective drying of sunflower cake compared with drying by a traditional thermo-convective method. Foods and Raw Materials, 2018, 6, 370-378.	2.1	8
35	Ab initio study of hydrogen chemical adsorption on platinum surface/carbon nanotube join system. Physica Status Solidi (B): Basic Research, 2008, 245, 1546-1551.	1.5	7
36	Possibility of a 2D SiC monolayer formation on Mg(0001) and MgO(111) substrates. Russian Journal of Physical Chemistry A, 2013, 87, 1332-1335.	0.6	7

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37	the temperature range of 300â€'800 K. Ceramics International, 2019, 45, 5553-5558.	4.8	7
38	Prediction of orientation relationships and interface structures between Î±-, Î²-, Î³-FeSi₂ and Si phases. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2020, 76, 469-482.	1.1	7
39	Synthesis of bacteriochlorophyll a by the purple nonsulfur bacterium Rhodobacter capsulatus. Applied Biochemistry and Microbiology, 2007, 43, 187-192.	0.9	6
40	A theoretical study of the dissociative chemisorption of hydrogen on carbon nanotubes. Russian Journal of Physical Chemistry A, 2008, 82, 2117-2121.	0.6	6
41	Theoretical study of the influence of vacancies on the electronic structure of a hexagonal boron nitride monolayer. Journal of Experimental and Theoretical Physics, 2011, 112, 664-667.	0.9	6
42	Theoretical investigation of the structure and properties of the VN(111) monolayer on the MgO(111) surface. Physics of the Solid State, 2014, 56, 229-234.	0.6	6
43	Thermoelectric and Plasmonic Properties of Metal Nanoparticles Linked by Conductive Molecular Bridges. Physica Status Solidi (B): Basic Research, 2020, 257, 2000249.	1.5	6
44	Orderâ€"disorder transition in the Dy0.2Sr0.8CoO3-Î´ rare-earth cobalt oxide solid solutions: Structural and thermoelectric properties. Journal of the European Ceramic Society, 2020, 40, 5559-5565.	5.7	6
45	Density and thermodynamics of hydrogen adsorbed inside narrow carbon nanotubes. Physics of the Solid State, 2004, 46, 584-589.	0.6	5
46	Thermoactivated transport of molecules H2 in narrow single-wall carbon nanotubes. European Physical Journal B, 2009, 69, 363-368.	1.5	5
47	Experimental and Theoretical In Situ Spectral Magneto-Ellipsometry Study of Layered Ferromagnetic Structures. JETP Letters, 2019, 110, 166-172.	1.4	5
48	Influence of Buffer Gas and Vibration Temperature of Carbon Clusters on Fullerene Formation in a Carbon Plasma. Journal of Nanoscience and Nanotechnology, 2007, 7, 1315-1320.	0.9	5
49	Why the Magnetiteâ€"Gold Coreâ€"Shell Nanoparticles Are Not Quite Good and How to Improve Them. Physics of the Solid State, 2021, 63, 1536-1540.	0.6	5
50	Fullerene C60 formation in partially ionized carbon vapor. JETP Letters, 2002, 76, 522-526.	1.4	4
51	Theoretical Study of Atomic Structure and Elastic Properties of Branched Silicon Nanowires. ACS Nano, 2010, 4, 2784-2790.	14.6	4
52	DFT investigation of electronic structures and magnetic properties of halides family MeHal3 (Me=Ti,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 2017, 440, 93-96.	2.3	4
53	Isotope velocity differentiation in thin carbon nanotubes through quantum diffusion. Europhysics Letters, 2003, 63, 254-260.	2.0	3
54	Optimization of the Calculations of the Electronic Structure of Carbon Nanotubes. Physics of the Solid State, 2005, 47, 2196.	0.6	3

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55	Density and thermodynamics of hydrogen adsorbed on the surface of single-walled carbon nanotubes. Physics of the Solid State, 2006, 48, 402-407.	0.6	3
56	Calculating the energy of vacancies and adatoms in a hexagonal SiC monolayer. Russian Journal of Physical Chemistry A, 2012, 86, 1091-1095.	0.6	3
57	Quantum-chemical calculations on the stability and mobility of vacancies in graphene. Russian Journal of Physical Chemistry A, 2012, 86, 1088-1090.	0.6	3
58	Features of the structure and properties of Î²-FeSi2 nanofilms and a Î²-FeSi2/Si interface. JETP Letters, 2012, 95, 20-24.	1.4	3
59	Theoretical investigation of the atomic and electronic structure of Li x BC3 intercalated compounds. Journal of Experimental and Theoretical Physics, 2012, 114, 1018-1021.	0.9	3
60	Theoretical study of sorption and diffusion of lithium atoms on the surface of crystalline silicon and inside it. JETP Letters, 2013, 97, 634-638.	1.4	3
61	Ab initio and empirical modeling of lithium atoms penetration into silicon. Computational Materials Science, 2015, 109, 76-83.	3.0	3
62	Selective synthesis of higher manganese silicides: a new Mn17Si30 phase, its electronic, transport, and optical properties in comparison with Mn4Si7. Journal of Materials Science, 2018, 53, 7571-7594.	3.7	3
63	Charge transfer plasmons in the arrays of nanoparticles connected by conductive linkers. Journal of Chemical Physics, 2021, 154, 084123.	3.0	3
64	Insights into fullerene polymerization under the high pressure: The role of endohedral Sc dimer. Carbon, 2022, 189, 37-45.	10.3	3
65	Thermodynamic stability and electron structure of polymeric sandwich complexes of porphyrins with different metals. Russian Journal of Physical Chemistry A, 2012, 86, 1567-1569.	0.6	2
66	Theoretical Study of the Lithium Diffusion in the Crystalline and Amorphous Silicon as well as on its Surface. Solid State Phenomena, 0, 213, 29-34.	0.3	2
67	Prediction and theoretical investigation of new 2D and 3D periodical structures, having graphene-like bandstructures. Physica Status Solidi (B): Basic Research, 2015, 252, 2407-2411.	1.5	2
68	Theoretical Investigation of Molecular and Electronic Structures of Buckminsterfullerene-Silicon Quantum Dot Systems. Journal of Physical Chemistry A, 2016, 120, 9767-9775.	2.5	2
69	The effect of electron density on the kinetics of fullerene formation in carbon plasma. Technical Physics Letters, 2003, 29, 927-929.	0.7	1
70	New inorganic nanotubes of dioxides MO2(M=Si, Ge, Sn). AIP Conference Proceedings, 2005, , .	0.4	1
71	Synthesis and study of manganese-containing endohedral fullerenes. Physics of the Solid State, 2007, 49, 599-602.	0.6	1
72	Abâ€initio investigation of thermoactivated directional transport of hydrogen molecules inside narrow carbon nanotubes. Physica Status Solidi (B): Basic Research, 2009, 246, 2598-2601.	1.5	1

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73	Hydrogenation of the nanopowders that form in a carbon-helium plasma stream during the introduction of Ni and Mg. Journal of Experimental and Theoretical Physics, 2011, 113, 1057-1062.	0.9	1
74	Theoretical study of the thermodynamic stability and electronic structure of thin films of 3C, 2H, and 2D silicon carbides. Physics of the Solid State, 2014, 56, 1654-1658.	0.6	1
75	Study of interaction between transition metal atoms and bigraphene monovacancy by means of quantum chemistry. Computational Materials Science, 2016, 112, 269-275.	3.0	1
76	New method for calculations of nanostructure kinetic stability at high temperature. Journal of Magnetism and Magnetic Materials, 2017, 440, 167-170.	2.3	1
77	Effect of Oxygen Nonstoichiometry on Electrical Conductivity and Thermopower of Gd0.2Sr0.8FeO3â˜Î´ Ferrite Samples. Materials, 2019, 12, 74.	2.9	1
78	AB-INITIO INVESTIGATION OF HYDROGEN ABSORPTION BY MAGNESIUM NANOPARTICLES. NATO Science for Peace and Security Series C: Environmental Security, 2008, , 603-610.	0.2	1
79	Employment of curvilinear coordinates in ab initio calculations of insulators using pseudopotentials. Physics of the Solid State, 1999, 41, 213-218.	0.6	0
80	Theoretical study of hydrogen isotope velocity differentiation in carbon nanotubes and graphite. AIP Conference Proceedings, 2002, , .	0.4	0
81	New Method for the Calculation of Hydrogen Adsorption at Nanotube Surfaces. AIP Conference Proceedings, 2005, , .	0.4	0
82	THEORETICAL STUDY AND EXPERIMENTAL INVESTIGATION OF HYDROGEN ABSORPTION BY CARBON NANOMATERIALS. , 2007, , 127-132.		0
83	New principle of hydrogen adsorption inside nanotubes. Physica Status Solidi (B): Basic Research, 2007, 244, 4327-4330.	1.5	0
84	Small Size Particles of Different Metal Alloys with Protective Shell for Hydrogen Storage. NATO Science for Peace and Security Series C: Environmental Security, 2011, , 167-175.	0.2	0
85	First principal investigation of Fe- and Li- silicon compounds. Physics Procedia, 2012, 23, 17-20.	1.2	0
86	Complete crystal structure of decafluorocyclohex-1-ene at 4.2â€...K from original neutron diffraction data. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2014, 70, 395-397.	1.1	0
87	Molecular dynamical modelling of endohedral fullerenes formation in plasma. IOP Conference Series: Materials Science and Engineering, 2016, 110, 012078.	0.6	0
88	Estimation of the thermal and photochemical stabilities of pheromones. Journal of Molecular Modeling, 2018, 24, 323.	1.8	0
89	Trimetallic magnetite-Ti-Au nanoparticle formation: A theoretical approach. Materials Chemistry and Physics, 2021, 271, 124847.	4.0	0
90	Quantum-chemical Research of Endohedral Yttrium Metallofullerenes. Journal of Siberian Federal University - Mathematics and Physics, 2017, 10, 422-428.	0.3	0