Valery A Davydov

List of Publications by Year
in descending order

126 papers	3,017 citations	201674 27 h-index	182427 51 g-index
130 all docs	130 docs citations	130 times ranked	2326 citing authors

#	Article	IF	Citations
1	Silicon-Vacancy Nanodiamonds as High Performance Near-Infrared Emitters for Live-Cell Dual-Color Imaging and Thermometry. Nano Letters, 2022, 22, 2881-2888.	9.1	32
2	Fluorescence enhancement of a single germanium vacancy center in a nanodiamond by a plasmonic Bragg cavity. Journal of Chemical Physics, 2021, 154, 044303.	3.0	17
3	Hybrid Quantum Photonics Based on Artificial Atoms Placed Inside One Hole of a Photonic Crystal Cavity. ACS Photonics, 2021, 8, 2635-2641.	6.6	18
4	High-purity single photons obtained with moderate-NA optics from SiV center in nanodiamonds on a bullseye antenna. New Journal of Physics, 2021, 23, 113022.	2.9	12
5	â€œCoreâ€“Shellâ€•Diamond Nanoparticles with NV^{â€“} Centers and a Highly Isotopically Enriched ¹³C Shell as a Promising Hyperpolarization Agent. Journal of Physical Chemistry C, 2021, 125, 27647-27653.	3.1	4
6	Nanodiamonds with SiV colour centres for quantum technologies. Quantum Electronics, 2020, 50, 299-304.	1.0	5
7	Formation of interstitial silicon defects in Si- and Si,P-doped nanodiamonds and thermal susceptibilities of SiV^{âˆ’} photoluminescence band. Nanotechnology, 2020, 31, 205709.	2.6	10
8	Nitrogen and group-IV (Si, Ge) vacancy color centres in nano-diamonds: photoluminescence study at high temperature (25 Â°Câ€“600 Â°C). Materials Research Express, 2020, 7, 015043.	1.6	11
9	Synthesis and coherent properties of 13C-enriched sub-micron diamond particles with nitrogen vacancy color centers. Carbon, 2020, 165, 395-403.	10.3	15
10	Photonic-Crystal-Fiber Quantum Probes for High-Resolution Thermal Imaging. Physical Review Applied, 2020, 13, .	3.8	9
11	Ultrabright single-photon emission from germanium-vacancy zero-phonon lines: deterministic emitter-waveguide interfacing at plasmonic hot spots. Nanophotonics, 2020, 9, 953-962.	6.0	21
12	Purcell-enhanced emission from individual SiV^{âˆ’} center in nanodiamonds coupled to a Si₃N₄-based, photonic crystal cavity. Nanophotonics, 2020, 9, 3655-3662.	6.0	21
13	Plasmonic Bragg Cavity-Enhanced Emission from Single Germanium Vacancy Centers in Nanodiamonds. , 2020, , .		0
14	Single Silicon Vacancy Centers in 10 nm Diamonds for Quantum Information Applications. ACS Applied Nano Materials, 2019, 2, 4765-4772.	5.0	26
15	Preparing single SiV^{âˆ’} center in nanodiamonds for external, optical coupling with access to all degrees of freedom. New Journal of Physics, 2019, 21, 103047.	2.9	16
16	Coupling Quantum Emitters in Nanodiamonds to Microring Resonators for Integrated Quantum Photonics. , 2019, , .		1
17	Distribution of Iron Atoms in Nonequivalent Crystallographic Sites of Fe7C3 Carbide in Coreâ€“Shell Nanostructures. Crystallography Reports, 2019, 64, 331-336.	0.6	4
18	Ultrasensitive All-Optical Thermometry Using Nanodiamonds with a High Concentration of Silicon-Vacancy Centers and Multiparametric Data Analysis. ACS Photonics, 2019, 6, 1387-1392.	6.6	69

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19	Single <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Si</mml:mi></mml:math> - <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msup><mml:mi>V</mml:mi><mml:mo>â^'</mml:mo></mml:msup></mml:math> Centers in Low-Strain Nanodiamonds with Bulklike Spectral Properties and Nanomanipulation Capabilities. Physical Review Applied, 2019, 11, .	3.8	34
20	Long-term live cells observation of internalized fluorescent Fe@C nanoparticles in constant magnetic field. Journal of Nanobiotechnology, 2019, 17, 27.	9.1	9
21	Low-saturation-energy Ultrafast Saturable Absorption of High-density Well-aligned Single-walled Carbon Nanotubes. , 2019, , .		1
22	Atom-like quantum emitters embedded in photonic hot spots. , 2019, , .		0
23	Varying temperature and silicon content in nanodiamond growth: effects on silicon-vacancy centres. Scientific Reports, 2018, 8, 3792.	3.3	15
24	Mechanism of Transformation of Ferrocene into Carbon-Encapsulated Iron Carbide Nanoparticles at High Pressures and Temperatures. Inorganic Chemistry, 2018, 57, 14895-14903.	4.0	19
25	On-chip excitation of single germanium vacancies in nanodiamonds embedded in plasmonic waveguides. Light: Science and Applications, 2018, 7, 61.	16.6	90
26	All-optical nanoscale thermometry with silicon-vacancy centers in diamond. Applied Physics Letters, 2018, 112, .	3.3	100
27	High-density Well-aligned Single-walled Carbon Nanotubes Saturable Absorber: Novel Approach of Robust Mode-locking Launching. , 2018, , .		0
28	Study of optical properties of the NV and SiV centres in diamond at high pressures. Nanosystems: Physics, Chemistry, Mathematics, 2018, , 55-57.	0.4	11
29	Stability at high temperature and decomposition kinetics of the fullerene dimers and photopolymers. Nanosystems: Physics, Chemistry, Mathematics, 2018, , 29-32.	0.4	0
30	New superparamagnetic fluorescent Fe@C-C5ON2H10-Alexa Fluor 647 nanoparticles for biological applications. Nanosystems: Physics, Chemistry, Mathematics, 2018, , 120-122.	0.4	0
31	Comb Peculiarities of Dispersion-Managed Solitons in a Hybrid Mode-Locked All-Fiber Ring Laser. IEEE Photonics Technology Letters, 2017, 29, 1588-1591.	2.5	9
32	Hybrid mode-locked erbium-doped all-fiber ring laser with high-density well-aligned single-walled carbon nanotubes. , 2017, , .		1
33	Excitation of nanowire surface plasmons by silicon vacancy centers in nanodiamonds. Optical Materials Express, 2017, 7, 2586.	3.0	16
34	Pressure-Temperature-Induced Transformations of Hydrocarbon- Fluorocarbon Mixtures into Nano- and Micron-Size Diamonds. Eurasian Chemico-Technological Journal, 2017, 19, 115.	0.6	1
35	Nanodiamonds carrying silicon-vacancy quantum emitters with almost lifetime-limited linewidths. New Journal of Physics, 2016, 18, 073036.	2.9	82
36	Comparative Study of Condensation Routes for Formation of Nano- and Microsized Carbon Forms in Hydrocarbon, Fluorocarbon, and Fluoro-Hydrocarbon Systems at High Pressures and Temperatures. Journal of Physical Chemistry C, 2016, 120, 29498-29509.	3.1	16

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37	Generation of ultrashort pulses with minimum duration of 90 fs in a hybrid mode-locked erbium-doped all-fibre ring laser. Quantum Electronics, 2016, 46, 979-981.	1.0	6
38	Raman study of the temperature-induced decomposition of the fullerene dimers C120. Chemical Physics Letters, 2016, 654, 81-85.	2.6	13
39	Magnetocontrollability of Fe7C3@C superparamagnetic nanoparticles in living cells. Journal of Nanobiotechnology, 2016, 14, 67.	9.1	12
40	Anomalous fluorescence of the spherical carbon nitride nanostructures. Chemical Physics Letters, 2015, 633, 95-98.	2.6	7
41	On the nature of simultaneous formation of nano- and micron-size diamond fractions under pressureâ€“temperature-induced transformations of binary mixtures of hydrocarbon and fluorocarbon compounds. Carbon, 2015, 90, 231-233.	10.3	23
42	Solid state synthesis of carbon-encapsulated iron carbide nanoparticles and their interaction with living cells. Journal of Materials Chemistry B, 2014, 2, 4250-4261.	5.8	61
43	Production of nano- and microdiamonds with Si-V and N-V luminescent centers at high pressures in systems based on mixtures of hydrocarbon and fluorocarbon compounds. JETP Letters, 2014, 99, 585-589.	1.4	70
44	Heterographene BCN phase prepared at high pressures and temperatures: Formation kinetics, structure, and properties. Inorganic Materials, 2014, 50, 349-357.	0.8	3
45	From a one-dimensional crystal to a one-dimensional liquid: A comprehensive dynamical study of C<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>60</mml:mn></mml:msub></mml:math>peapods. Physical Review B, 2013, 87, .	3.2	5
46	EPR Study of the Thermal Depolymerization Process of C60Polymerized Phases. Fullerenes Nanotubes and Carbon Nanostructures, 2012, 20, 357-360.	2.1	0
47	Carbon-Encapsulated Iron Carbide Nanoparticles in the Thermal Conversions of Ferrocene at High Pressures. Fullerenes Nanotubes and Carbon Nanostructures, 2012, 20, 451-454.	2.1	13
48	Unravelling low lying phonons and vibrations of carbon nanostructures: The contribution of inelastic and quasi-elastic neutron scattering. European Physical Journal: Special Topics, 2012, 213, 77-102.	2.6	10
49	Synergistic Effect of Fluorine and Hydrogen on Processes of Graphite and Diamond Formation from Fluorographite-Naphthalene Mixtures at High Pressures. Journal of Physical Chemistry C, 2011, 115, 21000-21008.	3.1	16
50	Transformations of polyhedral carbon nanoparticles under high pressures and temperatures. Carbon, 2011, 49, 2389-2401.	10.3	12
51	EPR study of the crystalline polymerized phases of C₆₀. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2364-2372.	1.8	1
52	Study of the Orthorhombic Polymeric Phase of C60Under High Pressure Using Synchrotron X-Ray Powder Diffraction. Fullerenes Nanotubes and Carbon Nanostructures, 2010, 18, 392-395.	2.1	2
53	Study of C₆₀Peapods After a High-Pressureâ€“High-Temperature Treatment. Fullerenes Nanotubes and Carbon Nanostructures, 2010, 18, 412-416.	2.1	6
54	High pressure synthesis of new heterodiamond phase. Diamond and Related Materials, 2010, 19, 541-544.	3.9	18

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55	Comparative EPR Study of Monomer and Polymerized Phases of C60. Fullerenes Nanotubes and Carbon Nanostructures, 2010, 18, 401-405.	2.1	0
56	First Observation of the FCC to Trigonal/Rhombohedral Transition of Pure Dimerized C60Under High Pressure. Fullerenes Nanotubes and Carbon Nanostructures, 2010, 18, 386-391.	2.1	2
57	Polyhedral carbon nanoparticles at high pressures. JETP Letters, 2009, 90, 763-767.	1.4	1
58	Single-crystal and synchrotron X-ray powder diffraction study of the one-dimensional orthorhombic polymer phase of C60. Chemical Physics Letters, 2008, 460, 93-99.	2.6	4
59	How Confinement Affects the Dynamics of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:mn>60</mml:mn></mml:msub></mml:math>in Carbon Nanopeapods. Physical Review Letters, 2008, 101, 065507.	7.8	40
60	Photo-and pressure-induced transformations in the linear orthorhombic polymer of C60. Journal of Experimental and Theoretical Physics, 2008, 107, 620-631.	0.9	5
61	Synthesis of a new cubic phase in the B-C-N system. Inorganic Materials, 2008, 44, 395-400.	0.8	16
62	Probing the Dynamics of C₆₀Encaged Inside Singleâ€Walled Carbon Nanotubes by Inelastic Neutron Scattering. Fullerenes Nanotubes and Carbon Nanostructures, 2008, 16, 463-470.	2.1	1
63	Formation of a New Phase of C₆₀under the Combined Action of Highâ€Pressure and Xâ€Ray Radiation. Fullerenes Nanotubes and Carbon Nanostructures, 2008, 16, 486-493.	2.1	0
64	Raman Study of Hydrogenated and Fluorinated Singleâ€walled Carbon Nanotubes. Fullerenes Nanotubes and Carbon Nanostructures, 2008, 16, 322-329.	2.1	1
65	Size-Dependent Phase Transition of Diamond to Graphite at High Pressures. Journal of Physical Chemistry C, 2007, 111, 12918-12925.	3.1	18
66	In situ X-ray powder diffraction study of one-dimensional polymeric C60 phase transformation under high-pressure. Chemical Physics Letters, 2007, 438, 63-66.	2.6	12
67	Size-dependent nanodiamond-graphite phase transition at 8 GPa. JETP Letters, 2007, 86, 462-464.	1.4	9
68	Stability of polymer structures based on fullerene C60 under their oxidation with oxygen. Solid Fuel Chemistry, 2007, 41, 170-173.	0.7	0
69	Highâ€Resolution Xâ€Ray Powder Diffraction Structure Determination of C60F48. Fullerenes Nanotubes and Carbon Nanostructures, 2006, 14, 279-285.	2.1	7
70	Nanoâ€Sized Carbon Structures in the Thermal Conversions of Hydrocarbons at High Pressures. Fullerenes Nanotubes and Carbon Nanostructures, 2006, 14, 425-428.	2.1	1
71	The Stability of the Linear Orthorhombic Polymer of C60: A Highâ€Pressure Study. Fullerenes Nanotubes and Carbon Nanostructures, 2006, 14, 421-424.	2.1	1
72	Nanosized carbon forms in the processes of pressureâ€"temperature-induced transformations of hydrocarbons. Carbon, 2006, 44, 2015-2020.	10.3	18

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73	Influence of pressure on the photopolymerization rate of the linear orthorhombic polymer of C60. Chemical Physics Letters, 2006, 428, 298-302.	2.6	8
74	Isothermal and polythermal kinetics of depolymerization of C60 polymers. Thermochimica Acta, 2006, 444, 91-96.	2.7	5
75	The phase diagram of fullerene C60 at high temperatures and pressures. Russian Journal of Physical Chemistry A, 2006, 80, 693-696.	0.6	1
76	The Gibbs energies of monomeric and polymeric C60 phases at a 0.1 MPa pressure and temperatures from 0 to 800 K. Russian Journal of Physical Chemistry A, 2006, 80, 1370-1377.	0.6	1
77	The Gibbs energies of monomeric and polymeric fullerene C60 phases at pressures up to 2.0 GPa and temperatures up to 800 K. Russian Journal of Physical Chemistry A, 2006, 80, 1643-1649.	0.6	1
78	Fluorination of Crystalline Polymerized Phases of C60Fullerene. Fullerenes Nanotubes and Carbon Nanostructures, 2006, 14, 303-306.	2.1	3
79	Equilibrium Phase Diagram of Polymerized C60and Kinetics of Decomposition of the Polymerized Phases. Fullerenes Nanotubes and Carbon Nanostructures, 2006, 14, 401-407.	2.1	3
80	Relative stability of polymerized phases of C60: Depolymerization of a tetragonal phase. Carbon, 2005, 43, 954-961.	10.3	25
81	Fluorination of pressure-polymerized C60 phases. Carbon, 2005, 43, 2989-3001.	10.3	9
82	High pressure photoinduced polymerization of the orthorhombic polymeric phase of C60. Chemical Physics Letters, 2005, 416, 220-224.	2.6	17
83	Study of Defects in Polymerized C60: A Room-Temperature Ferromagnet. AIP Conference Proceedings, 2005, , .	0.4	0
84	Single Crystals Synthesis and Refinement of the Crystal Structure of the Polymerized Tetragonal Phase of C60. Fullerenes Nanotubes and Carbon Nanostructures, 2005, 12, 275-279.	2.1	2
85	Lowâ€Frequency Phonons in Highâ€Pressure Highâ€Temperature C60 Polymers. Fullerenes Nanotubes and Carbon Nanostructures, 2005, 12, 263-268.	2.1	2
86	Ab Initio and DFTâ€Based Assignment of the Vibrational Spectra of Polymerized Fullerenes. Fullerenes Nanotubes and Carbon Nanostructures, 2005, 12, 253-258.	2.1	0
87	Lattice dynamics of pressure-polymerized phases ofC60: A neutron scattering investigation. Physical Review B, 2004, 70, .	3.2	11
88	Testing the magnetism of polymerized fullerene. Physical Review B, 2004, 69, .	3.2	31
89	Calorimetric study of crystalline dimer and polymerized phases of fullerene C60. Thermochimica Acta, 2004, 421, 73-80.	2.7	15
90	Conversion of polycyclic aromatic hydrocarbons to graphite and diamond at high pressures. Carbon, 2004, 42, 261-269.	10.3	93

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91	Single-crystal structural study of the pressure-temperature-induced dimerization of C $mathsf{_{60}}$. European Physical Journal B, 2003, 37, 25-37.	1.5	31
92	Title is missing!. Russian Chemical Bulletin, 2003, 52, 862-868.	1.5	3
93	Phase transformations in pressure polymerized C60. Chemical Physics Letters, 2003, 381, 410-415.	2.6	30
94	Polymerization of Single-Wall Carbon Nanotubes under High Pressures and High Temperatures.. ChemInform, 2003, 34, no.	0.0	1
95	The crystal structure of the 2D polymerized tetragonal phase of C60. Chemical Physics Letters, 2003, 367, 157-162.	2.6	38
96	Thermodynamics of crystalline dimer of fullerene C60 in the range from T â†' 0 to 340 K at standard pressure. Thermochimica Acta, 2003, 399, 99-108.	2.7	14
97	Ferromagnetic carbon with enhanced Curie temperature. Physica B: Condensed Matter, 2003, 329-333, 1217-1218.	2.7	46
98	Far-infrared vibrational properties of linearC60polymers:â€‚â€‚A comparison between neutral and charged materials. Physical Review B, 2003, 67, .	3.2	8
99	Far-infrared vibrational properties of tetragonalC60polymer. Physical Review B, 2002, 65, .	3.2	12
100	A magnetically ordered state of carbon based on polymerized fullerene C60. Physics-Uspekhi, 2002, 45, 1175-1178.	2.2	2
101	Polymerization of Single-Wall Carbon Nanotubes under High Pressures and High Temperatures. Journal of Physical Chemistry B, 2002, 106, 11155-11162.	2.6	56
102	Irreversible amorphization of tetragonal two-dimensional polymeric C60 under high pressure. Solid State Communications, 2002, 121, 241-244.	1.9	24
103	Determination of the reaction rate constant and activation energy for pressure-induced 2+2 cycloaddition of the C60 fullerene. Physics of the Solid State, 2002, 44, 557-559.	0.6	1
104	Anisotropic metallic properties of highly â€“ oriented rhombohedral C60 polymer. Synthetic Metals, 2001, 121, 1099-1100.	3.9	14
105	Electrical properties of two-dimensional fullerene matrices. Carbon, 2001, 39, 2203-2209.	10.3	29
106	Pressure-induced dimerization of fullerene C60: a kinetic study. Chemical Physics Letters, 2001, 333, 224-229.	2.6	35
107	Magnetic carbon. Nature, 2001, 413, 716-718.	27.8	538
108	Electronic structure and properties of rhombohedrally polymerized C60. Journal of Chemical Physics, 2001, 115, 5637-5641.	3.0	22

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109	13C MAS NMR investigation of two-dimensional polymerised C60 using paramagnetic O2 as a chemical shift agent. Solid State Communications, 2000, 115, 661-664.	1.9	3
110	High-resolution 13C NMR studies of the tetragonal two-dimensional polymerized C60 phase. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 8, 1-4.	2.7	6
111	Pressure-induced dimerization kinetics of fullerene C60. JETP Letters, 2000, 72, 557-560.	1.4	4
112	Spectroscopic study of pressure-polymerized phases ofC60. Physical Review B, 2000, 61, 11936-11945.	3.2	191
113	Spectroscopic properties of individual pressure-polymerized phases of C60. Chemical Physics Letters, 1999, 313, 421-425.	2.6	30
114	A Theoretical Study of the Pressure-Induced Dimerization of C60 Fullerene. Journal of Physical Chemistry A, 1999, 103, 2812-2820.	2.5	31
115	Tetragonal polymerized phase of C60: experimental artifact or reality?. Synthetic Metals, 1999, 103, 2415-2416.	3.9	12
116	Particularities of C60Transformations at 1.5 GPa. Journal of Physical Chemistry B, 1999, 103, 1800-1804.	2.6	26
117	Pressure-induced dimerization of C60 fullerene. JETP Letters, 1998, 68, 928-934.	1.4	17
118	Packing Models for High-Pressure Polymeric Phases of C60. Journal of Solid State Chemistry, 1998, 141, 164-167.	2.9	21
119	Tetragonal polymerized phase ofC60. Physical Review B, 1998, 58, 14786-14790.	3.2	75
120	Identification of the polymerized orthorhombic phase of C60 fullerene. JETP Letters, 1997, 66, 120-125.	1.4	23
121	Structural studies of C60 transformed by temperature and pressure treatments. Carbon, 1997, 35, 735-743.	10.3	27
122	Thermal studies of C60 transformed by temperature and pressure treatments. Carbon, 1997, 35, 745-747.	10.3	14
123	â€˜Low-pressureâ€™ orthorhombic phase formed from pressure-treated C60. Chemical Physics Letters, 1997, 267, 193-198.	2.6	63
124	Chemical modifications of C60 under the influence of pressure and temperature: from cubic C60 to diamond. Synthetic Metals, 1996, 77, 265-272.	3.9	12
125	Pressure-induced polycondensation of C60 fullerene. JETP Letters, 1996, 63, 818-824.	1.4	25
126	Is C60 fullerite harder than diamond?. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 188, 281-286.	2.1	129