Andrei V Sapelkin

List of Publications by Year
in descending order

107	2,190	257101 24	264894 42
papers	citations	h-index	g-index

109	109	109	3533
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The rheology of collapsing zeolites amorphized by temperature and pressure. Nature Materials, 2003, 2, 622-629.	13.3	151
2	Structure and solvents effects on the optical properties of sugar-derived carbon nanodots. Scientific Reports, 2018, 8, 6559.	1.6	121
3	Organo-erbium systems for optical amplification at telecommunications wavelengths. Nature Materials, 2014, 13, 382-386.	13.3	120
4	Interaction of B50 rat hippocampal cells with stain-etched porous silicon. Biomaterials, 2006, 27, 842-846.	5.7	101
5	Carbon nanodots: Mechanisms of photoluminescence and principles of application. TrAC - Trends in Analytical Chemistry, 2017, 90, 27-37.	5.8	92
6	Carbon Nanotubes on Polymeric Microcapsules: Freeâ€Standing Structures and Pointâ€Wise Laser Openings. Advanced Functional Materials, 2010, 20, 3136-3142.	7.8	66
7	Magnetically Engineered Microcapsules as Intracellular Anchors for Remote Control Over Cellular Mobility. Advanced Materials, 2013, 25, 6945-6950.	11.1	63
8	Investigating the Effect of Reaction Time on Carbon Dot Formation, Structure, and Optical Properties. ACS Omega, 2019, 4, 21658-21665.	1.6	63
9	In Situ Synthesis of Fluorescent Carbon Dots/Polyelectrolyte Nanocomposite Microcapsules with Reduced Permeability and Ultrasound Sensitivity. ACS Nano, 2016, 10, 9608-9615.	7.3	62
10	Pt single-atoms supported on nitrogen-doped carbon dots for highly efficient photocatalytic hydrogen generation. Journal of Materials Chemistry A, 2020, 8, 14690-14696.	5.2	62
11	Photoelectrochemical response of carbon dots (CDs) derived from chitosan and their use in electrochemical imaging. Materials Horizons, 2018, 5, 423-428.	6.4	55
12	Influence of anneal atmosphere on ZnO-nanorod photoluminescent and morphological properties with self-powered photodetector performance. Journal of Applied Physics, 2013, 113, .	1.1	53
13	Neuron Cells Uptake of Polymeric Microcapsules and Subsequent Intracellular Release. Macromolecular Bioscience, 2011, 11, 848-854.	2.1	42
14	Hardening of fullerite C60 during temperature-induced polymerization and amorphization under pressure. Applied Physics Letters, 2000, 76, 712-714.	1.5	41
15	On the origin of the 2.2â€“2.3eV photoluminescence from chemically etched germanium. Journal of Luminescence, 2003, 101, 275-283.	1.5	39
16	Structural and optical properties of porous nanocrystalline Ge. Journal of Applied Physics, 2008, 103, 113518.	1.1	36
17	Aerosol assisted chemical vapour deposition of Ga-doped ZnO films for energy efficient glazing: effects of doping concentration on the film growth behaviour and opto-electronic properties. Journal of Materials Chemistry A, 2015, 3, 13039-13049.	5.2	36
18	Nature of Semiconductor-to-Metal Transition and Volume Properties of Bulk Tetrahedral Amorphous GaSb and GaSb-Ge Semiconductors under High Pressure. Physical Review Letters, 1994, 73, 3262-3265.	2.9	33

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19	Manipulating the Optical Properties of Carbon Dots by Fineâ€Tuning their Structural Features. ChemSusChem, 2019, 12, 4432-4441.	3.6	33
20	Synthesis and structure of free-standing germanium quantum dots and their application in live cell imaging. RSC Advances, 2015, 5, 20566-20573.	1.7	32
21	Luminescent carbon nanoparticles: synthesis, methods of investigation, applications. Russian Chemical Reviews, 2017, 86, 1157-1171.	2.5	30
22	Nonequilibrium Phase Transformations in Diamond and Zincblende Semiconductors under High Pressure. Physica Status Solidi (B): Basic Research, 1996, 198, 481-490.	0.7	29
23	RamanGband in double-wall carbon nanotubes combiningpdoping and high pressure. Physical Review B, 2008, 78, .	1.1	27
24	Pressure-Induced Amorphization and a New High Density Amorphous Metallic Phase in Matrix-Free Ge Nanoparticles. Nano Letters, 2015, 15, 7334-7340.	4.5	26
25	Luminescent carbon nanoparticles separation and purification. Advances in Colloid and Interface Science, 2019, 274, 102043.	7.0	25
26	Charge transfer between carbon nanotubes and sulfuric acid as determined by Raman spectroscopy. Physical Review B, 2012, 85, .	1.1	24
27	Liquid-phase synthesis of nanoparticles and nanostructured materials. , 2018, , 1-28.		23
28	Universal Effect of Excitation Dispersion on the Heat Capacity and Gapped States in Fluids. Physical Review Letters, 2020, 125, 125501.	2.9	23
29	Structure of bulk amorphous GaSb: A temperature-dependent EXAFS study. Physical Review B, 1997, 56, 11531-11535.	1.1	22
30	Carbon Nanotubeâ€Quantum Dot Nanohybrids: Coupling with Singleâ€Particle Control in Aqueous Solution. Small, 2017, 13, 1603042.	5.2	22
31	Structures of CdSe and CdS Nanoclusters from Ab Initio Random Structure Searching. Journal of Physical Chemistry C, 2019, 123, 29370-29378.	1.5	22
32	Surface texturing of Si, porous Si and TiO2 by laser ablation. Applied Surface Science, 2007, 253, 6575-6579.	3.1	21
33	Dispersion of optical and structural properties in gel column separated carbon nanoparticles. Carbon, 2018, 127, 541-547.	5.4	21
34	X-ray absorption spectroscopy under high pressures in diamond anvil cells. High Pressure Research, 2001, 21, 315-329.	0.4	20
35	Pressure-Induced Crossover between Diffusive and Displacive Mechanisms of Phase Transitions in Single-CrystallineÎ±â^'GeO2. Physical Review Letters, 2003, 90, 145503.	2.9	20
36	Carbon dot aggregates as an alternative to gold nanoparticles for the laser-induced opening of microchamber arrays. Soft Matter, 2018, 14, 9012-9019.	1.2	19

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37	Laser-triggered drug release from polymeric 3-D micro-structured films via optical fibers. Materials Science and Engineering C, 2020, 110, 110664.	3.8	19
38	In situEXAFS, X-ray diffraction and photoluminescence for high-pressure studies. Journal of Synchrotron Radiation, 2000, 7, 257-261.	1.0	18
39	Nano-engineered microcapsules boost the treatment of persistent pain. Drug Delivery, 2018, 25, 435-447.	2.5	18
40	High-pressure Raman response of single-walled carbon nanotubes: Effect of the excitation laser energy. Physical Review B, 2008, 78, .	1.1	17
41	Comment on â€œBehavior of Supercritical Fluids across the â€˜Frenkel Lineâ€™â€•. Journal of Physical Chemistry B, 2018, 122, 6124-6128.	1.2	17
42	Gel electrophoresis separation and origins of light emission in fluorophores prepared from citric acid and ethylenediamine. Scientific Reports, 2019, 9, 14665.	1.6	17
43	X-ray total scattering study of magic-size clusters and quantum dots of cadmium sulphide. Nanoscale, 2019, 11, 21900-21908.	2.8	17
44	Distance dependence of mean-square relative displacements in EXAFS. Physical Review B, 2002, 65, .	1.1	14
45	Pressure-induced distortion of the amorphous tetrahedral network ina-GaSb: Direct evidence from EXAFS. Physical Review B, 1996, 54, R14242-R14245.	1.1	13
46	Phase transformations and the nature of the semiconductor-to-metal transition in bulka-GaSb anda-(Ge2)1â^'x(GaSb)xsemiconductors under high pressure. Physical Review B, 1996, 54, 1808-1818.	1.1	13
47	The optical and structural properties of InGaN epilayers with very high indium content. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1999, 59, 292-297.	1.7	13
48	Structural and elastic anisotropy of carbon phases prepared from fullerite C60. Applied Physics Letters, 2003, 83, 3903-3905.	1.5	13
49	Raman study of nano-crystalline Ge under high pressure. Physica Status Solidi (B): Basic Research, 2007, 244, 1376-1380.	0.7	13
50	Structural Studies of Bulk Amorphous GaSb under High Pressures. Physica Status Solidi (B): Basic Research, 1996, 198, 503-508.	0.7	12
51	High-Pressure High-Temperature Studies of Structural Ordering in GaSb. Physica Status Solidi (B): Basic Research, 2001, 223, 405-409.	0.7	12
52	Large-Scale, Reliable and Robust SERS-Active Nanowire Substrates Prepared Using Porous Alumina Templates. Journal of Nanoscience and Nanotechnology, 2008, 8, 931-935.	0.9	12
53	Experimental validation of interpolation method for pair correlations in model crystals. Journal of Chemical Physics, 2019, 151, 114502.	1.2	12
54	2D colloids in rotating electric fields: A laboratory of strong tunable three-body interactions. Journal of Colloid and Interface Science, 2022, 608, 564-574.	5.0	12

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55	Direct Experimental Evidence of Longitudinal and Transverse Mode Hybridization and Anticrossing in Simple Model Fluids. Journal of Physical Chemistry Letters, 2020, 11, 1370-1376.	2.1	11
56	Formation of porous silicon at elevated temperatures. Electrochimica Acta, 2006, 51, 2938-2941.	2.6	10
57	Aerosol assisted chemical vapour deposition of transparent conductive ZnO thin films with hexagonal microplate surfaces and ultrahigh haze values. Journal of Materials Chemistry A, 2015, 3, 22311-22315.	5.2	10
58	Solvothermal synthesis of hydrophobic carbon dots in reversed micelles. Journal of Nanoparticle Research, 2018, 20, 1.	0.8	10
59	Thermal carbonization in nanoscale reactors: controlled formation of carbon nanodots inside porous CaCO3 microparticles. Scientific Reports, 2018, 8, 9394.	1.6	10
60	Molecular nature of breakdown of the folic acid under hydrothermal treatment: a combined experimental and DFT study. Scientific Reports, 2020, 10, 19668.	1.6	10
61	Study of albumin and fibrinogen membranes formed by interfacial crosslinking using microfluidic flow. Biofabrication, 2010, 2, 035002.	3.7	9
62	Composite multilayer films based on polyelectrolytes and in situ â€formed carbon nanostructures with enhanced photoluminescence and conductivity properties. Journal of Applied Polymer Science, 2019, 136, 47718.	1.3	9
63	Theories of nanoparticle and nanostructure formation in liquid phase. , 2018, , 597-619.		8
64	Sizeâ€controlled grapheneâ€based materials prepared by annealing of pitchâ€based cokes: G band phonon line broadening effects due to high pressure, crystallite size, and merging with Dâ€² band. Journal of Raman Spectroscopy, 2019, 50, 1861-1866.	1.2	8
65	Polylactic Acid-Based Patterned Matrixes for Site-Specific Delivery of Neuropeptides On-Demand: Functional NGF Effects on Human Neuronal Cells. Frontiers in Bioengineering and Biotechnology, 2020, 8, 497.	2.0	8
66	Fluorescent Convertible Capsule Coding Systems for Individual Cell Labeling and Tracking. ACS Applied Materials & Interfaces, 2021, 13, 19701-19709.	4.0	8
67	Raman Gâ€mode of singleâ€wall carbon nanotube bundles under pressure. Journal of Raman Spectroscopy, 2011, 42, 1611-1613.	1.2	7
68	A time resolved microfocus XEOL facility at the Diamond Light Source. Journal of Physics: Conference Series, 2013, 425, 182009.	0.3	7
69	Investigating the source of deep-level photoluminescence in ZnO nanorods using optically detected x-ray absorption spectroscopy. Journal of Applied Physics, 2013, 114, 153517.	1.1	7
70	Resonance Raman spectroscopy of carbon nanotubes: pressure effects on G-mode. High Pressure Research, 2014, 34, 191-197.	0.4	7
71	Structure and effects of annealing in colloidal matrix-free Ge quantum dots. Journal of Synchrotron Radiation, 2015, 22, 105-112.	1.0	7
72	Local structure of Ge quantum dots determined byÂcombined numerical analysis of EXAFS and XANES data. Journal of Synchrotron Radiation, 2016, 23, 253-259.	1.0	7

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73	Spectroscopic super-resolution fluorescence cell imaging using ultra-small Ge quantum dots. Optics Express, 2017, 25, 4240.	1.7	7
74	Site-specific release of reactive oxygen species from ordered arrays of microchambers based on polylactic acid and carbon nanodots. Journal of Materials Chemistry B, 2020, 8, 7977-7986.	2.9	7
75	Strange attractors induced by melting in systems with nonreciprocal effective interactions. Physical Review E, 2020, 101, 063205.	0.8	7
76	Defect-governed double-step activation and directed flame fronts. Physical Review E, 2019, 100, 023203.	0.8	6
77	One step hydrothermal functionalization of gold nanoparticles with folic acid. Colloids and Surfaces B: Biointerfaces, 2019, 181, 533-538.	2.5	6
78	Analysis of the atomic structure of CdS magic-size clusters by X-ray absorption spectroscopy. Nanoscale, 2020, 12, 19325-19332.	2.8	6
79	Gâ€mode behaviour of closed ended single wall carbon nanotubes under pressure. Physica Status Solidi (B): Basic Research, 2009, 246, 491-495.	0.7	5
80	Raman excitation spectroscopy of carbon nanotubes: effects of pressure medium and pressure. High Pressure Research, 2012, 32, 67-71.	0.4	5
81	Origin of mechanical modifications in poly (ether ether ketone)/carbon nanotube composite. Journal of Applied Physics, 2014, 115, .	1.1	5
82	Mean-field model of melting in superheated crystals based on a single experimentally measurable order parameter. Scientific Reports, 2021, 11, 17963.	1.6	5
83	The preparation and characterisation of gallium nitride using the Hi-Prexx facility. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2001, 82, 120-122.	1.7	4
84	Laser-induced particle size tuning and structural transformations in germanium nanoparticles prepared by stain etching and colloidal synthesis route. Journal of Applied Physics, 2015, 118, .	1.1	4
85	High-fluorescent product of folic acid photodegradation: Optical properties and cell effect. Journal of Photochemistry and Photobiology A: Chemistry, 2021, 407, 113045.	2.0	4
86	Formation of porous silicon on a non-conductive substrate and its use as a sacrificial layer. Semiconductor Science and Technology, 2005, 20, 1217-1222.	1.0	3
87	Impact of vacuum thermal treatments on the structure and magnetic properties of titanium oxide films doped with Co. Journal of Physics Condensed Matter, 2006, 18, 10999-11005.	0.7	3
88	Significance of Bundling Effects on Carbon Nanotubesâ€™ Response to Hydrostatic Compression. Journal of Physical Chemistry C, 2016, 120, 1863-1870.	1.5	3
89	DNA-driven dynamic assembly of MoS₂nanosheets. Faraday Discussions, 2021, 227, 233-244.	1.6	3
90	Concerning Signaling in in Vitro Neural Arrays Using Porous Silicon. , 2004, , 467-471.		3

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91	Above Room Temperature Ferromagnetism in Si:Mn and TiO_{2â^'Î´}:Co. Journal of Nanoscience and Nanotechnology, 2012, 12, 7540-7544.	0.9	2
92	Local structure of amorphous and nanoscale systems by numerical XANES calculations. Journal of Non-Crystalline Solids, 2016, 451, 10-15.	1.5	2
93	Local atomic ordering in bulk amorphous (GaSb)1â^'xGe2x. Journal of Synchrotron Radiation, 1999, 6, 492-494.	1.0	1
94	Local structure of bulk amorphous and crystalline(GaSb)1â^'x(Ge2)x. Physical Review B, 2000, 61, 1907-1911.	1.1	1
95	Ferromagnetism of 3-D transition metals solid solutions in titanium oxides. Journal of Magnetism and Magnetic Materials, 2007, 310, e714-e716.	1.0	1
96	Effect of water on resonant Raman spectroscopy of closed singleâ€walled carbon nanotubes. Physica Status Solidi (B): Basic Research, 2011, 248, 2548-2551.	0.7	1
97	Structural, Optical, Electrical and Electrocatalytic Activity Properties Of Luminescent Organic Carbon Quantum Dots. ChemistrySelect, 2018, 3, 4730-4737.	0.7	1
98	Interpolation method for crystals with many-body interactions. Physical Review B, 2021, 104, .	1.1	1
99	High-pressure neutron diffraction study of magnetite, Fe3O4, nanoparticles. Applied Physics Letters, 2022, 120, .	1.5	1
100	Anisotropic Nanoclustered Carbon Phases Prepared from Fullerite C60 Under Nonâ€hydrostatic High Pressure. Fullerenes Nanotubes and Carbon Nanostructures, 2005, 12, 235-241.	1.0	0
101	Looking into the structure of Ge nanocrystals through diffraction. Acta Crystallographica Section A: Foundations and Advances, 2013, 69, s431-s431.	0.3	0
102	Looking into the structure of Ge nano-crystals through combined Diffraction/XAFS. Acta Crystallographica Section A: Foundations and Advances, 2014, 70, C1533-C1533.	0.0	0
103	A Beanâ€Like Formation of Germanium Nanoparticles Inside CNTs by the Subsequent Operation of Colloidal Synthesis and Catalytic Chemical Vapor Deposition Methods. Crystal Research and Technology, 2018, 53, 1800123.	0.6	0
104	Effect of spatial restriction on the photoluminescent properties of carbon nanomaterials. , 2018, , .		0
105	One-step microwave synthesis of photoluminescent carbon nanoparticles from sodium dextran sulfate water solution. , 2018, , .		0
106	High luminescent fluorophore synthesized at atmospheric pressure from citric acid and ethylenediamine. , 2019, , .		0
107	Fluorophore from citric acid and 1,2- ethylenediamine: synthesis and structure research. , 2020, , .		0