Alexander G Kvashnin

List of Publications by Year
in descending order

69 papers	4,845 citations	201385 27 h-index	95083 68 g-index
69 all docs	69 docs citations	69 times ranked	6536 citing authors

#	Article	IF	Citations
1	Large Scale Growth and Characterization of Atomic Hexagonal Boron Nitride Layers. Nano Letters, 2010, 10, 3209-3215.	4.5	2,317
2	Anomalous Highâ€Temperature Superconductivity in YH₆. Advanced Materials, 2021, 33, e2006832.	11.1	196
3	Superconductivity at 161â€K in thorium hydride ThH10: Synthesis and properties. Materials Today, 2020, 33, 36-44.	8.3	187
4	Diamond-like C2H nanolayer, diamane: Simulation of the structure and properties. JETP Letters, 2009, 90, 134-138.	0.4	169
5	Phase Diagram of Quasi-Two-Dimensional Carbon, From Graphene to Diamond. Nano Letters, 2014, 14, 676-681.	4.5	154
6	Superconductivity at 253â€K in lanthanumâ€“yttrium ternary hydrides. Materials Today, 2021, 48, 18-28.	8.3	119
7	On Distribution of Superconductivity in Metal Hydrides. Current Opinion in Solid State and Materials Science, 2020, 24, 100808.	5.6	104
8	Actinium Hydrides AcH₁₀, AcH₁₂, and AcH₁₆ as High-Temperature Conventional Superconductors. Journal of Physical Chemistry Letters, 2018, 9, 1920-1926.	2.1	100
9	High-Temperature Superconductivity in a Thâ€“H System under Pressure Conditions. ACS Applied Materials & Interfaces, 2018, 10, 43809-43816.	4.0	95
10	Youngâ€™s Modulus and Tensile Strength of Ti₃C₂ MXene Nanosheets As Revealed by <i>In Situ</i> TEM Probing, AFM Nanomechanical Mapping, and Theoretical Calculations. Nano Letters, 2020, 20, 5900-5908.	4.5	88
11	Influence of Size Effect on the Electronic and Elastic Properties of Diamond Films with Nanometer Thickness. Journal of Physical Chemistry C, 2011, 115, 132-136.	1.5	82
12	Uranium polyhydrides at moderate pressures: Prediction, synthesis, and expected superconductivity. Science Advances, 2018, 4, eaat9776.	4.7	82
13	Flexoelectricity in Carbon Nanostructures: Nanotubes, Fullerenes, and Nanocones. Journal of Physical Chemistry Letters, 2015, 6, 2740-2744.	2.1	68
14	Synthesis of molecular metallic barium superhydride: pseudocubic BaH12. Nature Communications, 2021, 12, 273.	5.8	66
15	Computational Search for Novel Hard Chromium-Based Materials. Journal of Physical Chemistry Letters, 2017, 8, 755-764.	2.1	62
16	Superconductivity of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>LaH</mml:mi><mml:mn>10</mml:mn></mml:msub></m and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>LaH</mml:mi><mml:mn>16</mml:mn></mml:msub></m polyhydrides. Physical Review B, 2020, 101, .	1.1	62
17	New Tungsten Borides, Their Stability and Outstanding Mechanical Properties. Journal of Physical Chemistry Letters, 2018, 9, 3470-3477.	2.1	61
18	High-Pressure Synthesis of Magnetic Neodymium Polyhydrides. Journal of the American Chemical Society, 2020, 142, 2803-2811.	6.6	59

#	Article	IF	Citations
19	Lonsdaleite Films with Nanometer Thickness. Journal of Physical Chemistry Letters, 2014, 5, 541-548.	2.1	56
20	Iron Superhydrides FeH₅ and FeH₆: Stability, Electronic Properties, and Superconductivity. Journal of Physical Chemistry C, 2018, 122, 4731-4736.	1.5	48
21	Computational discovery of hard and superhard materials. Journal of Applied Physics, 2019, 126, .	1.1	46
22	Exotic Two-Dimensional Structure: The First Case of Hexagonal NaCl. Journal of Physical Chemistry Letters, 2020, 11, 3821-3827.	2.1	38
23	Novel Strongly Correlated Europium Superhydrides. Journal of Physical Chemistry Letters, 2021, 12, 32-40.	2.1	33
24	Spontaneous Graphitization of Ultrathin Cubic Structures: A Computational Study. Nano Letters, 2014, 14, 7126-7130.	4.5	31
25	Stable reconstruction of the (110) surface and its role in pseudocapacitance of rutile-like RuO2. Scientific Reports, 2017, 7, 10357.	1.6	30
26	Structure, Stability, and Mechanical Properties of Boron-Rich Moâ€“B Phases: A Computational Study. Journal of Physical Chemistry Letters, 2020, 11, 2393-2401.	2.1	30
27	Features of Electronic, Mechanical, and Electromechanical Properties of Fluorinated Diamond Films of Nanometer Thickness. Journal of Physical Chemistry C, 2017, 121, 28484-28489.	1.5	29
28	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, .	1.1	27
29	Radiation-Induced Nucleation of Diamond from Amorphous Carbon: Effect of Hydrogen. Journal of Physical Chemistry Letters, 2014, 5, 1924-1928.	2.1	26
30	Computational Search for New Wâ€“Moâ€“B Compounds. Chemistry of Materials, 2020, 32, 7028-7035.	3.2	22
31	Novel Unexpected Reconstructions of (100) and (111) Surfaces of NaCl: Theoretical Prediction. Scientific Reports, 2019, 9, 14267.	1.6	21
32	Computational Modeling of 2D Materials under High Pressure and Their Chemical Bonding: Silicene as Possible Field-Effect Transistor. ACS Nano, 2021, 15, 6861-6871.	7.3	18
33	The Theoretical Study of Mechanical Properties of Graphene Membranes. Fullerenes Nanotubes and Carbon Nanostructures, 2010, 18, 497-500.	1.0	17
34	WB 5âˆ’ x : Synthesis, Properties, and Crystal Structureâ€"New Insights into the Longâ€Debated Compound. Advanced Science, 2020, 7, 2000775.	5.6	17
35	Graphitic Phase of NaCl. Bulk Properties and Nanoscale Stability. Journal of Physical Chemistry Letters, 2014, 5, 4014-4019.	2.1	16
36	Toward the Ultra-incompressible Carbon Materials. Computational Simulation and Experimental Observation. Journal of Physical Chemistry Letters, 2015, 6, 2147-2152.	2.1	16

#	ARTICLE	IF	CITATIONS
37	Diamane quasicrystals. Applied Surface Science, 2022, 572, 151362.	3.1	16
38	Fullerite-based nanocomposites with ultrahigh stiffness. Theoretical investigation. Carbon, 2017, 115, 546-549.	5.4	15
39	Nonstoichiometric Phases of Two-Dimensional Transition-Metal Dichalcogenides: From Chalcogen Vacancies to Pure Metal Membranes. Journal of Physical Chemistry Letters, 2019, 10, 6492-6498.	2.1	15
40	Strong Influence of Graphane Island Configurations on the Electronic Properties of a Mixed Graphene/Graphane Superlattice. Journal of Physical Chemistry C, 2012, 116, 20035-20039.	1.5	13
41	Stable and hard hafnium borides: A first-principles study. Journal of Applied Physics, 2019, 125, .	1.1	13
42	Stability and magnetism of FeN high-pressure phases. Physical Chemistry Chemical Physics, 2019, 21, 5262-5273.	1.3	12
43	Two-Dimensional CuO Inside the Supportive Bilayer Graphene Matrix. Journal of Physical Chemistry C, 2019, 123, 17459-17465.	1.5	12
44	Heterostructures based on graphene and MoS2layers decorated by C60fullerenes. Nanotechnology, 2016, 27, 365201.	1.3	11
45	Investigation of new superhard carbon allotropes with promising electronic properties. Journal of Applied Physics, 2013, 114, 183708.	1.1	10
46	The Volumetric Source Function: Looking Inside van der Waals Interactions. Scientific Reports, 2020, 10, 7816.	1.6	10
47	Nanohardness from First Principles with Active Learning on Atomic Environments. Journal of Chemical Theory and Computation, 2022, 18, 1109-1121.	2.3	10
48	Srâ€Doped Superionic Hydrogen Glass: Synthesis and Properties of SrH₂₂. Advanced Materials, 2022, 34, e2200924.	11.1	10
49	Ionic Graphitization of Ultrathin Films of Ionic Compounds. Journal of Physical Chemistry Letters, 2016, 7, 2659-2663.	2.1	9
50	Environmentally Friendly Method of Silicon Recycling: Synthesis of Silica Nanoparticles in an Aqueous Solution. ACS Sustainable Chemistry and Engineering, 2020, 8, 14006-14012.	3.2	9
51	Mechanical Engineering Effect in Electronic and Optical Properties of Graphene Nanomeshes. ACS Applied Materials & Interfaces, 2020, 12, 55189-55194.	4.0	9
52	Novel hybrid C/BN two-dimensional heterostructures. Nanotechnology, 2017, 28, 085205.	1.3	8
53	Largeâ€Scale Synthesis and Applications of Hafniumâ€“Tantalum Carbides. Advanced Functional Materials, 2022, 32, .	7.8	8
54	Transport investigation of branched graphene nanoflakes. Nanotechnology, 2015, 26, 385705.	1.3	7

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55	Layered heterostructures based on graphene, hexagonal zinc oxide and molybdenum disulfide: Modeling of geometry and electronic properties. Computational Materials Science, 2018, 142, 32-37.	1.4	7
56	Computational Design of Gas Sensors Based on V3S4 Monolayer. Nanomaterials, 2022, 12, 774.	1.9	7
57	Estimation of graphene surface stability against the adsorption of environmental and technological chemical agents. Physica Status Solidi (B): Basic Research, 2017, 254, 1600702.	0.7	5
58	Crystal Structure Evolution of Fluorine under High Pressure. Journal of Physical Chemistry C, 2022, 126, 11358-11364.	1.5	5
59	Theoretical Study of Atomic Structure and Elastic Properties of Branched Silicon Nanowires. ACS Nano, 2010, 4, 2784-2790.	7.3	4
60	Novel two-dimensional boron oxynitride predicted using the USPEX evolutionary algorithm. Physical Chemistry Chemical Physics, 2021, 23, 26178-26184.	1.3	4
61	GIPAW Pseudopotentials of d Elements for Solid-State NMR. Materials, 2022, 15, 3347.	1.3	4
62	Theoretical Study of Elastic Properties of SiC Nanowires of Different Shapes. Journal of Nanoscience and Nanotechnology, 2010, 10, 4992-4997.	0.9	3
63	New allotropic forms of carbon based on Ð¡60 and Ð¡20 fullerenes with specific mechanical characteristics. JETP Letters, 2017, 105, 419-425.	0.4	3
64	Phase Transitions in Tungsten Monoborides. JETP Letters, 2020, 111, 343-349.	0.4	3
65	Computational Materials Discovery: Dream or Reality?. , 2018, , 1-14.		3
66	Efficient Synthesis of WB_{5â€“<i>x</i>}â€“WB₂ Powders with Selectivity for WB_{5â€“<i>x</i>} Content. Inorganic Chemistry, 2022, 61, 6773-6784.	1.9	3
67	Map of Two-Dimensional Tungsten Chalcogenide Compounds (Wâ€“S, Wâ€“Se, Wâ€“Te) Based on USPEX Evolutionary Search. JETP Letters, 2022, 115, 292-296.	0.4	3
68	Hydrogen adsorption study. Formation of quantum dots on graphene nanoribbons within tight-binding approach. Nanotechnology, 2015, 26, 175704.	1.3	1
69	The possible formation of a magnetic FeS2 phase in the two-dimensional MoS2 matrix. Physical Chemistry Chemical Physics, 2016, 18, 26956-26959.	1.3	1