

Nikolay Petkov

List of Publications by Year in descending order

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69
papers

2,495
citations

186209

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206029

48
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74
all docs

74
docs citations

74
times ranked

3700
citing authors

#	ARTICLE	IF	CITATIONS
1	Semiconductor Nanowire Fabrication by Bottom-Up and Top-Down Paradigms. <i>Chemistry of Materials</i> , 2012, 24, 1975-1991.	3.2	268
2	Magnetic Field-Induced Ferroelectric Switching in Multiferroic Aurivillius Phase Thin Films at Room Temperature. <i>Journal of the American Ceramic Society</i> , 2013, 96, 2339-2357.	1.9	154
3	Ultimate-Strength Germanium Nanowires. <i>Nano Letters</i> , 2006, 6, 2964-2968.	4.5	135
4	Tuning the Structure and Orientation of Hexagonally Ordered Mesoporous Channels in Anodic Alumina Membrane Hosts: A 2D Small-Angle X-ray Scattering Study. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 1134-1138.	7.2	131
5	Synthesis and Electrical and Mechanical Properties of Silicon and Germanium Nanowires. <i>Chemistry of Materials</i> , 2008, 20, 5954-5967.	3.2	89
6	Single Crystalline Ge _{1-x} Mnx Nanowires as Building Blocks for Nanoelectronics. <i>Nano Letters</i> , 2009, 9, 50-56.	4.5	73
7	Preparation of Oriented Mesoporous Carbon Nano-Filaments within the Pores of Anodic Alumina Membranes. <i>Journal of the American Chemical Society</i> , 2006, 128, 3920-3921.	6.6	72
8	Gold Electroless Reduction in Nanosized Channels of Thiol-Modified SBA-15 Material. <i>Journal of Physical Chemistry B</i> , 2005, 109, 10737-10743.	1.2	70
9	Two-Terminal Nanoelectromechanical Devices Based on Germanium Nanowires. <i>Nano Letters</i> , 2009, 9, 1824-1829.	4.5	63
10	Monitoring PMMA Elimination by Reactive Ion Etching from a Lamellar PS-b-PMMA Thin Film by ex Situ TEM Methods. <i>Macromolecules</i> , 2010, 43, 8651-8655.	2.2	59
11	Large-scale parallel arrays of silicon nanowires via block copolymer directed self-assembly. <i>Nanoscale</i> , 2012, 4, 3228.	2.8	59
12	Epitaxial lateral overgrowth of AlN on self-assembled patterned nanorods. <i>Journal of Materials Chemistry C</i> , 2015, 3, 431-437.	2.7	58
13	Mesoporous bismuth ferrite with amplified magnetoelectric coupling and electric field-induced ferrimagnetism. <i>Nature Communications</i> , 2015, 6, 6562.	5.8	57
14	Recent advances in the growth of germanium nanowires: synthesis, growth dynamics and morphology control. <i>Journal of Materials Chemistry C</i> , 2014, 2, 14-33.	2.7	53
15	Manipulating the Growth Kinetics of Vapor-Liquid-Solid Propagated Ge Nanowires. <i>Nano Letters</i> , 2013, 13, 4044-4052.	4.5	51
16	Supercritical Fluid Synthesis of Magnetic Hexagonal Nanoplatelets of Magnetite. <i>Journal of the American Chemical Society</i> , 2010, 132, 12540-12541.	6.6	47
17	Aligned silicon nanofins via the directed self-assembly of PS-b-P4VP block copolymer and metal oxide enhanced pattern transfer. <i>Nanoscale</i> , 2015, 7, 6712-6721.	2.8	47
18	Vertical Columnar Block-Copolymer-Templated Mesoporous Silica via Confined Phase Transformation. <i>Journal of the American Chemical Society</i> , 2008, 130, 17362-17371.	6.6	45

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19	Oriented Growth of Metal and Semiconductor Nanostructures within Aligned Mesoporous Channels. <i>Chemistry of Materials</i> , 2007, 19, 1376-1381.	3.2	44
20	Self-assembled templates for the generation of arrays of 1-dimensional nanostructures: From molecules to devices. <i>Journal of Colloid and Interface Science</i> , 2010, 349, 449-472.	5.0	43
21	Seedless Growth of Sub-10 nm Germanium Nanowires. <i>Journal of the American Chemical Society</i> , 2010, 132, 13742-13749.	6.6	42
22	Room temperature ferroelectric and magnetic investigations and detailed phase analysis of Aurivillius phase Bi ₅ Ti ₃ Fe _{0.7} Co _{0.3} O ₁₅ thin films. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	40
23	Carbon nanocage supported synthesis of V ₂ O ₅ nanorods and V ₂ O ₅ /TiO ₂ nanocomposites for Li-ion batteries. <i>Journal of Materials Chemistry A</i> , 2013, 1, 12568.	5.2	39
24	Organo-arsenic Molecular Layers on Silicon for High-Density Doping. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 15514-15521.	4.0	38
25	Self-Seeded Growth of Germanium Nanowires: Coalescence and Ostwald Ripening. <i>Chemistry of Materials</i> , 2013, 25, 215-222.	3.2	34
26	Oriented Growth of Single-Crystalline Bi ₂ S ₃ Nanowire Arrays. <i>ChemPhysChem</i> , 2007, 8, 235-240.	1.0	32
27	Study on the Combined Effects of Solvent Evaporation and Polymer Flow upon Block Copolymer Self-Assembly and Alignment on Topographic Patterns. <i>Langmuir</i> , 2009, 25, 13551-13560.	1.6	30
28	Achieving structural control with thin polystyrene-b-polydimethylsiloxane block copolymer films: The complex relationship of interface chemistry, annealing methodology and process conditions. <i>European Polymer Journal</i> , 2013, 49, 3445-3454.	2.6	29
29	Selective Sidewall Wetting of Polymer Blocks in Hydrogen Silsesquioxane Directed Self-Assembly of PS- <i>b</i> -PDMS. <i>ACS Applied Materials & Interfaces</i> , 2012, 4, 4637-4642.	4.0	28
30	<i>In Situ</i> Real-Time TEM Reveals Growth, Transformation and Function in One-Dimensional Nanoscale Materials: From a Nanotechnology Perspective. <i>ISRN Nanotechnology</i> , 2013, 2013, 1-21.	1.3	26
31	Confined Growth and Crystallography of One-Dimensional Bi ₂ S ₃ , CdS, and SnS _x Nanostructures within Channeled Substrates. <i>Journal of Physical Chemistry C</i> , 2008, 112, 7345-7355.	1.5	25
32	Low sheet resistance titanium nitride films by low-temperature plasma-enhanced atomic layer deposition using design of experiments methodology. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2014, 32, 031506.	0.9	24
33	Characterisation of a novel electron beam lithography resist, SML and its comparison to PMMA and ZEP resists. <i>Microelectronic Engineering</i> , 2014, 123, 126-130.	1.1	24
34	Absence of Evidence ≠ Evidence of Absence: Statistical Analysis of Inclusions in Multiferroic Thin Films. <i>Scientific Reports</i> , 2015, 4, 5712.	1.6	23
35	Parallel Arrays of Sub-10 nm Aligned Germanium Nanofins from an <i>In Situ</i> Metal Oxide Hardmask using Directed Self-Assembly of Block Copolymers. <i>Chemistry of Materials</i> , 2015, 27, 6091-6096.	3.2	23
36	Engineering the Growth of Germanium Nanowires by Tuning the Supersaturation of Au/Ge Binary Alloy Catalysts. <i>Chemistry of Materials</i> , 2013, 25, 3096-3104.	3.2	22

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37	Atomically Flat Low-Resistive Germanide Contacts Formed by Laser Thermal Anneal. IEEE Transactions on Electron Devices, 2013, 60, 2178-2185.	1.6	22
38	Growth of Ordered Arrangements of One-Dimensional Germanium Nanostructures with Controllable Crystallinities. Chemistry of Materials, 2008, 20, 1902-1908.	3.2	21
39	Enamel proteins mitigate mechanical and structural degradations in mature human enamel during acid attack. Materials Research Express, 2014, 1, 025404.	0.8	20
40	Ultra-High-Density Arrays of Defect-Free AlN Nanorods: A "Space-Filling" Approach. ACS Nano, 2016, 10, 1988-1994.	7.3	20
41	Diagnosis of phosphorus monolayer doping in silicon based on nanowire electrical characterisation. Journal of Applied Physics, 2018, 123, 125701.	1.1	19
42	Access resistance reduction in Ge nanowires and substrates based on non-destructive gas-source dopant in-diffusion. Journal of Materials Chemistry C, 2014, 2, 9248-9257.	2.7	18
43	Solvent Vapor Annealing of Block Copolymers in Confined Topographies: Commensurability Considerations for Nanolithography. Macromolecular Rapid Communications, 2015, 36, 762-767.	2.0	18
44	Resist"substrate interface tailoring for generating high-density arrays of Ge and Bi ₂ Se ₃ nanowires by electron beam lithography. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2012, 30, .	0.6	17
45	Electrical Characterization of Bismuth Sulfide Nanowire Arrays by Conductive Atomic Force Microscopy. Journal of Physical Chemistry C, 2008, 112, 19680-19685.	1.5	16
46	Junctionless nanowire transistor fabricated with high mobility Ge channel. Physica Status Solidi - Rapid Research Letters, 2014, 8, 65-68.	1.2	16
47	Pore Directionality and Correlation Lengths of Mesoporous Silica Channels Aligned by Physical Epitaxy. ACS Nano, 2009, 3, 2311-2319.	7.3	14
48	Fully CMOS-compatible top-down fabrication of sub-50nm silicon nanowire sensing devices. Microelectronic Engineering, 2014, 118, 47-53.	1.1	14
49	Low-angle misorientation dependence of the optical properties of InGaAs/InAlAs quantum wells. Journal of Crystal Growth, 2010, 312, 1546-1550.	0.7	13
50	Directed self-assembly of PS-b-PMMA block copolymer using HSQ lines for translational alignment. Journal of Materials Chemistry C, 2013, 1, 1192-1196.	2.7	13
51	Facile and Controlled Synthesis of Ultra-Thin Low Dielectric Constant Meso/Microporous Silica Films. ChemPhysChem, 2008, 9, 1524-1527.	1.0	12
52	Detection of ultra-low protein concentrations with the simplest possible field effect transistor. Nanotechnology, 2019, 30, 324001.	1.3	12
53	Time-resolved SAXS studies of periodic mesoporous organosilicas in anodic alumina membranes. Microporous and Mesoporous Materials, 2010, 130, 203-207.	2.2	11
54	Containing the catalyst: diameter controlled Ge nanowire growth. Journal of Materials Chemistry C, 2013, 1, 4450.	2.7	11

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55	Visualising discrete structural transformations in germanium nanowires during ion beam irradiation and subsequent annealing. <i>Nanoscale</i> , 2014, 6, 12890-12897.	2.8	11
56	Thin and continuous films with controlled bi- and tri-modal porosities by embedment of zeolite nanoparticles in a mesoporous matrix. <i>Journal of Materials Chemistry</i> , 2008, 18, 2213.	6.7	10
57	Size-controlled growth of germanium nanowires from ternary eutectic alloy catalysts. <i>Journal of Materials Chemistry C</i> , 2014, 2, 4597-4605.	2.7	10
58	Electrical properties of platinum interconnects deposited by electron beam induced deposition of the carbon-free precursor, Pt(PF ₃) ₄ . <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2013, 31, .	0.6	9
59	Application of serial sectioning FIB/SEM tomography in the comprehensive analysis of arrays of metal nanotubes. <i>Journal of Microscopy</i> , 2012, 246, 33-42.	0.8	8
60	Epitaxial Post-Implant Recrystallization in Germanium Nanowires. <i>Crystal Growth and Design</i> , 2015, 15, 4581-4590.	1.4	8
61	Magnetic Properties of Single Crystalline Ge _{1-x} Mn _x Nanowires. <i>IEEE Transactions on Magnetics</i> , 2009, 45, 4085-4088.	1.2	6
62	Porous to Nonporous Transition in the Morphology of Metal Assisted Etched Silicon Nanowires. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 11PE03.	0.8	5
63	Mechanical constraint and release generates long, ordered horizontal pores in anodic alumina templates. <i>Nanotechnology</i> , 2012, 23, 175602.	1.3	5
64	Porous to Nonporous Transition in the Morphology of Metal Assisted Etched Silicon Nanowires. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 11PE03.	0.8	5
65	AsH ₃ gas-phase <i>ex situ</i> doping 3D silicon structures. <i>Journal of Applied Physics</i> , 2018, 124, .	1.1	4
66	Contacting ZnO Individual Crystal Facets by Direct Write Lithography. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 23891-23898.	4.0	2
67	Correlative Microscopy Study of FIB Patterned Stainless Steel Surfaces as Novel Nano-Structured Stents for Cardiovascular Applications. <i>Materials Research Society Symposia Proceedings</i> , 2012, 1466, 26.	0.1	1
68	Tertiarybutylarsine damage-free thin-film doping and conformal surface coverage of substrate-released horizontal Si nanowires. <i>Applied Surface Science</i> , 2020, 508, 145147.	3.1	1
69	FIB Patterning of Stainless Steel for the Development of Nano-structured Stent Surfaces for Cardiovascular Applications. <i>Lecture Notes in Nanoscale Science and Technology</i> , 2013, , 391-416.	0.4	0