

# Vladimir N Popok

## List of Publications by Year in descending order

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133  
papers

2,119  
citations

279798

23  
h-index

315739

38  
g-index

136  
all docs

136  
docs citations

136  
times ranked

1953  
citing authors

#	ARTICLE	IF	CITATIONS
1	Clusterâ€™surface interaction: From soft landing to implantation. Surface Science Reports, 2011, 66, 347-377.	7.2	222
2	Cationic Disorder and Phase Segregation in $\text{LaAlO}_3$ Evidenced by Medium-Energy Ion Spectroscopy. Physical Review Letters, 2009, 103, 146101.	7.8	113
3	Degradation Assessment in IGBT Modules Using Four-Point Probing Approach. IEEE Transactions on Power Electronics, 2015, 30, 2405-2412.	7.9	74
4	Energetic cluster ion beams: Modification of surfaces and shallow layers. Materials Science and Engineering Reports, 2011, 72, 137-157.	31.8	61
5	Origin of complex impact craters on native oxide coated silicon surfaces. Physical Review B, 2008, 77, .	3.2	55
6	Ion beam effects in polymer films: Structure evolution of the implanted layer. Nuclear Instruments & Methods in Physics Research B, 1997, 129, 60-64.	1.4	48
7	Optical properties of polymethylmethacrylate with implanted silver nanoparticles. Nuclear Instruments & Methods in Physics Research B, 2002, 191, 473-477.	1.4	45
8	Design and capabilities of an experimental setup based on magnetron sputtering for formation and deposition of size-selected metal clusters on ultra-clean surfaces. Review of Scientific Instruments, 2012, 83, 073304.	1.3	42
9	Highly Stable Monocrystalline Silver Clusters for Plasmonic Applications. Langmuir, 2017, 33, 6062-6070.	3.5	40
10	Synthesis of Silver Nanoparticles by the Ion Implantation Method and Investigation of their Optical Properties. Journal of Applied Spectroscopy, 2005, 72, 229-234.	0.7	38
11	Nanostructuring of silicate glass under low-energy Ag-ion implantation. Surface Science, 2004, 566-568, 1250-1254.	1.9	37
12	Structure evolution of implanted polymers: Buried conductive layer formation. Nuclear Instruments & Methods in Physics Research B, 1999, 148, 1106-1110.	1.4	35
13	High fluence ion beam modification of polymer surfaces: EPR and XPS studies. Nuclear Instruments & Methods in Physics Research B, 2001, 178, 305-310.	1.4	32
14	Design and capabilities of a cluster implantation and deposition apparatus: First results on hillock formation under energetic cluster ion bombardment. Review of Scientific Instruments, 2002, 73, 4283-4287.	1.3	31
15	Stopping of energetic cobalt clusters and formation of radiation damage in graphite. Physical Review B, 2009, 80, .	3.2	31
16	Nanosecond pulse laser and furnace annealing of silver nanoparticles formed by implantation in silicate glass. Surface and Coatings Technology, 2004, 185, 30-37.	4.8	30
17	Conductance and EPR study of the endohedral fullerene $\text{Li}@C_{60}$ . Solid State Communications, 2005, 133, 499-503.	1.9	29
18	Surface entropy of rare-gas clusters. Journal of Chemical Physics, 2005, 123, 084317.	3.0	29

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19	Ion synthesis of iron granular films in polyimide. Nuclear Instruments & Methods in Physics Research B, 2002, 191, 810-814.	1.4	28
20	Laser annealing of sapphire with implanted copper nanoparticles. Nuclear Instruments & Methods in Physics Research B, 2001, 178, 120-125.	1.4	26
21	Radiation-induced change of polyimide properties under high-fluence and high ion current density implantation. Applied Physics A: Materials Science and Processing, 2004, 78, 1067-1072.	2.3	26
22	Ion synthesis and laser annealing of Cu nanoparticles in Al <sub>2</sub> O <sub>3</sub> . Applied Physics A: Materials Science and Processing, 2002, 74, 441-446.	2.3	24
23	Micro-sectioning approach for quality and reliability assessment of wire bonding interfaces in IGBT modules. Microelectronics Reliability, 2013, 53, 1422-1426.	1.7	24
24	Nanohillock formation by impact of small low-energy clusters with surfaces. Nuclear Instruments & Methods in Physics Research B, 2003, 207, 145-153.	1.4	23
25	Ferromagnetic resonance study of iron implanted PET foils. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1525-1532.	1.8	23
26	Poly(methyl methacrylate) composites with size-selected silver nanoparticles fabricated using cluster beam technique. Journal of Polymer Science, Part B: Polymer Physics, 2016, 54, 1152-1159.	2.1	23
27	Strength and reliability of low temperature transient liquid phase bonded Cu Sn Cu interconnects. Microelectronics Reliability, 2017, 76-77, 378-382.	1.7	23
28	Argon cluster impacts on layered silicon, silica, and graphite surfaces. European Physical Journal D, 2007, 43, 181-184.	1.3	22
29	Formation of anisotropic ferromagnetic response in rutile (TiO <sub>2</sub> ) implanted with cobalt ions. Nuclear Instruments & Methods in Physics Research B, 2007, 257, 369-373.	1.4	21
30	Comparison of silicon potentials for cluster bombardment simulations. Nuclear Instruments & Methods in Physics Research B, 2007, 255, 253-258.	1.4	20
31	Formation of surface nanostructures on rutile (TiO <sub>2</sub> ): comparative study of low-energy cluster ion and high-energy monoatomic ion impact. Journal Physics D: Applied Physics, 2009, 42, 205303.	2.8	20
32	Stopping of energetic argon cluster ions in graphite: Role of cluster momentum and charge. Physical Review B, 2010, 82, .	3.2	20
33	Anomalous depth distribution of Fe and Co atoms in polyimide implanted to high fluence. Nuclear Instruments & Methods in Physics Research B, 2002, 191, 695-699.	1.4	19
34	Surface nanostructuring by implantation of cluster ions. Vacuum, 2004, 76, 265-272.	3.5	19
35	Experimental studies of complex crater formation under cluster implantation of solids. European Physical Journal D, 2005, 36, 79-88.	1.3	19
36	Gas-Aggregated Copper Nanoparticles with Long-term Plasmon Resonance Stability. Plasmonics, 2021, 16, 333-340.	3.4	19

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37	Sputtering of fullerene by noble gas ions at high fluences. Nuclear Instruments & Methods in Physics Research B, 1995, 103, 415-422.	1.4	18
38	The properties of polyethylene and polyamide implanted with B+ ions to high doses. Materials Letters, 1995, 23, 163-166.	2.6	18
39	Compositional alteration of polyimide under high fluence implantation by Co+ and Fe+ ions. Surface Science, 2003, 532-535, 1034-1039.	1.9	18
40	Structure and plasmonic properties of thin PMMA layers with ion-synthesized Ag nanoparticles. Journal of Polymer Science, Part B: Polymer Physics, 2015, 53, 664-672.	2.1	18
41	Pulse and continuous ion beam treatment of polyethylene. Vacuum, 2002, 68, 341-347.	3.5	17
42	Complex crater formation on silicon surfaces by low-energy Ar <sup>n+</sup> cluster ion implantation. Surface Science, 2004, 566-568, 1179-1184.	1.9	17
43	Laser ablation source for formation and deposition of size-selected metal clusters. Review of Scientific Instruments, 2008, 79, 073303.	1.3	17
44	Optical and AFM study of ion-synthesized silver nanoparticles in thin surface layers of SiO <sub>2</sub> glass. Journal of Non-Crystalline Solids, 2010, 356, 1258-1261.	3.1	17
45	Interface structure and strength of ultrasonically wedge bonded heavy aluminium wires in Si-based power modules. Journal of Materials Science: Materials in Electronics, 2014, 25, 2863-2871.	2.2	17
46	Gas-Phase Synthesis of Functional Nanomaterials. Applied Nano, 2020, 1, 25-58.	2.0	16
47	Copper nanoparticles synthesized in polymers by ion implantation: Surface morphology and optical properties of the nanocomposites. Journal of Materials Research, 2015, 30, 86-92.	2.6	15
48	Structure and properties of polymers modified by ion implantation. European Polymer Journal, 1994, 30, 1411-1415.	5.4	14
49	Thermal regression of latent tracks in the polymer irradiated by high energy heavy ions. Nuclear Instruments & Methods in Physics Research B, 2004, 218, 294-299.	1.4	14
50	Charge carrier transport in polyimide with Co nanoparticles formed by ion implantation. Surface Science, 2004, 566-568, 327-331.	1.9	14
51	Immersion of low-energy deposited metal clusters into poly(methyl methacrylate). Nuclear Instruments & Methods in Physics Research B, 2017, 409, 91-95.	1.4	14
52	Wire bond degradation under thermo- and pure mechanical loading. Microelectronics Reliability, 2017, 76-77, 373-377.	1.7	14
53	Interaction of high-power laser pulses with glasses containing implanted metallic nanoparticles. Physics of the Solid State, 2001, 43, 2192-2198.	0.6	13
54	Formation of Metallic Nanoparticles in Silicate Glass through Ion Implantation. Glass Physics and Chemistry, 2002, 28, 90-95.	0.7	13

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55	Ferromagnetic resonance investigations of cobalt-implanted polyimides. <i>Journal of Magnetism and Magnetic Materials</i> , 2004, 278, 164-171.	2.3	13
56	Effects of thermal cycling on aluminum metallization of power diodes. <i>Microelectronics Reliability</i> , 2015, 55, 1988-1991.	1.7	13
57	Comprehensive physical analysis of bond wire interfaces in power modules. <i>Microelectronics Reliability</i> , 2016, 58, 58-64.	1.7	13
58	Comparative study of antibacterial properties of polystyrene films with TiO <sub>2</sub> and Cu nanoparticles fabricated using cluster beam technique. <i>Beilstein Journal of Nanotechnology</i> , 2018, 9, 861-869.	2.8	13
59	Anomalous diffusion of Pb atoms into polyethylene implanted with F <sup>+</sup> and As <sup>+</sup> ions to different doses. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 1994, 93, 282-287.	1.4	12
60	Doping of ion implanted polyethylene with metalocarbonane. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 1995, 105, 241-244.	1.4	12
61	Diffusion of iodine into polyethylene implanted with 150 keV As <sup>+</sup> ions. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 1995, 95, 192-196.	1.4	12
62	Effect of the ion beam current density on the formation of implanted metal nanoparticles in a dielectric matrix. <i>Technical Physics Letters</i> , 2003, 29, 977-979.	0.7	12
63	Magnetoresistive Effect in PET Films with Iron Nanoparticles Synthesized by Ion Implantation. <i>The Open Applied Physics Journal</i> , 2010, 3, 1-5.	2.0	12
64	High fluence boron implantation into polymers. <i>Radiation Effects and Defects in Solids</i> , 1997, 143, 139-156.	1.2	11
65	Optical properties of ion-implanted polymer layers. <i>Journal of Applied Spectroscopy</i> , 1998, 65, 390-394.	0.7	11
66	Degradation mapping in high power IGBT modules using four-point probing. <i>Microelectronics Reliability</i> , 2015, 55, 1196-1204.	1.7	11
67	Modification of magnetic properties of polyethyleneterephthalate by iron ion implantation. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2007, 257, 589-592.	1.4	10
68	Pinning of size-selected Co clusters on highly ordered pyrolytic graphite. <i>European Physical Journal D</i> , 2009, 52, 107-110.	1.3	10
69	Charge states of size-selected silver nanoparticles produced by magnetron sputtering. <i>Journal of Nanoparticle Research</i> , 2019, 21, 1.	1.9	10
70	Kelvin Probe Force Microscopy Study of LaAlO <sub>3</sub> /SrTiO <sub>3</sub> Heterointerfaces. <i>Journal of Advanced Microscopy Research</i> , 2010, 5, 26-30.	0.3	10
71	Degradation evolution in high power IGBT modules subjected to sinusoidal current load. <i>Journal of Materials Science: Materials in Electronics</i> , 2016, 27, 1938-1945.	2.2	9
72	Controllable embedding of size-selected copper nanoparticles into polymer films. <i>Plasma Processes and Polymers</i> , 2020, 17, 1900237.	3.0	9

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73	The effect of high implant doses and high ion current densities on polyimide film properties. Technical Physics, 2002, 47, 459-464.	0.7	8
74	An influence of the viscosity of polymer substrate on ion beam synthesis of iron granular films. Nuclear Instruments & Methods in Physics Research B, 2003, 206, 1115-1119.	1.4	8
75	Quantification Problems in Depth Profiling of PWR Steels Using Ar+ Ion Sputtering and XPS Analysis. Microscopy and Microanalysis, 2006, 12, 432-437.	0.4	8
76	Impact of keV-energy argon clusters on diamond and graphite. Nuclear Instruments & Methods in Physics Research B, 2012, 282, 112-115.	1.4	8
77	Supported silver clusters as nanoplasmonic transducers for protein sensing. Sensors and Actuators B: Chemical, 2015, 212, 377-381.	7.8	8
78	Comparative study of wire bond degradation under power and mechanical accelerated tests. Journal of Materials Science: Materials in Electronics, 2019, 30, 17040-17045.	2.2	8
79	Effect of Ag Nanoparticle Size on Ion Formation in Nanoparticle Assisted LDI MS. Applied Nano, 2020, 1, 3-13.	2.0	8
80	Oxygen incorporation in polyethylene implanted with 150 keV Sb+ ions. European Physical Journal D, 1994, 44, 621-627.	0.4	7
81	Magnetoresistive effect and impedance spectroscopy of Co-implanted polyimide. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1545-1549.	1.8	7
82	Comparative Study of Al Metallization Degradation in Power Diodes Under Passive and Active Thermal Cycling. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2018, 8, 2073-2080.	2.5	7
83	Arrays of Size-Selected Metal Nanoparticles Formed by Cluster Ion Beam Technique. MRS Advances, 2018, 3, 2771-2776.	0.9	7
84	Applications of polymer films with gas-phase aggregated nanoparticles. Frontiers of Nanoscience, 2020, 15, 119-162.	0.6	7
85	Conductance and Polarisability of C60 Films. Journal of Nanoscience and Nanotechnology, 2007, 7, 1434-1438.	0.9	7
86	Electrical properties of polyethylene modified by ion implantation and diffusion. Nuclear Instruments & Methods in Physics Research B, 2000, 166-167, 655-659.	1.4	6
87	Thermo-mechanically induced texture evolution and micro-structural change of aluminum metallization. Journal of Materials Science: Materials in Electronics, 2018, 29, 3898-3904.	2.2	6
88	Formation and applications of polymer films with gas-phase aggregated nanoparticles: A brief review. Thin Solid Films, 2022, 756, 139359.	1.8	6
89	Influence of ion implantation on the properties of polymer films. Solid State Communications, 1995, 95, 49-51.	1.9	5
90	Paramagnetic properties of ion-implanted polymer layers. Journal of Applied Spectroscopy, 1998, 65, 583-588.	0.7	5

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91	Multistage ion implantation of polyamide-6 films. Nuclear Instruments & Methods in Physics Research B, 2000, 166-167, 660-663.	1.4	5
92	Mechanisms of metallization degradation in high power diodes. Microelectronics Reliability, 2016, 64, 489-493.	1.7	5
93	Metal organic vapor phase epitaxy growth of (Al)GaN heterostructures on SiC/Si(111) templates synthesized by topochemical method of atoms substitution. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700190.	1.8	5
94	Structural Characterization of MOVPE Grown AlGaN/GaN for HEMT Formation. Reviews on Advanced Materials Science, 2018, 57, 72-81.	3.3	5
95	Low temperature transient liquid phase bonded Cu-Sn-Mo and Cu-Sn-Ag-Mo interconnects – A novel approach for hybrid metal baseplates. Microelectronics Reliability, 2018, 88-90, 774-778.	1.7	5
96	Highly stable silver nanoparticles for SERS applications. Journal of Physics: Conference Series, 2018, 1092, 012098.	0.4	5
97	Two-dimensional electron gas at the AlGaN/GaN interface: Layer thickness dependence. Journal of Applied Physics, 2020, 127, .	2.5	5
98	Long-Term Plasmonic Stability of Copper Nanoparticles Produced by Gas-Phase Aggregation Method Followed by UV-Ozone Treatment. Applied Nano, 2022, 3, 102-111.	2.0	5
99	ELECTRONIC PROPERTIES OF THIN FILMS SUBLIMED FROM $\text{La@C}_{82}$ AND $\text{Li@C}_{60}$ . Nano, 2008, 03, 155-160.	1.0	4
100	Implantation of keV-energy argon clusters and radiation damage in diamond. Physical Review B, 2012, 85, .	3.2	4
101	Correlation of Electronic and Magnetic Properties of Thin Polymer Layers with Cobalt Nanoparticles. Particle and Particle Systems Characterization, 2013, 30, 180-184.	2.3	4
102	Structure and properties of Ta/Al/Ta and Ti/Al/Ti/Au multilayer metal stacks formed as ohmic contacts on n-GaN. Journal of Materials Science: Materials in Electronics, 2019, 30, 18144-18152.	2.2	4
103	High-Fluence Ion Implantation of Polymers: Evolution of Structure and Composition. Springer Series on Polymer and Composite Materials, 2019, , 69-111.	0.7	4
104	Anomalous diffusion of iodine ions into polypropylene implanted with F and I ions. Journal of Applied Polymer Science, 1995, 55, 451-454.	2.6	3
105	Doping of latent tracks in polyethylene by iodine diffusion. Radiation Measurements, 1995, 25, 71-72.	1.4	3
106	Annealing of radiation defects in dual-implanted silicon. Semiconductor Science and Technology, 1996, 11, 722-725.	2.0	3
107	Annealing behaviour of boron atoms implanted into polyethyleneterephthalate. Nuclear Instruments & Methods in Physics Research B, 2000, 166-167, 637-640.	1.4	3
108	Laser and Thermal Modification of Silver-Ion Implanted Glasses. Journal of Applied Spectroscopy, 2001, 68, 164-169.	0.7	3

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109	High-fluence implantation of iron into polyimide. <i>Surface and Coatings Technology</i> , 2002, 158-159, 395-398.	4.8	3
110	Synthesis of Cu Nanoparticles in Al <sub>2</sub> O <sub>3</sub> by Ion Implantation and Subsequent Laser Annealing. <i>AIP Conference Proceedings</i> , 2003, , .	0.4	3
111	Modelling and experimental verification of tip-induced polarization in Kelvin probe force microscopy measurements on dielectric surfaces. <i>Journal of Applied Physics</i> , 2015, 118, .	2.5	3
112	Dual implantation of silicon with boron and argon ions. <i>Physica Status Solidi A</i> , 1994, 141, 93-98.	1.7	2
113	Depth Distribution of Boron and Radiation Defects in Silicon Dual Implanted with B <sup>+</sup> and N <sup>+</sup> Ions. <i>Physica Status Solidi A</i> , 1995, 147, 91-97.	1.7	2
114	Paramagnetic defects in modified carbon-containing semiconductors. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 1999, 148, 1116-1120.	1.4	2
115	Effect of the target surface temperature on the distribution of nanoparticles formed by ion implantation. <i>Technical Physics Letters</i> , 2001, 27, 554-556.	0.7	2
116	Specificity of silver nanoparticle synthesis in quartz glass upon low-energy ion implantation. <i>Nanotechnologies in Russia</i> , 2011, 6, 490-495.	0.7	2
117	Cluster Beam Synthesis of Polymer Composites with Nanoparticles. , 2019, , 35-76.		2
118	Plasmonic properties of nanostructured graphene with silver nanoparticles. <i>Journal of Physics: Conference Series</i> , 2020, 1461, 012119.	0.4	2
119	UV/Ozone Treatment and Open-Air Copper Plasmonics. <i>Journal of Physics: Conference Series</i> , 2021, 2015, 012148.	0.4	2
120	Defects formation in the dual B <sup>+</sup> and N <sup>+</sup> ions implanted silicon. <i>European Physical Journal D</i> , 1994, 44, 949-956.	0.4	1
121	MAGNETRON SPUTTERING CLUSTER APPARATUS FOR FORMATION AND DEPOSITION OF SIZE-SELECTED METAL NANOPARTICLES. , 2015, , 416-419.		1
122	Free surface entropic lattice Boltzmann simulations of film condensation on vertical hydrophilic plates. <i>International Journal of Heat and Mass Transfer</i> , 2015, 87, 576-582.	4.8	1
123	Electric field mapping inside metallized film capacitors. , 2015, , .		1
124	Formation of Advanced Nanomaterials by Gas-Phase Aggregation. <i>Applied Nano</i> , 2021, 2, 82-84.	2.0	1
125	Interfacial adhesion strength of III-N heterostructures. <i>Materials and Design</i> , 2022, 213, 110319.	7.0	1
126	Boron electrical activation in dual B <sup>+</sup> + N <sup>+</sup> + and B <sup>+</sup> + Ar <sup>+</sup> ion-implanted silicon. <i>Applied Physics A: Materials Science and Processing</i> , 1996, 62, 355-358.	2.3	0



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127	Superheterodyne ESR-spectrometer. , 1999, , .		0
128	Polymer electronic devices with field control. , 1999, , .		0
129	Microwave diagnostics of basins ecological state. , 2000, , .		0
130	Super-high-frequency study of biologically active compounds. , 0, , .		0
131	New direction in nanotechnology: cluster ion beam technique. , 2003, , .		0
132	Humidity distribution affected by freely exposed water surfaces: Simulations and experimental verification. Physical Review E, 2014, 90, 013023.	2.1	0
133	Simulation and Verification of Tip-Induced Polarization During Kelvin Probe Force Microscopy Measurements on Film Capacitors. Springer Proceedings in Physics, 2017, , 215-221.	0.2	0