

Valentyn S Volkov

List of Publications by Year in descending order

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133
papers

6,330
citations

109264

35
h-index

66879

78
g-index

137
all docs

137
docs citations

137
times ranked

5121
citing authors

#	ARTICLE	IF	CITATIONS
1	Microextrusion printing of gas-sensitive planar anisotropic NiO nanostructures and their surface modification in an H ₂ S atmosphere. Applied Surface Science, 2022, 578, 151984.	3.1	23
2	Synthesis of highly sensitive nanomaterial for ultra-fast photocatalytic activity: A detailed study on photocatalytic capabilities of rod-shaped TiS ₃ nanostructures. Catalysis Communications, 2022, 162, 106381.	1.6	8
3	Peculiarities and evolution of Raman spectra of multilayer Ge/Si(001) heterostructures containing arrays of low-temperature MBE-grown Ge quantum dots of different size and number density: Experimental studies and numerical simulations. Journal of Raman Spectroscopy, 2022, 53, 853-862.	1.2	7
4	Detection of Hypertension-Induced Changes in Erythrocytes by SERS Nanosensors. Biosensors, 2022, 12, 32.	2.3	10
5	Active Tuning of Highly Anisotropic Phonon Polaritons in Van der Waals Crystal Slabs by Gated Graphene. ACS Photonics, 2022, 9, 383-390.	3.2	37
6	Investigation of structural and optical properties of MAPbBr ₃ monocrystals under fast electron irradiation. Journal of Materials Chemistry C, 2022, 10, 5821-5828.	2.7	11
7	Two Birds with One Stone: Using Indium Oxide Surficial Modification to Tune Inner Helmholtz Plane and Regulate Nucleation for Dendrite-free Lithium Anode. Small Methods, 2022, 6, e2200113.	4.6	10
8	Nonlinear Exciton-Mie Coupling in Transition Metal Dichalcogenide Nanoresonators. Laser and Photonics Reviews, 2022, 16, .	4.4	29
9	Diffusion Limited Current Density: A Watershed in Electrodeposition of Lithium Metal Anode. Advanced Energy Materials, 2022, 12, .	10.2	42
10	Broadband Optical Constants and Nonlinear Properties of SnS ₂ and SnSe ₂ . Nanomaterials, 2022, 12, 141.	1.9	11
11	Topological phase singularities in atomically thin high-refractive-index materials. Nature Communications, 2022, 13, 2049.	5.8	43
12	Nanoscale Gallium Phosphide Epilayers on Sapphire for Low-Loss Visible Nanophotonics. ACS Applied Nano Materials, 2022, 5, 8846-8858.	2.4	7
13	Quasitrapped modes in metasurfaces of anisotropic MoS_2 nanoparticles for absorption and polarization control in the telecom wavelength range. Physical Review B, 2022, 106, .	1.1	12
14	Gas-Aggregated Copper Nanoparticles with Long-term Plasmon Resonance Stability. Plasmonics, 2021, 16, 333-340.	1.8	19
15	Spectroscopic ellipsometry of large area monolayer WS ₂ and WSe ₂ films. AIP Conference Proceedings, 2021, , .	0.3	4
16	Comparative analysis of optical properties of CVD graphene and graphite via spectroscopic ellipsometry. AIP Conference Proceedings, 2021, , .	0.3	0
17	Optical light confinement in terahertz antennas. AIP Conference Proceedings, 2021, , .	0.3	0
18	The generation of surface plasmon-polaritons by using hybrid opto-plasmonic scheme with quantum dots in the proximity of graphene. AIP Conference Proceedings, 2021, , .	0.3	0

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19	Plasmonic metasurfaces for probing two-dimensional materials. AIP Conference Proceedings, 2021, , .	0.3	0
20	Giant optical anisotropy in transition metal dichalcogenides for next-generation photonics. Nature Communications, 2021, 12, 854.	5.8	154
21	Experimental verification of a plasmonic hook in a dielectric Janus particle. Applied Physics Letters, 2021, 118, 131107.	1.5	12
22	Enabling propagation of anisotropic polaritons along forbidden directions via a topological transition. Science Advances, 2021, 7, .	4.7	53
23	Biocompatible, Electroconductive, and Highly Stretchable Hybrid Silicone Composites Based on Few-Layer Graphene and CNTs. Nanomaterials, 2021, 11, 1143.	1.9	6
24	Directly grown crystalline gallium phosphide on sapphire for nonlinear all-dielectric nanophotonics. Applied Physics Letters, 2021, 118, .	1.5	37
25	Application of Pulsed Laser Deposition in the Preparation of a Promising MoS _x /WSe ₂ /C(θ') Photocathode for Photo-Assisted Electrochemical Hydrogen Evolution. Nanomaterials, 2021, 11, 1461.	1.9	10
26	Silicone Composites with CNT/Graphene Hybrid Fillers: A Review. Materials, 2021, 14, 2418.	1.3	8
27	Optical Constants and Structural Properties of Epitaxial MoS ₂ Monolayers. Nanomaterials, 2021, 11, 1411.	1.9	17
28	Halloysite Nanotubes with Immobilized Plasmonic Nanoparticles for Biophotonic Applications. Applied Sciences (Switzerland), 2021, 11, 4565.	1.3	7
29	Optical Constants of Chemical Vapor Deposited Graphene for Photonic Applications. Nanomaterials, 2021, 11, 1230.	1.9	26
30	Planar refraction and lensing of highly confined polaritons in anisotropic media. Nature Communications, 2021, 12, 4325.	5.8	48
31	Development of ultra-sensitive broadband photodetector: a detailed study on hidden photodetection-properties of TiS ₂ nanosheets. Journal of Materials Research and Technology, 2021, 14, 1243-1254.	2.6	16
32	Surface-enhanced raman spectroscopy on ultrathin gold/graphene substrates near the percolation threshold. AIP Conference Proceedings, 2021, , .	0.3	0
33	Photogating in graphene field-effect phototransistors: Theory and observations. AIP Conference Proceedings, 2021, , .	0.3	2
34	Comparison of CVD-grown and exfoliated graphene for biosensing applications. AIP Conference Proceedings, 2021, , .	0.3	5
35	Focusing of in-plane hyperbolic polaritons in van der Waals crystals with tailored infrared nanoantennas. Science Advances, 2021, 7, eabj0127.	4.7	36
36	UV/Ozone Treatment and Open-Air Copper Plasmonics. Journal of Physics: Conference Series, 2021, 2015, 012148.	0.3	2

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37	Hybrid Metal-Dielectric-Metal Sandwiches for SERS Applications. <i>Nanomaterials</i> , 2021, 11, 3205.	1.9	8
38	Tungsten disulfide nanoparticles produced by femtosecond laser ablation in water for nanophotonic applications. <i>Journal of Physics: Conference Series</i> , 2021, 2015, 012155.	0.3	0
39	Broadband Optical Properties of Atomically Thin PtS ₂ and PtSe ₂ . <i>Nanomaterials</i> , 2021, 11, 3269.	1.9	13
40	Thickness-Dependent Structural and Electrical Properties of WS ₂ Nanosheets Obtained via the ALD-Grown WO ₃ Sulfurization Technique as a Channel Material for Field-Effect Transistors. <i>ACS Omega</i> , 2021, 6, 34429-34437.	1.6	16
41	Vertically Coupled Plasmonic Racetrack Ring Resonator for Biosensor Applications. <i>Sensors</i> , 2020, 20, 203.	2.1	23
42	All-Plasmonic Switching Effect in the Graphene Nanostructures Containing Quantum Emitters. <i>Nanomaterials</i> , 2020, 10, 122.	1.9	7
43	Nonlinear plasmonic switching in graphene-based stub nanoresonator loaded with core-shell nanowire. <i>Applied Surface Science</i> , 2020, 506, 144814.	3.1	11
44	Spectral ellipsometry of monolayer transition metal dichalcogenides: Analysis of excitonic peaks in dispersion. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2020, 38, .	0.6	51
45	Hybrid Schemes for Excitation of Collective Resonances with Surface Plasmon Polaritons in Arrays of Quantum Dots in the Proximity of Graphene. <i>Laser and Photonics Reviews</i> , 2020, 14, 2000237.	4.4	8
46	Near-field characterization of ultra-thin metal films. <i>Journal of Physics: Conference Series</i> , 2020, 1461, 012193.	0.3	2
47	Optical properties of thin graphene oxide films and their biosensing applications. <i>Journal of Physics: Conference Series</i> , 2020, 1461, 012068.	0.3	3
48	Ultra-thin gold films: towards 2D metals for photonic and optoelectronic applications. <i>Journal of Physics: Conference Series</i> , 2020, 1461, 012184.	0.3	0
49	Reversible plasmonic switching in a graphene nanoresonator loaded with a core-shell quantum dot. <i>Quantum Electronics</i> , 2020, 50, 976-983.	0.3	0
50	Bianisotropy for light trapping in all-dielectric metasurfaces. <i>Physical Review B</i> , 2020, 101, .	1.1	42
51	Fractal Shaped Periodic Metal Nanostructures Atop Dielectric-Metal Substrates for SERS Applications. <i>ACS Photonics</i> , 2020, 7, 1708-1715.	3.2	25
52	Express determination of thickness and dielectric function of single-walled carbon nanotube films. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	40
53	Magnetic Octupole Response of Dielectric Quadrumers. <i>Laser and Photonics Reviews</i> , 2020, 14, 1900331.	4.4	51
54	Substrate effects in graphene field-effect transistor photodetectors. <i>Journal of Physics: Conference Series</i> , 2020, 1461, 012188.	0.3	1

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55	Broadband optical properties of monolayer and bulk MoS ₂ . Npj 2D Materials and Applications, 2020, 4, .	3.9	112
56	The formation of intermediate layers in covered Ge/Si heterostructures with low-temperature quantum dots: a study using high-resolution transmission electron microscopy and Raman spectroscopy. Semiconductor Science and Technology, 2020, 35, 045012.	1.0	4
57	Surface-Enhanced Raman Spectroscopy on Hybrid Graphene/Gold Substrates near the Percolation Threshold. Nanomaterials, 2020, 10, 164.	1.9	17
58	Densification of single-walled carbon nanotube films: Mesoscopic distinct element method simulations and experimental validation. Journal of Applied Physics, 2020, 128, .	1.1	15
59	Plasmonic nanojet: an experimental demonstration. Optics Letters, 2020, 45, 3244.	1.7	23
60	Nanofocusing of acoustic graphene plasmon polaritons for enhancing mid-infrared molecular fingerprints. Nanophotonics, 2020, 9, 2089-2095.	2.9	12
61	Coherent optical effects in two-dimensional nanostructures with semiconductor quantum dots. EPJ Web of Conferences, 2019, 220, 02010.	0.1	2
62	Ultrathin and Ultrasmooth Gold Films on Monolayer MoS ₂ . Advanced Materials Interfaces, 2019, 6, 1900196.	1.9	45
63	Synthesis of Large Area Two-Dimensional MoS ₂ Films by Sulfurization of Atomic Layer Deposited MoO ₃ Thin Film for Nanoelectronic Applications. ACS Applied Nano Materials, 2019, 2, 7521-7531.	2.4	34
64	Analytical approximations for the dispersion of electromagnetic modes in slabs of biaxial crystals. Physical Review B, 2019, 100, .	1.1	67
65	Superior Sensitivity of Copper-Based Plasmonic Biosensors. Langmuir, 2018, 34, 4681-4687.	1.6	60
66	Morphology and effective dielectric functions of ultra-thin gold films. Journal of Physics: Conference Series, 2018, 1092, 012167.	0.3	5
67	Graphene oxide linking layers for highly sensitive SPR biosensing of small molecules. Materials Today: Proceedings, 2018, 5, 17437-17441.	0.9	4
68	SPR analysis of antibody-antigen interactions using graphene oxide linking layers. Materials Today: Proceedings, 2018, 5, 17442-17446.	0.9	4
69	Integrated plasmonic biosensors based on microring resonators. Journal of Physics: Conference Series, 2018, 1092, 012162.	0.3	1
70	Hybrid graphene-nanometallic structures. Journal of Physics: Conference Series, 2018, 1092, 012161.	0.3	7
71	Graphene-Supported Thin Metal Films for Nanophotonics and Optoelectronics. Nanomaterials, 2018, 8, 1058.	1.9	16
72	Influence of the crystalline structure of metal films on the performance of plasmonic biosensors. Journal of Physics: Conference Series, 2018, 1092, 012143.	0.3	1

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73	CHAPTER 12. Chemically Derived Graphene for Surface Plasmon Resonance Biosensing. RSC Nanoscience and Nanotechnology, 2018, , 328-353.	0.2	3
74	Optical constant of thin gold films: Structural morphology determined optical response. AIP Conference Proceedings, 2017, , .	0.3	17
75	Novel graphene-oxide-coated SPR interfaces for biosensing applications. AIP Conference Proceedings, 2017, , .	0.3	7
76	Ultralow-loss CMOS copper plasmonic platform. , 2017, , .		0
77	Optical constants and structural properties of thin gold films. Optics Express, 2017, 25, 25574.	1.7	265
78	Design, fabrication and SNOM investigation of plasmonic devices. , 2016, , .		0
79	Ultralow-Loss CMOS Copper Plasmonic Waveguides. Nano Letters, 2016, 16, 362-366.	4.5	82
80	Boosting Local Field Enhancement by on-Chip Nanofocusing and Impedance-Matched Plasmonic Antennas. Nano Letters, 2015, 15, 8148-8154.	4.5	65
81	Optical nano-antennae as compact and efficient couplers from free-space to waveguide modes. , 2015, , .		0
82	Highly Sensitive and Selective Sensor Chips with Graphene-Oxide Linking Layer. ACS Applied Materials & Interfaces, 2015, 7, 21727-21734.	4.0	140
83	Plasmonic Antennas Nanocoupler for Telecom Range: Simulation, Fabrication and Near-Field Characterization. , 2014, , .		0
84	Nanofocusing in circular sector-like nanoantennas. Optics Express, 2014, 22, 10341.	1.7	9
85	Direct Characterization of Plasmonic Slot Waveguides and Nanocouplers. Nano Letters, 2014, 14, 3925-3929.	4.5	46
86	Dielectric-loaded plasmonic waveguide components: Going practical. Laser and Photonics Reviews, 2013, 7, 938-951.	4.4	58
87	Directional coupling in long-range dielectric-loaded plasmonic waveguides. Optics Express, 2013, 21, 8799.	1.7	8
88	Directional coupling in channel plasmon-polariton waveguides. Optics Express, 2012, 20, 6124.	1.7	21
89	Dispersion of strongly confined channel plasmon polariton modes. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 1596.	0.9	19
90	Long-range dielectric-loaded surface plasmon polariton waveguides operating at telecommunication wavelengths. Optics Letters, 2011, 36, 4278.	1.7	68

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91	Fiber-coupled dielectric-loaded plasmonic waveguides. Optics Express, 2010, 18, 5314.	1.7	52
92	Thermo-optic control of dielectric-loaded plasmonic waveguide components. Optics Express, 2010, 18, 1207.	1.7	169
93	Plasmonic metasurfaces for waveguiding and field enhancement. Laser and Photonics Reviews, 2009, 3, 575-590.	4.4	43
94	Plasmonic candle: towards efficient nanofocusing with channel plasmon polaritons. New Journal of Physics, 2009, 11, 113043.	1.2	15
95	Nanofocusing with Channel Plasmon Polaritons. Nano Letters, 2009, 9, 1278-1282.	4.5	136
96	Defect profiles in graded band-gap layers of P-HgCdTe heteroepitaxial structures under ion-beam etching. Russian Physics Journal, 2008, 51, 936-942.	0.2	1
97	Channel plasmon polariton propagation in nanoimprinted V-groove waveguides. Optics Letters, 2008, 33, 2800.	1.7	34
98	Triangular metal wedges for subwavelength plasmon-polariton guiding at telecom wavelengths. Optics Express, 2008, 16, 5252.	1.7	182
99	Waveguide-ring resonator-based photonic components utilizing channel plasmon polaritons. , 2008, , .		1
100	Fabrication of plasmonic waveguides by nanoimprint and UV lithography. Proceedings of SPIE, 2008, , .	0.8	0
101	Nanophotonic components utilizing channel plasmon polaritons. Proceedings of SPIE, 2008, , .	0.8	0
102	Direct Observation of Surface Mode Excitation and Slow Light Coupling in Photonic Crystal Waveguides. Nano Letters, 2007, 7, 2341-2345.	4.5	19
103	Wavelength Selective Nanophotonic Components Utilizing Channel Plasmon Polaritons. Nano Letters, 2007, 7, 880-884.	4.5	168
104	Channelling surface plasmons. Applied Physics A: Materials Science and Processing, 2007, 89, 225-231.	1.1	30
105	Compact gradual bends for channel plasmon polaritons. Optics Express, 2006, 14, 4494.	1.7	48
106	Topography characterization of a deep grating using near-field imaging. Applied Optics, 2006, 45, 117.	2.1	3
107	Channel plasmon subwavelength waveguide components including interferometers and ring resonators. Nature, 2006, 440, 508-511.	13.7	2,058
108	Near-field probing of photonic crystal directional couplers. Laser Physics Letters, 2006, 3, 288-292.	0.6	5

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109	Bend loss for channel plasmon polaritons. Applied Physics Letters, 2006, 89, 143108.	1.5	40
110	Channel Plasmon-Polariton Guiding by Subwavelength Metal Grooves. Physical Review Letters, 2005, 95, 046802.	2.9	589
111	Near-field mapping of surface refractive-index distributions. Laser Physics Letters, 2005, 2, 440-444.	0.6	10
112	Near-field characterization of photonic crystal Y-splitters. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 4087-4092.	0.8	2
113	Near-field characterization of low-loss photonic crystal waveguides. Physical Review B, 2005, 72, .	1.1	21
114	Mapping of surface refractive-index distribution by reflection SNOM. , 2005, , .		0
115	Computational Lens for the Near Field. Physical Review Letters, 2004, 92, 163903.	2.9	46
116	Near-field imaging of organic nanofibres. Journal of Microscopy, 2004, 215, 241-244.	0.8	21
117	Near-field imaging of light diffraction out of slab waveguides. Laser Physics Letters, 2004, 1, 311-316.	0.6	7
118	Near-field characterization of planar photonic-crystal-waveguide structures. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2004, 362, 757-769.	1.6	8
119	Local excitation of surface plasmon polaritons in random surface nanostructures. Optics Communications, 2003, 223, 25-29.	1.0	5
120	Surface plasmon polariton waveguiding in random surface nanostructures. Journal of Microscopy, 2003, 209, 209-213.	0.8	8
121	Experimental studies of surface plasmon polariton band gap effect. Journal of Microscopy, 2003, 210, 324-329.	0.8	18
122	Near-field imaging of out-of-plane light scattering in photonic crystal slabs. , 2003, , .		0
123	Near-field microscopy of light propagation in photonic crystal waveguides. , 2003, 5118, 515.		1
124	Near-field imaging of light propagation in photonic crystal waveguides: Explicit role of Bloch harmonics. Physical Review B, 2002, 66, .	1.1	73
125	Localization and Waveguiding of Surface Plasmon Polaritons in Random Nanostructures. Physical Review Letters, 2002, 89, 186801.	2.9	89
126	Direct mapping of light propagation in photonic crystal waveguides. Optics Communications, 2002, 212, 51-55.	1.0	25

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127	Bend loss in surface plasmon polariton band-gap structures. Applied Physics Letters, 2001, 79, 1076-1078.	1.5	71
128	Observation of propagation of surface plasmon polaritons along line defects in a periodically corrugated metal surface. Optics Letters, 2001, 26, 734.	1.7	28
129	Surface plasmon polariton propagation along a 90° bent line defect in a periodically corrugated metal surface. Optics Communications, 2001, 196, 41-45.	1.0	11
130	Multiple-scattering dipole approach to modeling of surface plasmon polariton band gap structures. Optics Communications, 2001, 198, 241-245.	1.0	33
131	Surface plasmon polariton band gap structures: implications to integrated plasmonic circuits. , 0, , .		0
132	Near-field characterization of photonic crystal components. , 0, , .		0
133	Controllable Excitation of Surface Plasmon Polaritons in Graphene-Based Semiconductor Quantum Dot Waveguides. Annalen Der Physik, 0, , 2100139.	0.9	5