Sergiy Krylyuk

List of Publications by Year
in descending order

75 papers	2,319 citations	331670 21 h-index	214800 47 g-index
77 all docs	77 docs citations	77 times ranked	4767 citing authors

#	Article	IF	Citations
1	In situ atomic-scale imaging of electrochemical lithiation in silicon. Nature Nanotechnology, 2012, 7, 749-756.	31.5	533
2	Electric-field induced structural transition in vertical MoTe2- and Mo1â€“xWxTe2-based resistive memories. Nature Materials, 2019, 18, 55-61.	27.5	300
3	Characterization of Few-Layer 1Tâ€² MoTe₂ by Polarization-Resolved Second Harmonic Generation and Raman Scattering. ACS Nano, 2016, 10, 9626-9636.	14.6	148
4	Electrolyte Stability Determines Scaling Limits for Solid-State 3D Li Ion Batteries. Nano Letters, 2012, 12, 505-511.	9.1	121
5	Photocurrent detection of the orbital angular momentum of light. Science, 2020, 368, 763-767.	12.6	113
6	Tapering Control of Si Nanowires Grown from SiCl₄ at Reduced Pressure. ACS Nano, 2011, 5, 656-664.	14.6	85
7	Ultimate Bending Strength of Si Nanowires. Nano Letters, 2012, 12, 2599-2604.	9.1	74
8	The structural phases and vibrational properties of Mo _{1â”’x} W _x Te ₂ alloys. 2D Materials, 2017, 4, 045008.	4.4	65
9	Hexagonal MoTe2 with Amorphous BN Passivation Layer for Improved Oxidation Resistance and Endurance of 2D Field Effect Transistors. Scientific Reports, 2018, 8, 8668.	3.3	61
10	Probing the Optical Properties and Strain-Tuning of Ultrathin Mo_{1â€“x}W_xTe₂. Nano Letters, 2018, 18, 2485-2491.	9.1	53
11	Electron Microscopy Observation of TiO₂ Nanocrystal Evolution in High-Temperature Atomic Layer Deposition. Nano Letters, 2013, 13, 5727-5734.	9.1	49
12	Nanoscale Heterogeneities in Monolayer MoSe₂ Revealed by Correlated Scanning Probe Microscopy and Tip-Enhanced Raman Spectroscopy. ACS Applied Nano Materials, 2018, 1, 572-579.	5.0	45
13	Surface effects on the elastic modulus of Te nanowires. Applied Physics Letters, 2008, 92, 241908.	3.3	40
14	Compressive Stress Effect on the Radial Elastic Modulus of Oxidized Si Nanowires. Nano Letters, 2010, 10, 2031-2037.	9.1	38
15	Selective streptavidin bioconjugation on silicon and silicon carbide nanowires for biosensor applications. Journal of Materials Research, 2013, 28, 68-77.	2.6	30
16	Bending manipulation and measurements of fracture strength of silicon and oxidized silicon nanowires by atomic force microscopy. Journal of Materials Research, 2012, 27, 562-570.	2.6	29
17	Phonon anharmonicity in bulk Td-MoTe2. Applied Physics Letters, 2016, 109, .	3.3	27
18	Localized Excitons in NbSe₂-MoSe₂ Heterostructures. ACS Nano, 2020, 14, 8528-8538.	14.6	26

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19	Substrate-mediated hyperbolic phonon polaritons in MoO₃. Nanophotonics, 2021, 10, 1517-1527.	6.0	25
20	Nanowire Aptasensors for Electrochemical Detection of Cell-Secreted Cytokines. ACS Sensors, 2017, 2, 1644-1652.	7.8	24
21	Rapid thermal oxidation of silicon nanowires. Applied Physics Letters, 2009, 94, .	3.3	21
22	Formation of large-area GaN nanostructures with controlled geometry and morphology using top-down fabrication scheme. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2012, 30, .	1.2	20
23	Comprehensive optical characterization of atomically thin <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>NbSe</mml:mi><mml:mn>2</mml:mn></mml:msub></ Physical Review B, 2018, 98, .	3.2	20
24	Nanostructures on SiC surface created by laser microablation. Applied Surface Science, 2008, 254, 2031-2036.	6.1	19
25	Contact-resonance atomic force microscopy for nanoscale elastic property measurements: Spectroscopy and imaging. Ultramicroscopy, 2009, 109, 929-936.	1.9	19
26	Characterization of deep-levels in silicon nanowires by low-frequency noise spectroscopy. Applied Physics Letters, 2011, 99, 113107.	3.3	19
27	Miniature all-solid-state heterostructure nanowire Li-ion batteries as a tool for engineering and structural diagnostics of nanoscale electrochemical processes. Nanoscale, 2014, 6, 11756-11768.	5.6	19
28	Automated Mechanical Exfoliation of MoS2 and MoTe2 Layers for Two-Dimensional Materials Applications. IEEE Nanotechnology Magazine, 2019, 18, 144-148.	2.0	18
29	Detection of Deep-Levels in Doped Silicon Nanowires Using Low-Frequency Noise Spectroscopy. IEEE Transactions on Electron Devices, 2013, 60, 4206-4212.	3.0	17
30	Enhancement of the photoluminescence intensity in short-period GaAs/AlAs superlattices with different well and barrier thickness. Applied Physics Letters, 1999, 74, 2596-2598.	3.3	16
31	Enhancement of electron-phonon interaction in ultrashort-period GaAs/AlAs superlattices. Physical Review B, 1997, 55, 10621-10624.	3.2	15
32	Correlation between the performance and microstructure of Ti/Al/Ti/Au Ohmic contacts to p-type silicon nanowires. Nanotechnology, 2011, 22, 075206.	2.6	15
33	Large-area GaN n-core/p-shell arrays fabricated using top-down etching and selective epitaxial overgrowth. Applied Physics Letters, 2012, 101, .	3.3	15
34	Doping of MoTe2 via Surface Charge Transfer in Air. ACS Applied Materials & Interfaces, 2020, 12, 18182-18193.	8.0	15
35	Mobility Extraction in 2D Transition Metal Dichalcogenide Devicesâ€"Avoiding Contact Resistance Implicated Overestimation. Small, 2021, 17, e2100940.	10.0	14
36	Dense nanoimprinted silicon nanowire arrays with passivated axial p-i-n junctions for photovoltaic applications. Journal of Applied Physics, 2015, 117, .	2.5	11

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37	Electrochemical Detection of Acetaminophen with Silicon Nanowires. Electroanalysis, 2018, 30, 886-891.	2.9	11
38	Observation of stimulated emission in an ultrashort-period nonsymmetric GaAs/AlAs superlattice. Applied Physics Letters, 2001, 78, 4085-4087.	3.3	10
39	Rapid determination of nanowires electrical properties using a dielectrophoresis-well based system. Applied Physics Letters, 2017, 110, .	3.3	10
40	Valley phenomena in the candidate phase change material WSe2(1-x)Te2x. Communications Physics, 2020, 3, .	5.3	10
41	Gamma-radiation effect on donor and acceptor states in CdTe and CdTe:Cl. Journal of Alloys and Compounds, 2004, 371, 142-145.	5.5	9
42	Near-theoretical fracture strengths in native and oxidized silicon nanowires. Nanotechnology, 2016, 27, 31LT02.	2.6	8
43	MoS2 cleaning by acetone and UV-ozone: Geological and synthetic material. Applied Surface Science, 2019, 478, 183-188.	6.1	8
44	Thermomagnetic properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> single crystal in the temperature range from 55ÂK to 380 K. Physical Review Materials, 2021, 5, .	2.4	8
45	Buffer layer engineering of L1 FePd thin films with large perpendicular magnetic anisotropy. AIP Advances, 2021, 11, .	1.3	8
46	Influence of layer deformation on thermal quenching of exciton photoluminescence in short-period GaAs/AlAs superlattices. Semiconductor Science and Technology, 2004, 19, 475-479.	2.0	7
47	Electrical properties and low-temperature photolumincesence of Si-doped CdTe crystals. Semiconductors, 2006, 40, 143-147.	0.5	7
48	Polarization effects in semiconductor superlattices. Semiconductor Science and Technology, 1995, 10, 422-424.	2.0	6
49	Charge density wave activated excitons in TiSe2â€“MoSe2 heterostructures. APL Materials, 2022, 10, .	5.1	6
50	Spatially Resolved Band Gap and Dielectric Function in Two-Dimensional Materials from Electron Energy Loss Spectroscopy. Journal of Physical Chemistry A, 2022, 126, 1255-1262.	2.5	6
51	Comparable Enhancement of TERS Signals from WSe2 on Chromium and Gold. Journal of Physical Chemistry C, 2020, 124, 8971-8977.	3.1	5
52	Development of a high-temperature (295â€“900ÂK) Seebeck coefficient Standard Reference Material. Journal of Materials Research, 2021, 36, 3339-3352.	2.6	5
53	Structural and optical nanoscale analysis of GaN coreâ€“shell microrod arrays fabricated by combined top-down and bottom-up process on Si(111). Japanese Journal of Applied Physics, 2016, 55, 05FF02.	1.5	4
54	In Situ Transport Measurements Reveal Source of Mobility Enhancement of MoS₂ and MoTe₂ during Dielectric Deposition. ACS Applied Electronic Materials, 2020, 2, 1273-1279.	4.3	4

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55	Near-infrared photonic phase-change properties of transition metal ditellurides. , 2019, , .		4
56	Faceting control in core-shell GaN micropillars using selective epitaxy. APL Materials, 2014, 2, 106104.	5.1	3
57	Dielectric Properties of NbxW1-xSe2 Alloys. Journal of Research of the National Institute of Standards and Technology, 2019, 124, 1-10.	1.2	3
58	Control of polarity in multilayer MoTe2 field-effect transistors by channel thickness. , 2018, 10725, .		3
59	Characterization of ultrashort-period GaAs/AlAs superlattices by exciton photoluminescence. Materials Science and Engineering C, 2002, 19, 439-443.	7.3	2
60	Biofunctionalization of Si nanowires using a solution based technique. Proceedings of SPIE, 2012, , .	0.8	2
61	Effect of Oblique Versus Normal Deposition on the Properties of Perpendicularly Magnetized L1₀ FePd Thin Films. IEEE Magnetics Letters, 2020, 11, 1-5.	1.1	2
62	Low barrier height in a ZnO nanorods/NbSe2 heterostructure prepared by van der Waals epitaxy. APL Materials, 2021, 9, .	5.1	2
63	Realization of vertically-aligned GaN n-p core-shell nanoscale structures using top-down fabrication. , 2011, , .		1
64	Real-time electrical detection of the formation and destruction of lipid bilayers on silicon nanowire devices. Sensing and Bio-Sensing Research, 2015, 4, 103-108.	4.2	1
65	Novel nanofluidic chemical cells based on self-assembled solid-state SiO₂ nanotubes. Nanotechnology, 2017, 28, 435601.	2.6	1
66	Automatic detection of crystallographic defects in STEM images by unsupervised learning with translational invariance. Microscopy and Microanalysis, 2021, 27, 1460-1462.	0.4	1
67	Correlated structural and optical properties of the MoTe2-WTe2 alloy system (Conference) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5		1
68	Valley phenomena in the candidate phase change material WSeTe. Communications Physics, 2020, 3, .	5.3	1
69	Time-resolved spectra and kinetics of the exciton photoluminescence in different types of GaAs/AlAs superlattices. Superlattices and Microstructures, 2001, 29, 57-66.	3.1	0
70	Electronic Characteristics of MoSe<inf>2</inf> and MoTe<inf>2</inf> for Nanoelectronic Applications. , 2018, , .		0
71	Investigation of Structural Phases in Mo1-xWxTe2 in STEM. Microscopy and Microanalysis, 2020, 26, 2362-2364.	0.4	0
72	Electrochemical Detection of Acetaminophen with Silicon Nanowires. Electroanalysis, 2018, 30, .	2.9	0

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73	Rapid determination of nanowire electrical properties using a dielectrophoresis-well based system. Applied Physics Letters, 2017, 110, .	3.3	0
74	Near-infrared photonic phase-change properties of transition metal ditellurides. Proceedings of SPIE, 2019, 11085, .	0.8	0
75	Electrochemically Assaying Dopamine with p-Doped Silicon Nanowires. Analytical Letters, 0, , 1-9.	1.8	0