

Andrei Varykhalov

List of Publications by Year in descending order

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141
papers

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citations

61945

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54882

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143
all docs

143
docs citations

143
times ranked

8501
citing authors

#	ARTICLE	IF	CITATIONS
1	Electronic and Magnetic Properties of Quasifreestanding Graphene on Ni. <i>Physical Review Letters</i> , 2008, 101, 157601.	2.9	596
2	Dirac cone protected by non-symmorphic symmetry and three-dimensional Dirac line node in ZrSiS. <i>Nature Communications</i> , 2016, 7, 11696.	5.8	591
3	Evidence for magnetic Weyl fermions in a correlated metal. <i>Nature Materials</i> , 2017, 16, 1090-1095.	13.3	450
4	Giant Rashba splitting in graphene due to hybridization with gold. <i>Nature Communications</i> , 2012, 3, 1232.	5.8	330
5	Momentum dependence of the superconducting gap in BaBi_2Te_3 . <i>Physical Review B</i> , 2009, 79, .	1.1	196
6	Large magnetic gap at the Dirac point in $\text{Bi}_2\text{Te}_3/\text{MnBi}_2\text{Te}_4$ heterostructures. <i>Nature</i> , 2019, 576, 423-428.	13.7	189
7	Tolerance of Topological Surface States towards Magnetic Moments: Fe on Bi_2Se_3 . <i>Physical Review Letters</i> , 2012, 108, 256810.	2.9	181
8	(FeAs_2) electronic order in iron arsenide superconductors. <i>Nature</i> , 2009, 457, 569-572.	13.7	179
9	Structural and electronic properties of graphite layers grown on SiC(0001). <i>Surface Science</i> , 2006, 600, 3906-3911.	0.8	178
10	Two Energy Gaps and Fermi-Surface Arcs in NbSe_2 . <i>Physical Review Letters</i> , 2009, 102, 166402.	2.9	177
11	Effect of noble-metal contacts on doping and band gap of graphene. <i>Physical Review B</i> , 2010, 82, .	1.1	171
12	Tailoring the nature and strength of electron-phonon interactions in the SrTiO ₃ (001) 2D electron liquid. <i>Nature Materials</i> , 2016, 15, 835-839.	13.3	171
13	Ir(111) Surface State with Giant Rashba Splitting Persists under Graphene in Air. <i>Physical Review Letters</i> , 2012, 108, 066804.	2.9	157
14	Graphene grown on Co(0001) films and islands: Electronic structure and its precise magnetization dependence. <i>Physical Review B</i> , 2009, 80, .	1.1	142
15	Is There a Rashba Effect in Graphene on Fe_3d Ferromagnets?. <i>Physical Review Letters</i> , 2009, 102, 057602.	2.9	131
16	Momentum-resolved superconducting gap in the bulk of $\text{BaKFe}_2\text{As}_2$ from combined ARPES and $\frac{1}{4}$ SR measurements. <i>New Journal of Physics</i> , 2009, 11, 055069.	1.2	124
17	Negligible Surface Reactivity of Topological Insulators Bi_2Se_3 and Bi_2Te_3 towards Oxygen and Water. <i>ACS Nano</i> , 2013, 7, 5181-5191.	7.3	118
18	Observation of quantum-tunnelling-modulated spin texture in ultrathin topological insulator Bi_2Se_3 films. <i>Nature Communications</i> , 2014, 5, 3841.	5.8	112

#	ARTICLE	IF	CITATIONS
19	Tunable Weyl and Dirac states in the nonsymmorphic compound CeSbTe. Science Advances, 2018, 4, eaar2317.	4.7	110
20	Strength of Correlation Effects in the Electronic Structure of Iron. Physical Review Letters, 2009, 103, 267203.	2.9	107
21	Nonmagnetic band gap at the Dirac point of the magnetic topological insulator $(\text{Bi}_{1-x}\text{Mn}_x)_2\text{Se}_3$. Nature Communications, 2016, 7, 10559.	5.8	102
22	Anisotropic two-dimensional electron gas at SrTiO ₃ (110). Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3933-3937.	3.3	99
23	Extremely flat band in bilayer graphene. Science Advances, 2018, 4, eaau0059.	4.7	89
24	Non-symmorphic band degeneracy at the Fermi level in ZrSiTe. New Journal of Physics, 2016, 18, 125014.	1.2	88
25	Kondo Hybridization and the Origin of Metallic States at the (001) Surface of SmB_6 . Probing two topological surface bands of Sb_2Te_3 by spin-polarized photoemission spectroscopy. Physical Review B, 2012, 86, .	2.8	81
26	Origin of Spin-Orbit Splitting for Monolayers of Au and Ag on W(110) and Mo(110). Physical Review Letters, 2008, 100, 057601.	1.1	78
27	Reversal of the Circular Dichroism in Angle-Resolved Photoemission from Bi_2Te_3 . Physical Review Letters, 2013, 110, 216801.	2.9	77
28	Experimental and theoretical study of the morphology of commensurate and incommensurate graphene layers on Ni single-crystal surfaces. Physical Review B, 2008, 78, .	1.1	76
29	Photoemission of Bi_2Te_3 under Circularly Polarized Light: Probe of Spin Polarization or Means for Spin Manipulation?. Physical Review X, 2014, 4, .	2.8	76
30	Samarium hexaboride is a trivial surface conductor. Nature Communications, 2018, 9, 517.	5.8	76
31	Quantum Cavity for Spin due to Spin-Orbit Interaction at a Metal Boundary. Physical Review Letters, 2008, 101, 256601.	2.9	63
32	Band Renormalization of Blue Phosphorus on Au(111). Nano Letters, 2018, 18, 6672-6678.	4.5	63
33	Ultrafast spin-polarization control of Dirac fermions in topological insulators. Physical Review B, 2016, 93, .	1.1	61
34	Effects of spin-dependent quasiparticle renormalization in Fe, Co, and Ni photoemission spectra: An experimental and theoretical study. Physical Review B, 2012, 85, .	1.1	60
35	Induced spin-orbit splitting in graphene: the role of atomic number of the intercalated metal and d hybridization. New Journal of Physics, 2013, 15, 013016.	1.2	59

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37	Intact Dirac Cones at Broken Sublattice Symmetry: Photoemission Study of Graphene on Ni and Co. Physical Review X, 2012, 2, .	2.8	57
38	Orbital character variation of the Fermi surface and doping dependent changes of the dimensionality in BaFe_2As_2 . Physical Review B, 2010, 81, .	1.1	55
39	Tunable Fermi level and hedgehog spin texture in gapped graphene. Nature Communications, 2015, 6, 7610.	5.8	48
40	Surface Floating 2D Bands in Layered Nonsymmorphic Semimetals: ZrSiS and Related Compounds. Physical Review X, 2017, 7, .	2.8	48
41	Probing the Ground State Electronic Structure of a Correlated Electron System by Quantum Well States: Ag/Ni(111). Physical Review Letters, 2005, 95, 247601.	2.9	45
42	Strong electron pairing at the iron 3d in hole-doped BaFe_2As_2 . Physical Review B, 2010, 81, .	1.1	44
43	Surface Fermi arc connectivity in the type-II Weyl semimetal candidate WTe_2 . Physical Review B, 2016, 94, .	1.1	44
44	Giant Rashba Splitting in $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$ (111) Topological Crystalline Insulator Films Controlled by Bi Doping in the Bulk. Advanced Materials, 2017, 29, 1604185.	11.1	44
45	Nonmonotonic pseudogap in high- T_c cuprate. Physical Review B, 2009, 79, .	1.1	43
46	Highly spin-polarized Dirac fermions at the graphene/Co interface. Physical Review B, 2015, 91, .	1.1	41
47	Subpicosecond spin dynamics of excited states in the topological insulator Bi_2Te_3 . Physical Review B, 2017, 95, .	1.1	41
48	Quantitative determination of spin-dependent quasiparticle lifetimes and electronic correlations in hcp cobalt. Physical Review B, 2010, 82, .	1.1	40
49	Bilayer manganites reveal polarons in the midst of a metallic breakdown. Nature Physics, 2011, 7, 978-982.	6.5	40
50	Droplet-like Fermi surfaces in the anti-ferromagnetic phase of EuFe_2As_2 , an Fe-pnictide superconductor parent compound. Europhysics Letters, 2010, 89, 27007.	0.7	39
51	Spin splitting of Dirac fermions in aligned and rotated graphene on Ir(111). Physical Review B, 2013, 87, .	1.1	38
52	Boron-Doped Graphene Nanoribbons: Electronic Structure and Raman Fingerprint. ACS Nano, 2018, 12, 7571-7582.	7.3	38
53	Chemical vapour deposition of graphene on Ni(111) and Co(0001) and intercalation with Au to study Dirac-cone formation and Rashba splitting. Diamond and Related Materials, 2010, 19, 734-741.	1.8	36
54	Electronic and spin structure of the topological insulator Bi_2Te_3 . Physical Review B, 2009, 79, .	1.1	35

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55	Structure and quantum-size effects in a surface carbide: $W(110)\hat{c}\hat{c}R(15\text{\AA}-3)$. Physical Review B, 2005, 72, .	1.1	34
56	Anisotropic effect of warping on the lifetime broadening of topological surface states in angle-resolved photoemission from Bi_2Te_3 . Physical Review B, 2014, 90, .	1.1	34
57	Band Engineering of Dirac Semimetals Using Charge Density Waves. Advanced Materials, 2021, 33, e2101591.	11.1	32
58	Continuous wafer-scale graphene on cubic-SiC(001). Nano Research, 2013, 6, 562-570.	5.8	31
59	Topological quantum phase transition from mirror to time reversal symmetry protected topological insulator. Nature Communications, 2017, 8, 968.	5.8	31
60	Topology of spin polarization of the $5d$ states on $W(110)$ and $Al/W(110)$ surfaces. Physical Review B, 2012, 86, .	1.1	30
61	Minigap isotropy and broken chirality in graphene with periodic corrugation enhanced by cluster superlattices. Physical Review B, 2012, 85, .	1.1	29
62	Large spin-orbit splitting in light quantum films: $Al/W(110)$. Physical Review B, 2010, 82, .	1.1	28
63	Absence of giant spin splitting in the two-dimensional electron liquid at the surface of $SrTiO_3$. Physical Review B, 2016, 93, .	1.1	26
64	Atomic structure of Bi_2Te_3 surfaces probed by photoelectron diffraction and holography. Physical Review B, 2015, 91, .	1.1	26
65	Surface phonon and valence band dispersions in graphite overlayers formed by solid-state graphitization of $6H\hat{c}\hat{c}SiC(0001)$. Physical Review B, 2004, 70, .	1.1	25
66	Fermi surface of $Ba_{1-x}K_xFe_2As_2$ as probed by angle-resolved photoemission. Physica C: Superconductivity and Its Applications, 2009, 469, 448-451.	0.6	24
67	Atmospheric stability and doping protection of noble-metal intercalated graphene on Ni(111). Applied Physics Letters, 2011, 98, 122111.	1.5	24
68	Dirac states with knobs on: Interplay of external parameters and the surface electronic properties of three-dimensional topological insulators. Physical Review B, 2015, 91, .	1.1	24
69	Rashba splitting of 100\%meV in Au-intercalated graphene on SiC. Applied Physics Letters, 2016, 108, .	1.5	24
70	Laser-induced persistent photovoltage on the surface of a ternary topological insulator at room temperature. Applied Physics Letters, 2017, 110, .	1.5	23
71	Correlated Electrons Step by Step: Itinerant-to-Localized Transition of Fe Impurities in Free-Electron Metal Hosts. Physical Review Letters, 2010, 104, 117601.	2.9	22
72	Spin splitting of Dirac fermions in graphene on Ni intercalated with alloy of Bi and Au. Carbon, 2015, 93, 984-996.	5.4	22

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73	Trigger of the Ubiquitous Surface Band Bending in 3D Topological Insulators. <i>Physical Review X</i> , 2017, 7, .	2.8	22
74	Transport Gap Opening and High On-Off Current Ratio in Trilayer Graphene with Self-Aligned Nanodomain Boundaries. <i>ACS Nano</i> , 2015, 9, 8967-8975.	7.3	21
75	Nanostructural origin of giant Rashba effect in intercalated graphene. <i>2D Materials</i> , 2017, 4, 035010.	2.0	21
76	Modular Arithmetic with Nodal Lines: Drumhead Surface States in ZrSiTe. <i>Physical Review X</i> , 2020, 10, .	2.8	21
77	Temperature and Doping-Dependent Renormalization Effects of the Low Energy Electronic Structure of $\text{Ba}_2\text{KFe}_2\text{As}_4$ Crystals. <i>Physical Review Letters</i> , 2009, 102, 167001.		
78	The role of the covalent interaction in the formation of the electronic structure of Au- and Cu-intercalated graphene on Ni(111). <i>Physics of the Solid State</i> , 2011, 53, 2539-2544.	0.2	19
79	Tilted Dirac cone on W(110) protected by mirror symmetry. <i>Physical Review B</i> , 2017, 95, .	1.1	19
80	Imaging Buried Molecules: Fullerenes Under Graphene. <i>Advanced Materials</i> , 2010, 22, 3307-3310.	11.1	18
81	Intact Dirac cone of Bi_2Te_3 covered with a monolayer Fe. <i>Physica Status Solidi - Rapid Research Letters</i> , 2013, 7, 139-141.	1.2	18
82	Photoemission from Stepped W(110): Initial or Final State Effect?. <i>Physical Review Letters</i> , 2004, 93, 146802.	2.9	17
83	Induced Rashba splitting of electronic states in monolayers of Au, Cu on a W(110) substrate. <i>New Journal of Physics</i> , 2013, 15, 095005.	1.2	17
84	Evolution of the remnant Fermi-surface state in the lightly doped correlated spin-orbit insulator Sr_2IrO_7 . <i>Physical Review B</i> , 2017, 96, .	1.1	17
85	Native and graphene-coated flat and stepped surfaces of TiC. <i>Carbon</i> , 2018, 132, 656-666.	5.4	17
86	Absence of a giant Rashba effect in the valence band of lead halide perovskites. <i>Physical Review B</i> , 2020, 102, .	1.1	17
87	The graphene/Au/Ni interface and its application in the construction of a graphene spin filter. <i>Nanotechnology</i> , 2013, 24, 295201.	1.3	16
88	Anomalous behavior of the electronic structure of TaTe_5 across the quantum phase transition from topological to triv. <i>Physical Review B</i> , 2018, 98, .	1.1	16
89	Dirac fermions and possible weak antilocalization in LaCuSb_2 . <i>APL Materials</i> , 2019, 7, .	2.2	16
90	The effect of spin-orbit coupling on nonsymmorphic square-net compounds. <i>Journal of Physics and Chemistry of Solids</i> , 2019, 128, 296-300.	1.9	16

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91	Origin of Au nanostructures on tungsten surface carbides. <i>Physical Review B</i> , 2008, 77, .	1.1	15
92	Magnetic and Electronic Properties of Gd-Doped Topological Insulator Bi _{1.09} Gd _{0.06} Sb _{0.85} Te ₃ . <i>Journal of Experimental and Theoretical Physics</i> , 2019, 129, 404-412.	0.2	15
93	Insights from angle-resolved photoemission spectroscopy on the metallic states of YbB_6 temporal changes, and spatial variation. <i>Physical Review B</i> , 2014, 90, .	1.1	14
94	Rotated domain network in graphene on cubic-SiC(001). <i>Nanotechnology</i> , 2014, 25, 135605.	1.3	14
95	Giant Magnetic Band Gap in the Rashba-Split Surface State of Vanadium-Doped BiTeI: A Combined Photoemission and Ab Initio Study. <i>Scientific Reports</i> , 2017, 7, 3353.	1.6	14
96	Contrast Reversal in Scanning Tunneling Microscopy and Its Implications for the Topological Classification of Sb_2Te_3 . <i>Advanced Materials</i> , 2020, 32, e1906725.	11.1	14
97	Substrate-induced spin-orbit splitting of quantum-well and interface states in Au, Ag, and Cu layers of different thicknesses on W(110) and Mo(110) surfaces. <i>Physics of the Solid State</i> , 2010, 52, 1515-1525.	0.2	12
98	Structure Inversion Asymmetry and Rashba Effect in Quantum Confined Topological Crystalline Insulator Heterostructures. <i>Advanced Functional Materials</i> , 2021, 31, 2008885.	7.8	12
99	Structure of graphene on the Ni(110) surface. <i>Physics of the Solid State</i> , 2011, 53, 1952-1956.	0.2	11
100	Spin-resolved photoemission and <i>ab initio</i> theory of graphene/SiC. <i>Physical Review B</i> , 2013, 88, .	1.1	11
101	Effect of structural modulation and thickness of a graphene overlayer on the binding energy of the Rashba-type surface state of Ir(111). <i>New Journal of Physics</i> , 2013, 15, 115009.	1.2	11
102	Angle-resolved and core-level photoemission study of interfacing the topological insulator Bi_2Te_3 on Ag. <i>Physical Review B</i> , 2015, 92, .	1.1	11
103	Is There a Polaron Signature in Angle-Resolved Photoemission of CsPbBr_3 ? <i>Physical Review Letters</i> , 2022, 128, 176405.	2.9	11
104	Spin-dependent avoided-crossing effect on quantum-well states in Al/W(110). <i>Physical Review B</i> , 2012, 85, .	1.1	10
105	Observation of the Fermi surface, the band structure, and their diffraction replicas of $\text{Sr}_{14}\text{Ca}_x\text{Cu}_{24}\text{O}_{41}$ by angle-resolved photoemission spectroscopy. <i>Physical Review B</i> , 2010, 81, .	1.1	9
106	Suppression of electron scattering resonances in graphene by quantum dots. <i>Applied Physics Letters</i> , 2017, 111, 161605.	1.5	9
107	Single-Crystal Growth and Characterization of the Chalcopyrite Semiconductor CuInTe_2 for Photoelectrochemical Solar Fuel Production. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 6833-6840.	2.1	9
108	Reconstructed Fermi surface in graphene on Ir(111) by Gd-Ir surface alloying. <i>Carbon</i> , 2019, 147, 182-186.	5.4	9

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109	Self-organization of one-dimensional Au nanowires on a surface carbide and lateral electron quantization. Physical Review B, 2005, 72, .	1.1	8
110	Observation of hidden atomic order at the interface between Fe and topological insulator Bi_2Te_3 . Physical Chemistry Chemical Physics, 2017, 19, 30520-30532.	1.3	8
111	1\AA^2 -ARPES: The ultra high resolution photoemission station at the U112-PGM-2a- 1\AA^2 beamline at BESSY II. Journal of Large-scale Research Facilities JLSRF, 0, 4, A128.	0.0	8
112	Signatures of dephasing by mirror-symmetry breaking in weak-antilocalization magnetoresistance across the topological transition in $\text{Pb}_{1-x}\text{Sn}_x\text{Se}$. Physical Review B, 2021, 103, .	1.1	7
113	Magic numbers in two-dimensional self-organization of C_{60} molecules. Physical Review B, 2006, 73, .	1.1	6
114	Fabrication of patterned Au films as supporting templates for one-dimensional magnetic nanostructures. Physical Review B, 2006, 74, .	1.1	6
115	Magnetization relaxation and search for the magnetic gap in bulk-insulating V-doped $(\text{Bi}, \text{Sb})_2\text{Te}_3$. Applied Physics Letters, 2021, 119, .	1.5	6
116	Fermi surface tomography. Nature Communications, 2022, 13, .	5.8	6
117	Giant magneto-optical Faraday effect of graphene on Co in the soft x-ray range. Physical Review B, 2018, 98, .	1.1	5
118	Enhanced surface state protection and band gap in the topological insulator PbBi_4Te_4 . Physical Review Materials, 2018, 2, .	0.9	5
119	Quantum-well states and lateral superlattice effect in Ag and Au stripes on stepped $\text{W}(1\text{\AA}^2)$. Journal of Electron Spectroscopy and Related Phenomena, 2005, 144-147, 341-343.	0.8	4
120	Quantum-well states in a thin Ag film on a Ni(111) substrate. Physics of the Solid State, 2006, 48, 1974-1980.	0.2	4
121	Angle-resolved photoelectron spectroscopy of geometrically nonuniform surfaces. Physics of the Solid State, 2007, 49, 949-957.	0.2	4
122	Quantum-size effects in the electronic structure of low-dimensional metallic systems. Applied Physics A: Materials Science and Processing, 2009, 94, 449-453.	1.1	4
123	X-ray natural birefringence in reflection from graphene. Physical Review B, 2016, 94, .	1.1	4
124	A new approach for synthesis of epitaxial nano-thin Pt_5Gd alloy via intercalation underneath a graphene. Applied Surface Science, 2020, 526, 146687.	3.1	4
125	Electron structure and elemental composition of thin films of europium deposited at room temperature on a $\text{Si}(100)2\text{\AA}-1$ surface. Technical Physics Letters, 2005, 31, 51-54.	0.2	3
126	Graphene: Synthesis and features of electronic structure. Nanotechnologies in Russia, 2011, 6, 625-632.	0.7	3

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127	Photoemission from surface-localized structures on vicinal surfaces: Initial- or final-state superlattice effect?. Journal of Electron Spectroscopy and Related Phenomena, 2005, 144-147, 625-628.	0.8	2
128	Low-dimensional structures on carbon-terminated W(110): from metallic nanowires to molecular chains. Journal of Physics: Conference Series, 2007, 61, 1221-1224.	0.3	2
129	Electronic structure of gold nanoclusters on oxidized Ni(755) surface. Physics of the Solid State, 2007, 49, 984-990.	0.2	2
130	Structural stability of stepped nickel surfaces. Physics of the Solid State, 2011, 53, 1277-1282.	0.2	2
131	Angle-Resolved Photoemission of Topological Matter: Examples from Magnetism, Electron Correlation, and Phase Transitions. Physica Status Solidi (B): Basic Research, 2021, 258, 2000371.	0.7	2
132	Two Alternative Ways for Formation of Monoatomic Carbon Layer on Ni(111): Organic Gas Cracking and Thermal Decomposition of Fullerenes in Thin Film. Fullerenes Nanotubes and Carbon Nanostructures, 2005, 12, 385-388.	1.0	1
133	Oxidation of Au on vicinal W(110): Role of step edges and facets. Physical Review B, 2007, 75, .	1.1	1
134	Formation of spectra of quantum well states in thin Al layers on W(110). Journal of Surface Investigation, 2010, 4, 401-404.	0.1	1
135	Magneto-optical reflection spectroscopy on graphene/Co in the soft x-ray range. Journal of Physics: Conference Series, 2017, 903, 012025.	0.3	1
136	Origin of the band gap in Bi-intercalated graphene on Ir(111). 2D Materials, 2021, 8, 035007.	2.0	1
137	Investigation of HF-plasma-treated soft x-ray optical elements. , 2017, , .		1
138	Effective mass enhancement and ultrafast electron dynamics of Au(111) surface state coupled to a quantum well. Physical Review Research, 2020, 2, .	1.3	1
139	On the problem of Dirac cones in fullerenes on gold. Nanoscale, 2022, 14, 9124-9133.	2.8	1
140	Influence of oxides on the field emission of molybdenum. , 2014, , .		0
141	PHOENEXS: System for Angle- and Spin-Resolved Photoemission at BESSY II. Journal of Large-scale Research Facilities JLSRF, 0, 4, A131.	0.0	0