Evgueni Chulkov

List of Publications by Year
in descending order

116 papers	6,269 citations	71102 41 h-index	69250 77 g-index
118 all docs	118 docs citations	118 times ranked	5122 citing authors

#	Article	IF	Citations
1	Native point defects and their implications for the Dirac point gap at MnBi2Te4(0001). Npj Quantum Materials, 2022, 7, .	5.2	53
2	Surface dynamics on submonolayer Pb/Cu(001) surfaces. Physical Chemistry Chemical Physics, 2022, 24, 5164-5170.	2.8	0
3	Interlayer Coupling of a Two-Dimensional Kondo Lattice with a Ferromagnetic Surface in the Antiferromagnet CeCo₂P₂. ACS Nano, 2022, 16, 3573-3581.	14.6	4
4	Electronâ€“phonon coupling and superconductivity in a 2D Tlâ€“Pb compound on Si(111). Physical Chemistry Chemical Physics, 2022, 24, 10140-10146.	2.8	2
5	Magnetic ordering and topology in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Mn</mml:mi><mml:mn>2</mml:mn></m and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Mn</mml:mi><mml:mn>2</mml:mn></m Physical Review B, 2022, 105, .	3.2	6
6	Impact of Co Atoms on the Electronic Structure of Bi2Te3 and MnBi2Te4 Topological Insulators. Journal of Experimental and Theoretical Physics, 2022, 134, 607-614.	0.9	0
7	Classical and cubic Rashba effect in the presence of in-plane <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mn>4</mml:mn><mml:mi>f</mml:mi></mml:math> magnetism at the iridium silicide surface of the antiferromagnet <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>GdIr</mml:mi></mml:mrow><mml:mn>2</ Physical Review B, 2021, 103, .	3.2	15
8	Effect of Rashba splitting on ultrafast carrier dynamics in BiTeI. Physical Review B, 2021, 103, .	3.2	2
9	Infrared study of the multiband low-energy excitations of the topological antiferromagnet <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>MnBi</mml:mi><mml:mn>2</mml:mn></ Physical Review B, 2021, 103, .	3.2	13
10	Topological Magnetic Materials of the (MnSb₂Te₄)Â·(Sb₂Te₃)_nvan der Waals Compounds Family. Journal of Physical Chemistry Letters, 2021, 12, 4268-4277.	4.6	30
11	Electronic structure and coexistence of superconductivity with magnetism in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Rb</mml:mi><mml:mi>Eu</mml:mi><mml:msub><mml:mi mathvariant="normal">Fe</mml:mi><mml:mn>4</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">As</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:math>. Physical Review B, 2021, 103, .	3.2	17
12	Domain wall induced spin-polarized flat bands in antiferromagnetic topological insulators. Physical Review B, 2021, 103, .	3.2	20
13	Insight into the Temperature Evolution of Electronic Structure and Mechanism of Exchange Interaction in EuS. Journal of Physical Chemistry Letters, 2021, 12, 8328-8334.	4.6	7
14	Sample-dependent Dirac-point gap in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>MnBi</mml:mi><mml:mn>2</mml:mn></mml:mn></mr its response to applied surface charge: A combined photoemission andab initiostudy. Physical Review B, 2021, 104, .	3.2	46
15	Intrinsic Magnetic Topological Insulator State Induced by the Jahnâ€“Teller Effect. Journal of Physical Chemistry Letters, 2021, 12, 9076-9085.	4.6	4
16	Mnâ€Rich MnSb₂Te₄: A Topological Insulator with Magnetic Gap Closing at High Curie Temperatures of 45â€“50 K. Advanced Materials, 2021, 33, e2102935.	21.0	70
17	Persistence of the Topological Surface States in Bi2Se3 against Ag Intercalation at Room Temperature. Journal of Physical Chemistry C, 2021, 125, 1784-1792.	3.1	1
18	The Charge Transport Mechanism in a New Magnetic Topological Insulator MnBi0.5Sb1.5Te4. Physics of the Solid State, 2021, 63, 1120-1125.	0.6	2

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19	Fabrication of a novel magnetic topological heterostructure and temperature evolution of its massive Dirac cone. Nature Communications, 2020, 11, 4821.	12.8	47
20	Nature of the Dirac gap modulation and surface magnetic interaction in axion antiferromagnetic topological insulator $${hbox {MnBi}}_2 {hbox {Te}}_4$$. Scientific Reports, 2020, 10, 13226.	3.3	62
21	Deterministic control of an antiferromagnetic spin arrangement using ultrafast optical excitation. Communications Physics, 2020, 3, .	5.3	10
22	Electronic band structure of three-dimensional topological insulators with different stoichiometry composition. Physical Review B, 2020, 102, .	3.2	3
23	Interplay of Topological States on TI/TCI Interfaces. Materials, 2020, 13, 4481.	2.9	2
24	Photoelectron diffraction for probing valency and magnetism of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>4</mml:mn><mml:mi>f</mml:mi></mml:mrow></mml:m -based materials: A view on valence-fluctuating <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>EuIr</mml:mi><mml:mn>2</mml:mn></mml Physical Review B, 2020, 102, .	3.2	13
25	Cubic Rashba Effect in the Surface Spin Structure of Rare-Earth Ternary Materials. Physical Review Letters, 2020, 124, 237202.	7.8	30
26	Spin structure of spin-orbit split surface states in a magnetic material revealed by spin-integrated photoemission. Physical Review B, 2020, 101, .	3.2	9
27	Signatures of temperature driven antiferromagnetic transition in the electronic structure of topological insulator MnBi2Te4. APL Materials, 2020, 8, .	5.1	56
28	Natural Topological Insulator Heterostructures. Springer Handbooks, 2020, , 449-470.	0.6	0
29	Electronic structure and dielectric function of Mn-Bi-Te layered compounds. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	1.2	21
30	Surface states and Rashba-type spin polarization in antiferromagnetic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>MnBi</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> (0001). Physical Review B, 2019, 100, .	3.2	132
31	Emerging 2D-ferromagnetism and strong spin-orbit coupling at the surface of valence-fluctuating EuIr2Si2. Npj Quantum Materials, 2019, 4, .	5.2	46
32	Novel ternary layered manganese bismuth tellurides of the MnTe-Bi2Te3 system: Synthesis and crystal structure. Journal of Alloys and Compounds, 2019, 789, 443-450.	5.5	130
33	Unique Thickness-Dependent Properties of the van der Waals Interlayer Antiferromagnet <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>MnBi</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow> Films. Physical Review Letters, 2019, 122, 107202.	7.8	415
34	Prediction and observation of an antiferromagnetic topological insulator. Nature, 2019, 576, 416-422.	27.8	701
35	Modification of a Shockley-Type Surface State on Pt(111) upon Deposition of Gold Thin Layers. Materials, 2018, 11, 2569.	2.9	1
36	Chemically driven surface effects in polar intermetallic topological insulators A3Bi. Physical Chemistry Chemical Physics, 2018, 20, 26372-26385.	2.8	4

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37	Electronâ€“Phonon Interaction in the 4/3-Monolayer of Pb on Si(111): Theory Versus He-Atom Scattering Experiments. Journal of Physical Chemistry C, 2018, 122, 29039-29043.	3.1	2
38	Strong spin-orbit coupling in the noncentrosymmetric Kondo lattice. Physical Review B, 2018, 98, .	3.2	16
39	New Universal Type of Interface in the Magnetic Insulator/Topological Insulator Heterostructures. Nano Letters, 2018, 18, 6521-6529.	9.1	51
40	Deep Insight Into the Electronic Structure of Ternary Topological Insulators: A Comparative Study of PbBi₄Te₇ and PbBi₆Te₁₀. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800341.	2.4	12
41	Electron-phonon coupling and superconductivity in the (4/3)-monolayer of Pb on Si(111): Role of spin-orbit interaction. Physical Review B, 2018, 97, .	3.2	9
42	Modular Design with 2D Topological-Insulator Building Blocks: Optimized Synthesis and Crystal Growth and Crystal and Electronic Structures of Bi_xTeI (x = 2, 3). Chemistry of Materials, 2017, 29, 1321-1337.	6.7	23
43	Large-Gap Magnetic Topological Heterostructure Formed by Subsurface Incorporation of a Ferromagnetic Layer. Nano Letters, 2017, 17, 3493-3500.	9.1	129
44	Highly-ordered wide bandgap materials for quantized anomalous Hall and magnetoelectric effects. 2D Materials, 2017, 4, 025082.	4.4	195
45	Spin Orientation of Two-Dimensional Electrons Driven by Temperature-Tunable Competition of Spinâ€“Orbit and Exchangeâ€“Magnetic Interactions. Nano Letters, 2017, 17, 811-820.	9.1	28
46	Submonolayer Adsorption of Potassium on Reconstructed and Unreconstructed Cu(110): Structure and Phonons. Journal of Physical Chemistry C, 2017, 121, 22969-22976.	3.1	7
47	Regularities of the quantum spin Hall phase formation in three-dimensional tetradymite-like topological insulator thin films. Physical Review B, 2017, 96, .	3.2	1
48	Magnetic extension as an efficient method for realizing the quantum anomalous hall state in topological insulators. JETP Letters, 2017, 105, 297-302.	1.4	68
49	Formation of Surface and Quantum-Well States in Ultra Thin Pt Films on the Au(111) Surface. Materials, 2017, 10, 1409.	2.9	5
50	Time-Reversal-Breaking Weyl Fermions in Magnetic Heusler Alloys. Physical Review Letters, 2016, 117, 236401.	7.8	282
51	Temperature-driven topological quantum phase transitions in a phase-change material Ge2Sb2Te5. Scientific Reports, 2016, 6, 38799.	3.3	18
52	Pressure effects on crystal and electronic structure of bismuth tellurohalides. New Journal of Physics, 2016, 18, 113003.	2.9	27
53	Topological Crystalline Insulator in a New Bi Semiconducting Phase. Scientific Reports, 2016, 6, 21790.	3.3	12
54	Robust and tunable itinerant ferromagnetism at the silicon surface of the antiferromagnet GdRh2Si2. Scientific Reports, 2016, 6, 24254.	3.3	29

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55	Nanoindentation of singleâ€crystal Bi₂Te₃ topological insulators grown with the Bridgmanâ€“Stockbarger method. Physica Status Solidi (B): Basic Research, 2016, 253, 1082-1086.	1.5	13
56	Multiple Coexisting Dirac Surface States in Three-Dimensional Topological Insulator PbBi₆Te₁₀. ACS Nano, 2016, 10, 3518-3524.	14.6	29
57	Plasma-Wave Terahertz Detection Mediated by Topological Insulators Surface States. Nano Letters, 2016, 16, 80-87.	9.1	131
58	Sublattice effect on topological surface states in complex<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mo>(</mml:mo><mml:mi>SnTe</mml:mi><mml:msub><mml:mo>)</mml: Physical Review B, 2015, 91, .	3.2	15
59	Electronic and spin structure of a family of Sn-based ternary topological insulators. Physical Review B, 2015, 92, .	3.2	27
60	Direct measurement of the bulk spin structure of noncentrosymmetric BiTeCl. Physical Review B, 2015, 91, .	3.2	13
61	New generation of two-dimensional spintronic systems realized by coupling of Rashba and Dirac fermions. Scientific Reports, 2015, 5, 12819.	3.3	27
62	Epitaxial B-Graphene: Large-Scale Growth and Atomic Structure. ACS Nano, 2015, 9, 7314-7322.	14.6	49
63	Unveiling mode-selected electronâ€“phonon interactions in metal films by helium atom scattering. Physical Chemistry Chemical Physics, 2014, 16, 7159.	2.8	48
64	Role of surface passivation in the formation of Dirac states at polar surfaces of topological crystalline insulators: The case of SnTe(111). Physical Review B, 2014, 89, .	3.2	15
65	Atomic structure and phonons of a Pb ultrathin film on the Al(100) surface. JETP Letters, 2014, 100, 237-241.	1.4	7
66	Spin Texture of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Bi</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml Films in the Quantum Tunneling Limit. Physical Review Letters, 2014, 112, 057601.	7.8	61
67	Bulk and surface electron dynamics in a<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>p</mml:mi></mml:math>-type topological insulator<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mtext>SnSb</mml:mtext><mml:mn>2</mml:mn></mml:msub> xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mtext>Te</mml:mtext><mml:mn>4</mml:mn></mml:msub> Physical Review B, 2014, 89, .	3.2	54
68	Strong ferromagnetism at the surface of an antiferromagnet caused by buried magnetic moments. Nature Communications, 2014, 5, 3171.	12.8	30
69	Exchange interaction and its tuning in magnetic binary chalcogenides. Physical Review B, 2014, 89, .	3.2	57
70	Local determination of the amount of integration of an atom into a crystal surface. Nature Communications, 2014, 5, 5089.	12.8	12
71	Tuning the Dirac Point Position in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Bi</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml stretchy="false">(</mml:mo><mml:mn>0001</mml:mn><mml:mo) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 97.8 Td (stretchy="fals Letters, 2014, 113, 116802.	7.8	44
72	Exploring the Surface Chemical Reactivity of Single Crystals of Binary and Ternary Bismuth Chalcogenides. Journal of Physical Chemistry C, 2014, 118, 21517-21522.	3.1	27

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73	Spin-helical Dirac states in graphene induced by polar-substrate surfaces with giant spin-orbit interaction: a new platform for spintronics. Scientific Reports, 2014, 4, 6900.	3.3	12
74	Visualizing spin-dependent bulk scattering and breakdown of the linear dispersion relation in Bi<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>Te<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow	3.2	34
75	Experimental Evidence of Hidden Topological Surface States in PbBi2Te4. Physical Review Letters, 2013, 111, 206803.	7.8	39
76	Comment on â€œTopological Insulators in Ternary Compounds with a Honeycomb Latticeâ€• Physical Review Letters, 2013, 110, 129701.	7.8	4
77	New topological surface state in layered topological insulators: Unoccupied dirac cone. JETP Letters, 2013, 96, 780-784.	1.4	14
78	Magnetic proximity effect at the three-dimensional topological insulator/magnetic insulator interface. Physical Review B, 2013, 88, .	3.2	152
79	Correlated Motion of Electrons on the Au(111) Surface: Anomalous Acoustic Surface-Plasmon Dispersion and Single-Particle Excitations. Physical Review Letters, 2013, 110, 127405.	7.8	46
80	Topological Character and Magnetism of the Dirac State in Mn-Doped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Te</mml:mi><mml:mn Physical Review Letters, 2012, 109, 076801.	7.8	115
81	Lattice dynamics of bismuth tellurohalides. Physical Review B, 2012, 86, .	3.2	42
82	Giant Rashba-type spin splitting at polar surfaces of BiTeI. JETP Letters, 2012, 96, 437-444.	1.4	41
83	Effects of the electron-electron interaction on the surface of three-dimensional topological insulators. JETP Letters, 2012, 96, 480-485.	1.4	4
84	Atom-specific spin mapping and buried topological states in a homologous series of topological insulators. Nature Communications, 2012, 3, 635.	12.8	192
85	Complex Spin Texture in the Pure and Mn-Doped Topological Insulator<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Te</mml:mi><mml:mn Physical Review Letters, 2012, 108, 206801.	7.8	85
86	Ab initio approach to the rate of radiative electron trapping and electronâ€“hole recombination in Bâ€• Câ€• and Nâ€•doped anatase. Physica Status Solidi (B): Basic Research, 2012, 249, 1063-1071.	1.5	7
87	Experimental Verification of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>PbBi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Te</mml:mi><mml:mn a 3D Topological Insulator. Physical Review Letters, 2012, 108, 206803.	7.8	90
88	Ab initio study of 2DEG at the surface of topological insulator Bi2Te3. JETP Letters, 2012, 95, 213-218.	1.4	22
89	Ab initioelectronic structure of thallium-based topological insulators. Physical Review B, 2011, 83, .	3.2	59
90	The Effect of Spinâ€“Orbit Coupling on the Surface Dynamical Properties and Electronâ€“Phonon Interaction of Tl(0001). Journal of Physical Chemistry A, 2011, 115, 7352-7355.	2.5	10

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91	Ternary compounds based on binary topological insulators as an efficient way for modifying the Dirac cone. JETP Letters, 2011, 93, 15-20.	1.4	42
92	On the origin of two-dimensional electron gas states at the surface of topological insulators. JETP Letters, 2011, 94, 106-111.	1.4	35
93	Three- and two-dimensional topological insulators in Pb2Sb2Te5, Pb2Bi2Te5, and Pb2Bi2Se5 layered compounds. JETP Letters, 2011, 94, 217-221.	1.4	21
94	First-principles quasiparticle damping rates in bulk lead. Physical Review B, 2011, 84, .	3.2	10
95	Small Al clusters on the Cu(111) surface: Atomic relaxation and vibrational properties. Russian Journal of Physical Chemistry A, 2010, 84, 1934-1938.	0.6	2
96	On different mechanisms of electron-phonon scattering of electron and hole excitations on an Ag(110) surface. Journal of Experimental and Theoretical Physics, 2010, 110, 788-793.	0.9	6
97	Hexagonally Deformed Fermi Surface of the 3D Topological Insulator<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Se</mml:mi><mml:mn Physical Review Letters, 2010, 105, 076802.	7.8	232
98	Modification of response properties of the Be(0001) surface upon adsorption of a potassium monolayer: An ab initio calculation. Physica Status Solidi (B): Basic Research, 2010, 247, 1849-1857.	1.5	10
99	Vibrations of tetrahedral Co and Cu clusters on a Cu(111) surface. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2596-2599.	0.8	2
100	Collective electronic excitations in a potassiumâ€covered Be surface. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2640-2643.	0.8	4
101	Effect of the atomic composition of the surface on the electron surface states in topological insulators A 2 V B 3 VI. JETP Letters, 2010, 91, 387-391.	1.4	88
102	Ternary thallium-based semimetal chalcogenides Tl-V-VI2 as a new class of three-dimensional topological insulators. JETP Letters, 2010, 91, 594-598.	1.4	42
103	On possible deep subsurface states in topological insulators: The PbBi4Te7 system. JETP Letters, 2010, 92, 161-165.	1.4	25
104	AB INITIO APPROACH TO STRUCTURAL, ELECTRONIC AND OPTICAL PROPERTIES OF B-, C- AND N-DOPED ANATASE. International Journal of Modern Physics B, 2010, 24, 6049-6067.	2.0	13
105	Effect of spin-orbit coupling on the electron-phonon interaction of the superconductors Pb and Tl. Physical Review B, 2010, 81, .	3.2	86
106	Vibrational properties of small cobalt clusters on the Cu(111) surface. Physics of the Solid State, 2009, 51, 1271-1280.	0.6	3
107	Reduction of the Superconducting Gap of Ultrathin Pb Islands Grown on Si(111). Physical Review Letters, 2009, 102, 207002.	7.8	135
108	Firstâ€principle approach to the study of spin relaxation times of excited electrons in metals. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 1296-1301.	1.8	15

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109	Band structure effects on the Be(0001) acoustic surface plasmon energy dispersion. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 1307-1311.	1.8	19
110	Ultrafast dynamics and decoherence of quasiparticles in surface bands: Preasymptotic decay and dephasing of quasiparticle states. Physical Review B, 2007, 76, .	3.2	17
111	Band structure effects in the surface plasmon at the Be(0001) surface. Radiation Effects and Defects in Solids, 2007, 162, 483-489.	1.2	6
112	Enhanced Rashba spin-orbit splitting inBiâˆ•Ag(111)andPbâˆ•Ag(111)surface alloys from first principles. Physical Review B, 2007, 75, .	3.2	156
113	Quantum well states in ultrathin Bi films: Angle-resolved photoemission spectroscopy and first-principles calculations study. Physical Review B, 2007, 75, .	3.2	103
114	Strong Spin-Orbit Splitting on Bi Surfaces. Physical Review Letters, 2004, 93, 046403.	7.8	595
115	Lateral quantum wells at vicinal Au(111) studied with angle-resolved photoemission. Physical Review B, 2002, 66, .	3.2	78
116	Strong Rashba Effect and Different f âˆ’ d Hybridization Phenomena at the Surface of the Heavyâ€Fermion Superconductor CeIrIn 5. Advanced Electronic Materials, 0, , 2100768.	5.1	8