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	Prediction and observation of an antiferromagnetic topological insulator. Nature, 2019, 576, 416-422.	27.8	701
2	Strong Spin-Orbit Splitting on Bi Surfaces. Physical Review Letters, 2004, 93, 046403.	7.8	595
3	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> Films. Physical Review Letters, 2019, 122, 107202.	7.8	415
4	Time-Reversal-Breaking Weyl Fermions in Magnetic Heusler Alloys. Physical Review Letters, 2016, 117, 236401.	7.8	282
5	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
6	Highly-ordered wide bandgap materials for quantized anomalous Hall and magnetoelectric effects. 2D Materials, 2017, 4, 025082.	4.4	195
7	Atom-specific spin mapping and buried topological states in a homologous series of topological insulators. Nature Communications, 2012, 3, 635.	12.8	192
8	Enhanced Rashba spin-orbit splitting inBiâˆ•Ag(111)andPbâˆ•Ag(111)surface alloys from first principles. Physical Review B, 2007, 75, .	3.2	156
9	Magnetic proximity effect at the three-dimensional topological insulator/magnetic insulator interface. Physical Review B, 2013, 88, .	3.2	152
10	Reduction of the Superconducting Gap of Ultrathin Pb Islands Grown on Si(111). Physical Review Letters, 2009, 102, 207002.	7.8	135
11	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></m (0001). Physical Review B, 2019, 100, .	3.2	132
12	Plasma-Wave Terahertz Detection Mediated by Topological Insulators Surface States. Nano Letters, 2016, 16, 80-87.	9.1	131
13	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
14	Large-Gap Magnetic Topological Heterostructure Formed by Subsurface Incorporation of a Ferromagnetic Layer. Nano Letters, 2017, 17, 3493-3500.	9.1	129
15	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:m Physical Review Letters, 2012, 109, 076801.	7.8	115
16	Quantum well states in ultrathin Bi films: Angle-resolved photoemission spectroscopy and first-principles calculations study. Physical Review B, 2007, 75, .	3.2	103
17	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><mm a 3D Topological Insulator. Physical Review Letters, 2012, 108, 206803.	7.8	90
18	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

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19	Effect of spin-orbit coupling on the electron-phonon interaction of the superconductors Pb and Tl. Physical Review B, 2010, 81, .	3.2	86
20	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
21	Lateral quantum wells at vicinal Au(111) studied with angle-resolved photoemission. Physical Review B, 2002, 66, .	3.2	78
22	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
23	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
24	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
25	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></m Films in the Quantum Tunneling Limit. Physical Review Letters, 2014, 112, 057601.	7.8	61
26	<i>Ab initio</i>electronic structure of thallium-based topological insulators. Physical Review B, 2011, 83, .	3.2	59
27	Exchange interaction and its tuning in magnetic binary chalcogenides. Physical Review B, 2014, 89, .	3.2	57
28	Signatures of temperature driven antiferromagnetic transition in the electronic structure of topological insulator MnBi2Te4. APL Materials, 2020, 8, .	5.1	56
29	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:msu 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
30	Native point defects and their implications for the Dirac point gap at MnBi2Te4(0001). Npj Quantum Materials, 2022, 7, .	5.2	53
31	New Universal Type of Interface in the Magnetic Insulator/Topological Insulator Heterostructures. Nano Letters, 2018, 18, 6521-6529.	9.1	51
32	Epitaxial B-Graphene: Large-Scale Growth and Atomic Structure. ACS Nano, 2015, 9, 7314-7322.	14.6	49
33	Unveiling mode-selected electronâ€“phonon interactions in metal films by helium atom scattering. Physical Chemistry Chemical Physics, 2014, 16, 7159.	2.8	48
34	Fabrication of a novel magnetic topological heterostructure and temperature evolution of its massive Dirac cone. Nature Communications, 2020, 11, 4821.	12.8	47
35	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
36	Emerging 2D-ferromagnetism and strong spin-orbit coupling at the surface of valence-fluctuating EuIr2Si2. Npj Quantum Materials, 2019, 4, .	5.2	46

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37	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></mr its response to applied surface charge: A combined photoemission and<i>ab initio</i>study. Physical Review B, 2021, 104, .	3.2	46
38	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></mm stretchy="false">(</mml:mo><mml:mn>0001</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 697 Td (stretchy="false">)</m Letters, 2014, 113, 116802.	7.8	44
39	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
40	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
41	Lattice dynamics of bismuth tellurohalides. Physical Review B, 2012, 86, .	3.2	42
42	Giant Rashba-type spin splitting at polar surfaces of BiTeI. JETP Letters, 2012, 96, 437-444.	1.4	41
43	Experimental Evidence of Hidden Topological Surface States in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>PbBi</mml:mi><mml:mn>4</mml:mn></mml:msub><mml:msub><mml:mi>Te</mml:mi><mm Physical Review Letters, 2013, 111, 206803.	7.8	39
44	On the origin of two-dimensional electron gas states at the surface of topological insulators. JETP Letters, 2011, 94, 106-111.	1.4	35
45	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 /><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 88, .	3.2	34
46	Strong ferromagnetism at the surface of an antiferromagnet caused by buried magnetic moments. Nature Communications, 2014, 5, 3171.	12.8	30
47	Cubic Rashba Effect in the Surface Spin Structure of Rare-Earth Ternary Materials. Physical Review Letters, 2020, 124, 237202.	7.8	30
48	Topological Magnetic Materials of the (MnSb₂Te₄)Â·(Sb₂Te₃)_{<i>n</i>}van der Waals Compounds Family. Journal of Physical Chemistry Letters, 2021, 12, 4268-4277.	4.6	30
49	Robust and tunable itinerant ferromagnetism at the silicon surface of the antiferromagnet GdRh2Si2. Scientific Reports, 2016, 6, 24254.	3.3	29
50	Multiple Coexisting Dirac Surface States in Three-Dimensional Topological Insulator PbBi₆Te₁₀. ACS Nano, 2016, 10, 3518-3524.	14.6	29
51	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
52	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
53	Electronic and spin structure of a family of Sn-based ternary topological insulators. Physical Review B, 2015, 92, .	3.2	27
54	New generation of two-dimensional spintronic systems realized by coupling of Rashba and Dirac fermions. Scientific Reports, 2015, 5, 12819.	3.3	27

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55	Pressure effects on crystal and electronic structure of bismuth tellurohalides. New Journal of Physics, 2016, 18, 113003.	2.9	27
56	On possible deep subsurface states in topological insulators: The PbBi4Te7 system. JETP Letters, 2010, 92, 161-165.	1.4	25
57	Modular Design with 2D Topological-Insulator Building Blocks: Optimized Synthesis and Crystal Growth and Crystal and Electronic Structures of Bi_{<i>x</i>}TeI (<i>x</i> = 2, 3). Chemistry of Materials, 2017, 29, 1321-1337.	6.7	23
58	Ab initio study of 2DEG at the surface of topological insulator Bi2Te3. JETP Letters, 2012, 95, 213-218.	1.4	22
59	Three- and two-dimensional topological insulators in Pb2Sb2Te5, Pb2Bi2Te5, and Pb2Bi2Se5 layered compounds. JETP Letters, 2011, 94, 217-221.	1.4	21
60	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
61	Domain wall induced spin-polarized flat bands in antiferromagnetic topological insulators. Physical Review B, 2021, 103, .	3.2	20
62	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
63	Temperature-driven topological quantum phase transitions in a phase-change material Ge2Sb2Te5. Scientific Reports, 2016, 6, 38799.	3.3	18
64	Ultrafast dynamics and decoherence of quasiparticles in surface bands: Preasymptotic decay and dephasing of quasiparticle states. Physical Review B, 2007, 76, .	3.2	17
65	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
66	Strong spin-orbit coupling in the noncentrosymmetric Kondo lattice. Physical Review B, 2018, 98, .	3.2	16
67	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
68	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
69	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
70	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</m Physical Review B, 2021, 103, .	3.2	15
71	New topological surface state in layered topological insulators: Unoccupied dirac cone. JETP Letters, 2013, 96, 780-784.	1.4	14
72	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

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73	Direct measurement of the bulk spin structure of noncentrosymmetric BiTeCl. Physical Review B, 2015, 91, .	3.2	13
74	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
75	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></mm -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></m Physical Review B, 2020, 102, .	3.2	13
76	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></mr Physical Review B, 2021, 103, .	3.2	13
77	Local determination of the amount of integration of an atom into a crystal surface. Nature Communications, 2014, 5, 5089.	12.8	12
78	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
79	Topological Crystalline Insulator in a New Bi Semiconducting Phase. Scientific Reports, 2016, 6, 21790.	3.3	12
80	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
81	Modification of response properties of the Be(0001) surface upon adsorption of a potassium monolayer: An <i>ab initio</i> calculation. Physica Status Solidi (B): Basic Research, 2010, 247, 1849-1857.	1.5	10
82	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
83	First-principles quasiparticle damping rates in bulk lead. Physical Review B, 2011, 84, .	3.2	10
84	Deterministic control of an antiferromagnetic spin arrangement using ultrafast optical excitation. Communications Physics, 2020, 3, .	5.3	10
85	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
86	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
87	Strong Rashba Effect and Different f â^' d Hybridization Phenomena at the Surface of the Heavyâ€Fermion Superconductor CeIrIn 5. Advanced Electronic Materials, 0, , 2100768.	5.1	8
88	<i>Ab initio</i> 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
89	Atomic structure and phonons of a Pb ultrathin film on the Al(100) surface. JETP Letters, 2014, 100, 237-241.	1.4	7
90	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

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91	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
92	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
93	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
94	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></mml 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></mml Physical Review B, 2022, 105, .	3.2	6
95	Formation of Surface and Quantum-Well States in Ultra Thin Pt Films on the Au(111) Surface. Materials, 2017, 10, 1409.	2.9	5
96	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
97	Effects of the electron-electron interaction on the surface of three-dimensional topological insulators. JETP Letters, 2012, 96, 480-485.	1.4	4
98	Comment on â€œTopological Insulators in Ternary Compounds with a Honeycomb Latticeâ€. Physical Review Letters, 2013, 110, 129701.	7.8	4
99	Chemically driven surface effects in polar intermetallic topological insulators A3Bi. Physical Chemistry Chemical Physics, 2018, 20, 26372-26385.	2.8	4
100	Intrinsic Magnetic Topological Insulator State Induced by the Jahnâ€“Teller Effect. Journal of Physical Chemistry Letters, 2021, 12, 9076-9085.	4.6	4
101	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
102	Vibrational properties of small cobalt clusters on the Cu(111) surface. Physics of the Solid State, 2009, 51, 1271-1280.	0.6	3
103	Electronic band structure of three-dimensional topological insulators with different stoichiometry composition. Physical Review B, 2020, 102, .	3.2	3
104	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
105	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
106	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
107	Interplay of Topological States on TI/TCI Interfaces. Materials, 2020, 13, 4481.	2.9	2
108	Effect of Rashba splitting on ultrafast carrier dynamics in BiTeI. Physical Review B, 2021, 103, .	3.2	2

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109	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
110	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
111	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
112	Modification of a Shockley-Type Surface State on Pt(111) upon Deposition of Gold Thin Layers. Materials, 2018, 11, 2569.	2.9	1
113	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
114	Natural Topological Insulator Heterostructures. Springer Handbooks, 2020, , 449-470.	0.6	0
115	Surface dynamics on submonolayer Pb/Cu(001) surfaces. Physical Chemistry Chemical Physics, 2022, 24, 5164-5170.	2.8	0
116	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