Daniel I Khomskii

List of Publications by Year
in descending order

63	6,418	117625	128289
papers	citations	34 h-index	60 g-index

65	65	65	6357
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Classifying multiferroics: Mechanisms and effects. Physics Magazine, 0, 2, .	0.1	1,248
2	The Jahn-Teller effect and magnetism: transition metal compounds. Uspekhi Fizicheskikh Nauk, 1982, 25, 231-256.	0.3	1,072
3	CrO2: A Self-Doped Double Exchange Ferromagnet. Physical Review Letters, 1998, 80, 4305-4308.	7.8	425
4	Temperature-induced magnetization reversal in a YVO3 single crystal. Nature, 1998, 396, 441-444.	27.8	276
5	Orbitally Induced Peierls State in Spinels. Physical Review Letters, 2005, 94, 156402.	7.8	262
6	Orbital Ordering in a Two-Dimensional Triangular Lattice. Physical Review Letters, 1997, 78, 1323-1326.	7.8	190
7	Electronic orbital currents and polarization in Mott insulators. Physical Review B, 2008, 78, .	3.2	160
8	Nature of Magnetism inCa3Co2O6. Physical Review Letters, 2005, 95, 186401.	7.8	137
9	Orbital physics in transition metal compounds: new trends. Physics-Uspekhi, 2017, 60, 1121-1146.	2.2	124
10	Orbital Occupation, Local Spin, and Exchange Interactions inV2O3. Physical Review Letters, 1999, 83, 4136-4139.	7.8	122
11	Antiferromagnetic correlations in the metallic strongly correlated transition metal oxide LaNiO3. Nature Communications, 2018, 9, 43.	12.8	110
12	Orbital Effects in Solids: Basics, Recent Progress, and Opportunities. Chemical Reviews, 2021, 121, 2992-3030.	47.7	98
13	Pyroxenes: a new class of multiferroics. Journal of Physics Condensed Matter, 2007, 19, 432201.	1.8	96
14	Exchange Interactions and Magnetic Properties of the Layered VanadatesCaV2O5,MgV2O5,CaV3O7, andCaV4O9. Physical Review Letters, 1999, 83, 1387-1390.	7.8	94
15	Valence bond liquid phase in the honeycomb lattice material<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Li</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi>Ru</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2014, 89, .	3.2	92
16	Covalent bonds against magnetism in transition metal compounds. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10491-10496.	7.1	88
17	Orbital Ordering in Frustrated Jahn-Teller Systems with 90Â° Exchange. Physical Review Letters, 2002, 89, 227203.	7.8	85
18	Electronic structure and magnetic properties of pyroxenes<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"		

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19	Electric dipoles on magnetic monopoles in spin ice. Nature Communications, 2012, 3, 904.	12.8	73
20	Orbital ordering of complex orbitals in doped Mott insulators. Physical Review B, 2001, 63, .	3.2	62
21	Weak ferrimagnetism, compensation point, and magnetization reversal inNi(HCOO)2â‹…2H2O. Physical Review B, 2003, 67, .	3.2	62
22	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>VI</mml:mi><mml:mn>3</mml:mn></mml:msub></mml: : A two-dimensional Ising ferromagnet. Physical Review B, 2020, 101, .	3.2	60
23	Orbital-dependent singlet dimers and orbital-selective Peierls transitions in transition-metal compounds. Physical Review B, 2014, 89, .	3.2	57
24	Role of Orbitals in the Physics of Correlated Electron Systems. Physica Scripta, 2005, 72, CC8-CC14.	2.5	56
25	Spin-orbital interaction for face-sharing octahedra: Realization of a highly symmetric SU(4) model. Physical Review B, 2015, 91, .	3.2	55
26	Orbitally Driven Spin-Singlet Dimerization inS=1La4Ru2O10. Physical Review Letters, 2006, 96, 256402.	7.8	54
27	Peierls Mechanism of the Metal-Insulator Transition in Ferromagnetic Hollandite<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="normal">K</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Cr</mml:mi><mml:mn>8</mml:mn><mml:mn>O</mml:mn><mml:mn>16</mml:mn></mml:msub></mml:math>. Physical Review	7.8	53
28	Spin-orbit coupling and crystal-field distortions for a low-spin <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>3</mml:mn><mml:msup><mml:mi>d</mml:mi><mml:mn state in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">BaCoO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2019, 100, .	3.2	49
29	Unexpected 3+ valence of iron in FeO2, a geologically important material lying â€œin betweenâ€•oxides and peroxides. Scientific Reports, 2017, 7, 13005.	3.3	47
30	Orbital Ordering in Charge Transfer Insulators. Physical Review Letters, 2004, 92, 167201.	7.8	45
31	Role of local geometry in the spin and orbital structure of transition metal compounds. Journal of Experimental and Theoretical Physics, 2016, 122, 484-498.	0.9	45
32	Classical Dimers and Dimerized Superstructure in an Orbitally Degenerate Honeycomb Antiferromagnet. Physical Review Letters, 2008, 100, 147203.	7.8	44
33	Spin-orbit entangled <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>j</mml:mi><mml:mo>=</mml:mo><mml:mfrac><mml: moments in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ba</mml:mi><mml:mn>2</mml:mn></mml: : A frustrated fcc quantum magnet. Physical Review B, 2019, 100, .	3.2	40
34	Spin chirality and nontrivial charge dynamics in frustrated Mott insulators: spontaneous currents and charge redistribution. Journal of Physics Condensed Matter, 2010, 22, 164209.	1.8	39
35	Phase separation in systems with charge ordering. Journal of Experimental and Theoretical Physics, 2001, 93, 415-423.	0.9	38
36	Resonant inelastic x-ray incarnation of Youngâ€™s double-slit experiment. Science Advances, 2019, 5, eaav4020.	10.3	29

#	Article	IF	Citations
37	Jahn-Teller Effect and Spin-Orbit Coupling: Friends or Foes?. Physical Review X, 2020, 10, .	8.9	29
38	Coexisting charge and magnetic orders in the dimer-chain iridateBa5AlIr2O11. Physical Review B, 2015, 91, .	3.2	28
39	Comment on â€œSodium PyroxeneNaTiSi2O6: Possible Haldane Spin-1 Chain Systemâ€. Physical Review Letters, 2006, 96, 249701; author reply 249702.	7.8	20
40	Magnetic monopoles and unusual dynamics of magnetoelectrics. Nature Communications, 2014, 5, 4793.	12.8	16
41	Field-tunable toroidal moment in a chiral-lattice magnet. Nature Communications, 2021, 12, 5339.	12.8	13
42	Jahn-Teller versus quantum effects in the spin-orbital material<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>LuVO</mml:mi><mml:mn>3</mml:mn></mml:msub></m Physical Review B, 2015, 91, .	3.2	12
43	Cluster Magnetism of Ba4NbMn3O12: Localized Electrons or Molecular Orbitals?. JETP Letters, 2018, 108, 686-690.	1.4	12
44	Ordering of Fe and Zn Ions and the Magnetic Properties of FeZnMo3O8. JETP Letters, 2019, 109, 786-789.	1.4	10
45	Reviewâ€”Orbital Physics: Glorious Past, Bright Future. ECS Journal of Solid State Science and Technology, 2022, 11, 054004.	1.8	9
46	Interplay of the Jahn-Teller effect and spin-orbit coupling: The case of trigonal vibrations. Physical Review B, 2022, 105, .	3.2	8
47	Rare case of magnetic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mi mathvariant="normal">Ag</mml:mi><mml:mrow><mml:mn>3</mml:mn><mml:mo>+</mml:mo></mml:mrow></mml:msup></mml:m Double perovskite<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi	3.2	7
48	Comment on â€œSpin-Lattice Coupling and the Emergence of the Trimerized Phase in the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>S</mml:mi><mml:mo>=</mml:mo><mml:mn>1</mml:mn></mml:mrow></mml:math> Kagome Antiferromagnet <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Na</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mr Physical Review Letters, 2021, 127, 049701.	7.8	7
49	Magneto-optical study of metamagnetic transitions in the antiferromagnetic phase of Î±-RuCl3. Npj Quantum Materials, 2022, 7, .	5.2	7
50	Three-site transition-metal clusters: Going from localized electrons to molecular orbitals. Physical Review B, 2020, 102, .	3.2	6
51	Na 9 Bi 5 Os 3 O 24 : A Diamagnetic Oxide Featuring a Pronouncedly Jahnâ€“Tellerâ€Compressed Octahedral Coordination of Osmium(VI). Angewandte Chemie - International Edition, 2021, 60, 16500-16505.	13.8	6
52	Unusual layered order and charge disproportionation in the double-perovskite compound Ca2FeMnO6. Physical Review B, 2018, 98, .	3.2	4
53	Emergent 1/3 magnetization plateaus in pyroxene <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>CoGeO</mml:mi><mml:mn>3</mml:mn></mml:msub></ Physical Review Research, 2021, 3, .	3.6	4
54	Inhomogeneous charge states and electronic transport in manganites. Low Temperature Physics, 2001, 27, 601-608.	0.6	3

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55	Coupled dynamics of long-range and cluster-internal spin order in the cluster Mott insulator Cu2OSeO3. Physical Review B, 2019, 100, .	3.2	2
56	Charge disproportionation and nano phase separation in $$extit{R}mathrm{SrNiO}_{4}$$. Scientific Reports, 2020, 10, 18012.	3.3	2
57	Effects of Mn-substitution on the valence bond solid in Li2RuO3. Physical Review B, 2021, 103, .	3.2	2
58	Electric activity at magnetic moment fragmentation in spin ice. Nature Communications, 2021, 12, 3047.	12.8	2
59	Spin-orbital liquid in Ba3CuSb2O9 stabilized by oxygen holes. Physical Review Materials, 2021, 5, .	2.4	2
60	Single Crystal Growth and Physical Properties of Pyroxene CoGeO3. Crystals, 2021, 11, 378.	2.2	1
61	Multiferroics and Beyond: Electric Properties of Different Magnetic Textures. Journal of Experimental and Theoretical Physics, 2021, 132, 482-492.	0.9	1
62	Na₉Bi₅Os₃O₂₄: A Diamagnetic Oxide Featuring a Pronouncedly Jahnâ€“Tellerâ€Compressed Octahedral Coordination of Osmium(VI). Angewandte Chemie, 2021, 133, 16636-16641.	2.0	0
63	Coexisting Z-type charge and bond order in metallic NaRu2O4. Communications Materials, 2022, 3, .	6.9	0