

# Gabriel Kotliar

## List of Publications by Year in descending order

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153  
papers

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158  
docs citations

158  
times ranked

9623  
citing authors

#	ARTICLE	IF	CITATIONS
1	Iron pnictides and chalcogenides: a new paradigm for superconductivity. Nature, 2022, 601, 35-44.	13.7	98
2	Cascade of Spin-State Transitions in the Intermetallic Marcasite $\text{FeP}_2$ . Chemistry of Materials, 2022, 34, 2025-2033.	3.2	3
3	Orbital anisotropy of heavy fermion $\text{CeMn}_2\text{P}_2$ under crystalline electric field and its energy scale. Physical Review B, 2022, 105, .		
4	Coexisting Kondo hybridization and itinerant $f$ -electron ferromagnetism in $\text{UGe}_2$ . Physical Review Research, 2022, 4, .	1.3	3
5	$\text{LiYbSe}_2$ : Frustrated Magnetism in the Pyrochlore Lattice. Journal of the American Chemical Society, 2022, 144, 11933-11937.	6.6	15
6	Vacancy defect control of colossal thermopower in $\text{FeSb}_2$ . Npj Quantum Materials, 2021, 6, .	1.8	13
7	Direct observation of kink evolution due to Hund's coupling on approach to metal-insulator transition in $\text{NiS}_2\text{Sex}$ . Nature Communications, 2021, 12, 1208.	5.8	9
8	Optical Properties of the Infinite-Layer $\text{LaMnO}_3$ and Hidden Hund's Physics. Physical Review Letters, 2021, 126, 127401.	1.9	5
9	$\text{Tl}_2\text{Ir}_2\text{O}_7$ : A Pauli Paramagnetic Metal, Proximal to a Metal Insulator Transition. Inorganic Chemistry, 2021, 60, 4424-4433.	1.9	5
10	Reply to: "Extracting Kondo temperature of strongly-correlated systems from the inverse local magnetic susceptibility". Nature Communications, 2021, 12, 1445.	5.8	4
11	Spatial locality of electronic correlations in $\text{LiFeAs}$ . Physical Review B, 2021, 103, .	1.1	8
12	Antiferromagnetic Order Breaks Inversion Symmetry in a Metallic Double Perovskite, $\text{Pb}_2\text{NiO}_6$ . Chemistry of Materials, 2021, 33, 4188-4195.	3.2	8
13	Accelerated impurity solver for DMFT and its diagrammatic extensions. Computer Physics Communications, 2021, 267, 108075.	3.0	3
14	Efficient Slave-Boson Approach for Multiorbital Two-Particle Response Functions and Superconductivity. Physical Review X, 2021, 11, .	2.8	7
15	Ambient and High Pressure $\text{CuNiSb}_2$ : Metal-Ordered and Metal-Disordered $\text{NiAs}$ -Type Derivative Pnictides. Inorganic Chemistry, 2020, 59, 14058-14069.	1.9	0
16	Extending the Gutzwiller approximation to intersite interactions. Physical Review B, 2020, 102, .	1.1	2
17	Measured and simulated thermoelectric properties of $\text{FeAs}_2\text{Se}_x$ ( $x = 1, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.0$ )	1.0	0
18	A Pressure-Induced Inverse Order-Disorder Transition in Double Perovskites. Angewandte Chemie, 2020, 132, 8317-8323.	1.6	1

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19	A Pressure-Induced Inverse Order-Disorder Transition in Double Perovskites. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 8240-8246.	7.2	13
20	Low Energy Band Structure and Symmetries of $UTe_2$ Angle-Resolved Photoemission Spectroscopy. <i>Physical Review Letters</i> , 2020, 124, 076401.	2.9	59
21	Fermi-liquid theory and divergences of the two-particle irreducible vertex in the periodic Anderson lattice. <i>Physical Review B</i> , 2020, 101, .	1.1	12
22	Innenr-cktitelbild: A Pressure-Induced Inverse Order-Disorder Transition in Double Perovskites ( <i>Angew. Chem.</i> 21/2020). <i>Angewandte Chemie</i> , 2020, 132, 8378-8378.	1.6	0
23	ComDMFT: A massively parallel computer package for the electronic structure of correlated-electron systems. <i>Computer Physics Communications</i> , 2019, 244, 277-294.	3.0	24
24	Orbital differentiation in Hund metals. <i>Physical Review B</i> , 2019, 100, .	1.1	25
25	Orbital-selective Kondo lattice and enigmatic <i>f</i> electrons emerging from inside the antiferromagnetic phase of a heavy fermion. <i>Science Advances</i> , 2019, 5, eaaw9061.	4.7	22
26	MnFe <sub>0.5</sub> Ru <sub>0.5</sub> O <sub>3</sub> : an above-room-temperature antiferromagnetic semiconductor. <i>Journal of Materials Chemistry C</i> , 2019, 7, 509-522.	2.7	5
27	Signatures of Mottness and Hundness in archetypal correlated metals. <i>Nature Communications</i> , 2019, 10, 2721.	5.8	41
28	Rotationally invariant slave-boson and density matrix embedding theory: Unified framework and comparative study on the one-dimensional and two-dimensional Hubbard model. <i>Physical Review B</i> , 2019, 99, .	1.1	25
29	Renormalized dispersing multiplets in the spectrum of nearly Mott localized systems. <i>Physical Review B</i> , 2019, 99, .	1.1	6
30	High temperature singlet-based magnetism from Hund's rule correlations. <i>Nature Communications</i> , 2019, 10, 644.	5.8	12
31	Tetragonal Cs <sub>1.17</sub> In <sub>0.81</sub> Cl <sub>3</sub> : A Charge-Ordered Indium Halide Perovskite Derivative. <i>Chemistry of Materials</i> , 2019, 31, 1981-1989.	3.2	20
32	Correlated materials design: prospects and challenges. <i>Reports on Progress in Physics</i> , 2019, 82, 012504.	8.1	35
33	Hundness versus Mottness in a three-band Hubbard-Hund model: On the origin of strong correlations in Hund metals. <i>Annals of Physics</i> , 2019, 405, 365-409.	1.0	52
34	Material design of indium-based compounds: Possible candidates for charge, valence, and bond disproportionation and superconductivity. <i>Physical Review Materials</i> , 2019, 3, .	0.9	10
35	Significant change in the electronic behavior associated with structural distortions in monocrystalline SrAg <sub>4</sub> . <i>Physical Review B</i> , 2018, 98, .	1.1	10
36	Pairing Mechanism in Hund's Metal Superconductors and the Universality of the Superconducting Gap to Critical Temperature Ratio. <i>Physical Review Letters</i> , 2018, 121, 187003.	2.9	29

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37	Nonequilibrium mean-field theory of resistive phase transitions. <i>Physical Review B</i> , 2018, 98, .	1.1	19
38	Toward a predictive theory of correlated materials. <i>Science</i> , 2018, 361, 348-354.	6.0	45
39	Combined computational and experimental investigation of the La <sub>2</sub> CuO <sub>4</sub> (O <sub>2</sub> ) <sub>4</sub> quaternary system. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 7890-7895.	3.3	8
40	Thermoelectric Properties of CoAsSb: An Experimental and Theoretical Study. <i>Chemistry of Materials</i> , 2018, 30, 4207-4215.	3.2	5
41	Study for material analogs of FeSb <sub>2</sub> : Material design for thermoelectric materials. <i>Physical Review Materials</i> , 2018, 2, .	0.9	11
42	Phase stability and large in-plane resistivity anisotropy in the 112-type iron-based superconductor Ca <sub>1-x</sub> La <sub>x</sub> FeAs <sub>2</sub> . <i>Physical Review B</i> , 2017, 95, .	1.1	19
43	Microscopic Theory of Resistive Switching in Ordered Insulators: Electronic versus Thermal Mechanisms. <i>Nano Letters</i> , 2017, 17, 2994-2998.	4.5	21
44	Superconducting order from disorder in 2H-TaSe <sub>2</sub> x S x. <i>Npj Quantum Materials</i> , 2017, 2, .	1.8	73
45	Slave Boson Theory of Orbital Differentiation with Crystal Field Effects: Application to UO <sub>2</sub> . <i>Physical Review Letters</i> , 2017, 118, 126401.	2.9	49
46	Quantum critical point revisited by dynamical mean-field theory. <i>Physical Review B</i> , 2017, 95, .	1.1	7
47	Validity of the local approximation in iron pnictides and chalcogenides. <i>Physical Review B</i> , 2017, 95, .	1.1	11
48	Two-Dimensional Massless Dirac Fermions in Antiferromagnetic Ca <sub>1-x</sub> La <sub>x</sub> FeAs <sub>2</sub> . <i>Physical Review Letters</i> , 2017, 119, 096401.	2.9	20
49	Mott Transition in a Metallic Liquid: Gutzwiller Molecular Dynamics Simulations. <i>Physical Review Letters</i> , 2017, 118, 226401.	2.9	10
50	Magnetotransport properties of the single-crystalline nodal-line semimetal candidates Ca <sub>1-x</sub> T <sub>x</sub> FeAs <sub>2</sub> . <i>Physical Review B</i> , 2017, 95, .	1.1	7
51	Dynamical mean-field theory, density-matrix embedding theory, and rotationally invariant slave bosons: A unified perspective. <i>Physical Review B</i> , 2017, 96, .	1.1	34
52	Volume-wise destruction of the antiferromagnetic Mott insulating state through quantum tuning. <i>Nature Communications</i> , 2016, 7, 12519.	5.8	36
53	Mn <sub>2</sub> MnReO <sub>6</sub> : Synthesis and Magnetic Structure Determination of a New Transition-Metal-Only Double Perovskite Canted Antiferromagnet. <i>Chemistry of Materials</i> , 2016, 28, 3148-3158.	3.2	45
54	Spin excitations in optimally P-doped BaFe <sub>2</sub> . <i>Physical Review B</i> , 2016, 94, .	1.1	16

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55	Structural and magnetic phase transitions in $\text{Ca}_{1-x}\text{Fe}_x\text{As}_2$ electron-overdoped FeAs layers. Physical Review B, 2016, 93, .	1.1	71
56	Fermi surface topology and negative longitudinal magnetoresistance observed in the semimetal $\text{NbAs}_2$ . Physical Review B, 2016, 93, .	1.1	71
57	Orbital Selective Spin Excitations and their Impact on Superconductivity of $\text{LiFeAs}$ . Physical Review Letters, 2016, 116, 247001.	2.9	31
58	Transport Properties of Metallic Ruthenates: A $\text{DFT} + \text{DMFT}$ Investigation. Physical Review Letters, 2016, 116, 256401.	2.9	55
59	Gutzwiller renormalization group. Physical Review B, 2016, 93, .	1.1	4
60	First-principles treatment of Mott insulators: linearized QSGW+DMFT approach. Npj Quantum Materials, 2016, 1, .	1.8	54
61	Correlation-driven electronic multiferroicity in $\text{TMTTF}_2\text{X}$ organic crystals. Physical Review B, 2015, 91, .	1.1	20
62	Finite-temperature Gutzwiller approximation from the time-dependent variational principle. Physical Review B, 2015, 92, .	1.1	15
63	Physical properties and electronic structure of a new barium titanate suboxide $\text{Ba}_{1-\hat{\Gamma}}\text{Ti}_{13}\hat{\Gamma}\text{O}_{12}$ ( $\hat{\Gamma} = 0.11$ ). APL Materials, 2015, 3, 041517.	2.2	6
64	Giant Magnetoresistance in the Half-Metallic Double-Perovskite Ferrimagnet $\text{Mn}_2\text{FeRe}_6$ . Angewandte Chemie - International Edition, 2015, 54, 12069-12073.	7.2	100
65	Electric-Field-Driven Resistive Switching in the Dissipative Hubbard Model. Physical Review Letters, 2015, 114, 226403.	2.9	52
66	Half-Metallicity in $\text{Pb}_2\text{CoRe}_6$ Double Perovskite and High Magnetic Ordering Temperature in $\text{Pb}_2\text{CrRe}_6$ Perovskite. Chemistry of Materials, 2015, 27, 4450-4458.	3.2	26
67	Analytic theory of Hund's metals: A renormalization group perspective. Physical Review B, 2015, 91, .	1.1	34
68	Guided design of copper oxysulfide superconductors. Europhysics Letters, 2015, 111, 17002.	0.7	8
69	The valence-fluctuating ground state of plutonium. Science Advances, 2015, 1, e1500188.	4.7	89
70	Phase Diagram and Electronic Structure of Praseodymium and Plutonium. Physical Review X, 2015, 5, .	2.8	67
71	Hole Doping and Structural Transformation in $\text{CsTl}_x\text{Hg}_x\text{Cl}_3$ . Inorganic Chemistry, 2015, 54, 1066-1075.	1.9	10
72	Shining Light on Transition-Metal Oxides: Unveiling the Hidden Fermi Liquid. Physical Review Letters, 2014, 113, 246404.	2.9	39

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73	Tuning the charge-transfer energy in hole-doped cuprates. Physical Review B, 2014, 89, .	1.1	13
74	Interplay of spin-orbit and entropic effects in cerium. Physical Review B, 2014, 90, .	1.1	20
75	Effect of Pnictogen Height on Spin Waves in Iron Pnictides. Physical Review Letters, 2014, 112, .	2.9	55
76	Principle of Maximum Entanglement Entropy and Local Physics of Strongly Correlated Materials. Physical Review Letters, 2014, 113, 036402.	2.9	9
77	$\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:mi} \rangle \hat{I}^3 \langle \text{mml:mi} \rangle \langle \text{mml:mtext mathvariant="normal"} \rangle \hat{a}^\sim \langle \text{mml:mtext} \rangle \langle \text{mml:mi} \rangle \hat{I}_\pm \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ Isostructural Transition in Cerium. Physical Review Letters, 2013, 111, 196801.	2.9	73
78	Importance of Many-Body Effects in the Kernel of Hemoglobin for Ligand Binding. Physical Review Letters, 2013, 110, 106402.	2.9	29
79	Plutonium Hexaboride is a Correlated Topological Insulator. Physical Review Letters, 2013, 111, 176404.	2.9	68
80	Highly dispersive electron relaxation and colossal thermoelectricity in the correlated semiconductor FeSb $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle$ . Physical Review B, 2013, 88, .	1.1	28
81	Impurity model for non-equilibrium steady states. Physical Review B, 2013, 87, . Orbital Selective Fermi Surface Shifts and Mechanism of High $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle T \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle c \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle$ Superconductivity	1.1	11
82	in Correlated $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle$		

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91	Suppression of the hidden-order phase by impurities in URu <sub>2</sub> Si $\text{URu}_2\text{Si}$	1.1	8
92	High-frequency thermoelectric response in correlated electronic systems. Physical Review B, 2011, 84, .	1.1	10
93	Strength of correlations in electron- and hole-doped cuprates. Nature Physics, 2010, 6, 574-578.	6.5	142
94	Apical oxygens and correlation strength in electron- and hole-doped copper oxides. Physical Review B, 2010, 82, .	1.1	90
95	Magnetization, Maxwell's relations, and the local physics of Th <sub>1-x</sub> U <sub>x</sub> Ru <sub>2</sub> Si <sub>2</sub> . Physical Review B, 2010, 82, . Bulk Magnetic Order in a Two-Dimensional $\text{Th}_{1-x}\text{U}_x\text{Ru}_2\text{Si}_2$	1.1	7

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109	Solution of local-field equations for self-generated glasses. Physical Review B, 2004, 70, .	1.1	14
110	Non-Fermi-liquid behavior from two-dimensional antiferromagnetic fluctuations: A renormalization-group and large-Nanalysis. Physical Review B, 2004, 69, .	1.1	52
111	Strongly Correlated Materials: Insights From Dynamical Mean-Field Theory. Physics Today, 2004, 57, 53-59.	0.3	626
112	Many-Body Approximation Scheme beyond GW. Physical Review Letters, 2004, 92, 196402.	2.9	66
113	THE MOTT TRANSITION AND F ELECTRON PHYSICS. International Journal of Modern Physics B, 2003, 17, 5101-5109.	1.0	3
114	PHYSICS: Driving the Electron Over the Edge. Science, 2003, 302, 67-69.	6.0	18
115	Extended dynamical mean-field theory andGWmethod. Physical Review B, 2002, 66, .	1.1	187
116	A Tale of Two Phase Diagrams. Journal of Low Temperature Physics, 2002, 126, 1009-1027.	0.6	7
117	THE MOTT TRANSITION AND F ELECTRON PHYSICS. , 2002, , .		0
118	Effective-action approach to strongly correlated fermion systems. Physical Review B, 2001, 63, .	1.1	107
119	Cellular Dynamical Mean Field Approach to Strongly Correlated Systems. Physical Review Letters, 2001, 87, .	2.9	549
120	Importance of Correlation Effects on Magnetic Anisotropy in Fe and Ni. Physical Review Letters, 2001, 87, 216405.	2.9	107
121	The Mott transition and the strong correlation problem. Physica A: Statistical Mechanics and Its Applications, 2000, 280, 174-184.	1.2	1
122	Impact of magnetic frustration on the Mott transition within a slave-boson mean-field theory. Physical Review B, 2000, 61, 2521-2524.	1.1	13
123	Effects of boson dispersion in fermion-boson coupled systems. Physical Review B, 2000, 62, 12800-12811.	1.1	20
124	Finite Temperature Mott Transition in the Hubbard Model in Infinite Dimensions. Physical Review Letters, 1999, 83, 3498-3501.	2.9	107
125	Compressibility of the Two-Dimensional Infinite-UHubbard Model. Physical Review Letters, 1999, 83, 2046-2049.	2.9	20
126	Magnetotransport in the doped Mott insulator. Physical Review B, 1999, 59, 1800-1807.	1.1	20



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127	Magneto-optical Sum Rules Close to the Mott Transition. Physical Review Letters, 1999, 82, 1317-1320.	2.9	13
128	Overscreened multichannelSU(N)Kondo model: Large-Nsolution and conformal field theory. Physical Review B, 1998, 58, 3794-3813.	1.1	142
129	Thermoelectric Response Near the Density Driven Mott Transition. Physical Review Letters, 1998, 80, 4775-4778.	2.9	127
130	Interplay of Mott transition and ferromagnetism in the orbitally degenerate Hubbard model. Physical Review B, 1997, 56, 12909-12915.	1.1	128
131	Band Degeneracy and the Mott Transition: Dynamical Mean Field Study. International Journal of Modern Physics B, 1997, 11, 729-751.	1.0	31
132	New Iterative Perturbation Scheme for Lattice Models with Arbitrary Filling. Physical Review Letters, 1996, 77, 131-134.	2.9	229
133	Dynamical mean-field theory of strongly correlated fermion systems and the limit of infinite dimensions. Reviews of Modern Physics, 1996, 68, 13-125.	16.4	5,739
134	Effects of orbital degeneracy on the Mott transition in infinite dimensions. Physical Review B, 1996, 54, R14221-R14225.	1.1	49
135	Doped Mott insulator: Results from mean-field theory. Physical Review B, 1996, 53, 16214-16226.	1.1	61
136	Toulouse points and non-Fermi-liquid states in the mixed-valence regime of the generalized Anderson model. Physical Review B, 1996, 53, 12373-12388.	1.1	30
137	Resonating Valence Bonds and d Wave Superconductivity. Turkish Journal of Physics, 1996, 20, 715-715.	0.5	283
138	Spectral functions of correlated electron systems in the local impurity self consistent approximation. Journal of Physics and Chemistry of Solids, 1995, 56, 1615-1617.	1.9	1
139	Critical Behavior near the Mott Transition in the Hubbard Model. Physical Review Letters, 1995, 74, 2082-2085.	2.9	113
140	THE METALâ€“INSULATOR TRANSITION IN THE HUBBARD MODEL AT ZERO TEMPERATURE II. Modern Physics Letters B, 1994, 08, 535-543.	1.0	47
141	Sign of equilibrium Hall conductivity in strongly correlated systems. Physical Review B, 1993, 47, 9140-9143.	1.1	15
142	Metallic non-Fermi-liquid phases of an extended Hubbard model in infinite dimensions. Physical Review B, 1993, 48, 13881-13903.	1.1	39
143	Falicov-Kimball model and the breaking of Fermi-liquid theory in infinite dimensions. Physical Review B, 1992, 46, 1261-1264.	1.1	70
144	Strongly Correlated Systems in Infinite Dimensions and Their Zero Dimensional Counterparts. International Journal of Modern Physics B, 1992, 06, 705-730.	1.0	62

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145	Hubbard model in infinite dimensions. Physical Review B, 1992, 45, 6479-6483.	1.1	875
146	Collective excitations and spectral function in the Fermi-liquid state of the $t$ - $J$ model. Physical Review Letters, 1991, 67, 2733-2736.	2.9	38
147	Flux-density wave and superconducting instability of the staggered-flux phase. Physical Review B, 1990, 42, 8690-8693.	1.1	34
148	Fermi-liquid parameters and superconducting instabilities of a generalized $t$ - $J$ model. Physical Review Letters, 1990, 64, 1170-1173.	2.9	139
149	Instability of the long-range resonating-valence-bond state in the mean-field approach. Physical Review B, 1989, 39, 855-857.	1.1	53
150	Superconducting Instabilities in the Large- $U$ Limit of a Generalized Hubbard Model. Physical Review Letters, 1988, 61, 1784-1787.	2.9	93
151	Superexchange mechanism and $d$ -wave superconductivity. Physical Review B, 1988, 38, 5142-5145.	1.1	545
152	Asymptotic expansion of the full nonlocal solidification problem. Physical Review A, 1987, 35, 2288-2292.	1.0	6
153	New Functional Integral Approach to Strongly Correlated Fermi Systems: The Gutzwiller Approximation as a Saddle Point. Physical Review Letters, 1986, 57, 1362-1365.	2.9	991