

# Raymond Osborn

## List of Publications by Year in descending order

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131  
papers

6,598  
citations

81900

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#	ARTICLE	IF	CITATIONS
1	Unconventional superconductivity in Ba <sub>0.6</sub> K <sub>0.4</sub> Fe <sub>2</sub> As <sub>2</sub> from inelastic neutron scattering. Nature, 2008, 456, 930-932.	27.8	543
2	$V$ $Z$ . Physical Review Letters, 2010, 105, 247001.	7.8	468
3	$H$ $NbSe_2$ . Physical Review Letters, 2011, 107, 107402.	7.8	264
4	Two-dimensional resonant magnetic excitation in $BaFe_{1.84}Co$ . Physical Review Letters, 2009, 102, 107005.	7.8	237
5	Non-Fermi-Liquid Scaling of the Magnetic Response in $UCu_5\tilde{x}Pd_x(x=1,1.5)$ . Physical Review Letters, 1995, 75, 725-728.	7.8	207
6	Non fermi liquid ground states in strongly correlated f-electron materials. Journal of Low Temperature Physics, 1995, 99, 223-249.	1.4	195
7	High-energy spin waves in $La_2CuO_4$ . Physical Review Letters, 1991, 67, 3622-3625.	7.8	192
8	Charge Melting and Polaron Collapse in $La_{1.2}Sr_{1.8}Mn_2O_7$ . Physical Review Letters, 1999, 83, 4393-4396.	7.8	172
9	$K$ $Fe$ . Physical Review Letters, 2011, 107, 107402.	3.2	157
10	Magnetically driven suppression of nematic order in an iron-based superconductor. Nature Communications, 2014, 5, 3845.	12.8	146
11	Orbital and Spin Chains in $ZnV_2O_4$ . Physical Review Letters, 2004, 93, 156407.	7.8	144
12	The NeXus data format. Journal of Applied Crystallography, 2015, 48, 301-305.	4.5	133
13	Crystal Field Potential of $PrOs_4Sb_{12}$ : Consequences for Superconductivity. Physical Review Letters, 2004, 93, 157003.	7.8	131
14	5f-electron states in uranium dioxide investigated using high-resolution neutron spectroscopy. Physical Review B, 1989, 40, 1856-1870.	3.2	128
15	Emergence of coherence in the charge-density wave state of $2H-NbSe_2$ . Nature Communications, 2015, 6, 6313.	12.8	123
16	Crystal-field excitations in $Nd_2CuO_4$ , $Pr_2CuO_4$ , and related n-type superconductors. Physical Review B, 1992, 45, 10075-10086.	3.2	117
17	The relation of local order to material properties in relaxor ferroelectrics. Nature Materials, 2018, 17, 718-724.	27.5	113
18	Electron-Phonon Coupling and the Soft Phonon Mode in $TiSe_2$ . Physical Review Letters, 2011, 107, 266401.	7.8	104

#	ARTICLE	IF	CITATIONS
19	Orbital Ordering Transition in La <sub>4</sub> Ru <sub>2</sub> O <sub>10</sub> . Science, 2002, 297, 2237-2240.	12.6	102
20	Double-Q spin-density wave in iron arsenide superconductors. Nature Physics, 2016, 12, 493-498.	16.7	101
21	Neutron Scattering Investigation of Magnetic Bilayer Correlations in La <sub>1.2</sub> Sr <sub>1.8</sub> Mn <sub>2</sub> O <sub>7</sub> : Evidence of Canting above T <sub>C</sub> . Physical Review Letters, 1998, 81, 3964-3967.	7.8	99
22	Spin, Charge, and Lattice States in Layered Magnetoresistive Oxides. Journal of Physical Chemistry B, 2001, 105, 10731-10745.	2.6	92
23	Two-dimensional overdamped fluctuations of the soft perovskite lattice in CsPbBr <sub>3</sub> . Nature Materials, 2021, 20, 977-983.	27.5	89
24	Observation of Oxygen Frenkel Disorder in Uranium Dioxide above 2000 K by Use of Neutron-Scattering Techniques. Physical Review Letters, 1984, 52, 1238-1241.	7.8	87
25	Magnetoelastic coupling in the phase diagram of Ba <sub>1-x</sub> Bi <sub>x</sub> Mn <sub>2</sub> O <sub>7</sub> . Physical Review Letters, 1998, 81, 10701-10704.	4.2	86
26	Neutron-spectroscopic studies of the crystal field in ErBa <sub>2</sub> Cu <sub>3</sub> O <sub>x</sub> (6 ≤ x ≤ 7). Physical Review B, 1993, 47, 6027-6036.	3.2	83
27	Implementation of cross correlation for energy discrimination on the time-of-flight spectrometer CORELLI. Journal of Applied Crystallography, 2018, 51, 315-322.	4.5	80
28	Large Harmonic Softening of the Phonon Density of States of Uranium. Physical Review Letters, 2001, 86, 3076-3079.	7.8	76
29	Spin-glass order induced by dynamic frustration. Nature Physics, 2008, 4, 766-770.	16.7	73
30	Crystal-field excitations in CeCu <sub>2</sub> Si <sub>2</sub> . Physical Review B, 1993, 47, 14280-14290.	3.2	67
31	Effect of Fermi Surface Nesting on Resonant Spin Excitations in Structural, magnetic, and superconducting properties of Ba <sub>1-x</sub> Bi <sub>x</sub> Mn <sub>2</sub> O <sub>7</sub> . Physical Review Letters, 1998, 81, 10701-10704.	7.8	65
32	Crystal field excitations in Nd <sub>2-x</sub> Ce <sub>x</sub> CuO <sub>4</sub> . Physica C: Superconductivity and Its Applications, 1990, 165, 17-24.	3.2	62
33	Crystal field excitations in Nd <sub>2-x</sub> Ce <sub>x</sub> CuO <sub>4</sub> . Physica C: Superconductivity and Its Applications, 1990, 165, 17-24.	1.2	53
34	Tetragonal magnetic phase in Structural, magnetic, and superconducting properties of Ba <sub>1-x</sub> Bi <sub>x</sub> Mn <sub>2</sub> O <sub>7</sub> . Physical Review Letters, 1998, 81, 10701-10704.	7.8	49
35	Chiral Phase Transition in Charge Ordered x-ray and neutron diffraction. Physical Review B, 2015, 92, .	7.8	49
36	Optical phonons and the soft mode in 2x-ray and neutron diffraction. Physical Review B, 2013, 87, .	3.2	48

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37	Neutron-scattering investigation of the electronic ground state of neptunium dioxide. Journal of Physics Condensed Matter, 1992, 4, 3459-3478.	1.8	47
38	Evidence for localized 4f states in $\hat{1}\pm$ -Ce. Physical Review B, 1993, 48, 13981-13984.	3.2	44
39	The magnetic state of Pr in PrBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> . Physica C: Superconductivity and Its Applications, 1993, 217, 425-438.	1.2	43
40	High-energy-neutron spectroscopy of crystal-field excitations in NpO <sub>2</sub> . Physical Review B, 1991, 43, 1142-1145.	3.2	42
41	Enhanced superconductivity and ferroelectric quantum criticality in plastically deformed strontium titanate. Nature Materials, 2022, 21, 54-61.	27.5	41
42	Intermultiplet Transitions in Praseodymium Using Neutron Spectroscopy. Physical Review Letters, 1988, 61, 1309-1312.	7.8	39
43	Neutron Scattering Study of the Intermediate-Valent Ground State in SmB <sub>6</sub> . Europhysics Letters, 1993, 23, 347-353.	2.0	39
44	Coherent band excitations in CePd <sub>3</sub> : A comparison of neutron scattering and ab initio theory. Science, 2018, 359, 186-191.	12.6	36
45	Coincident structural and magnetic order in $\langle \text{BaFe}_2 \rangle$ by high-resolution neutron spectroscopy. Physical Review B, 2014, 90, 080401.	3.2	34
46	Detailed magnetic and structural analysis mapping a robust magnetic in $\langle \text{C}_4 \rangle$ in $\langle \text{Sr} \rangle$ . Physical Review B, 2016, 93, 080401.	3.2	34
47	Reciprocal space imaging of ionic correlations in intercalation compounds. Nature Materials, 2020, 19, 63-68.	27.5	34
48	High-energy spin waves in bcc iron. Journal of Applied Physics, 1991, 69, 6219-6221.	2.5	33
49	Molecular fields in Gd <sub>2</sub> Fe <sub>14</sub> B determined from inelastic neutron scattering. Journal of Applied Physics, 1991, 69, 5593-5595.	2.5	33
50	Charge Density Wave in the New Polymorphs of $\langle \text{RE} \rangle_2 \text{Ru}_3 \text{Ge}_5$ ( $\langle \text{RE} \rangle = \text{Pr, Sm, Dy}$ ). Journal of the American Chemical Society, 2017, 139, 4130-4143.	13.7	33
51	Magnetic Correlations and the Quantum Critical Point of $\text{UCu}_5 \hat{1}\pm \text{Pdx}$ ( $x=1, 1.5$ ). Physical Review Letters, 2001, 87, 197205.	7.8	32
52	Corelli: Efficient single crystal diffraction with elastic discrimination. Pramana - Journal of Physics, 2008, 71, 705-711.	1.8	32
53	Vibrational and electronic entropy of $\hat{1}^2$ -cerium and $\hat{1}^3$ -cerium measured by inelastic neutron scattering. Physical Review B, 2002, 65, .	3.2	31
54	Reentrant Orbital Order and the True Ground State of LaSr <sub>2</sub> Mn <sub>2</sub> O <sub>7</sub> . Physical Review Letters, 2007, 98, 167201.	7.8	31

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55	Observation of intermultiplet transitions in SmFe <sub>11</sub> Ti by inelastic magnetic neutron scattering. Physical Review B, 1990, 42, 1940-1943.	3.2	30
56	Crystalline electric field of the rare-earth nickelates RNiO <sub>3</sub> (R=Pr, Nd, Sm, Eu). Physical Review B, 1990, 42, 14857-14867.	3.2	29
57	Evolution of the spin-orbit excitation with increasing Kondo energy in CeIn <sub>3-x</sub> Sn <sub>x</sub> . Physical Review B, 1993, 48, 10606-10609.	3.2	28
58	Symmetry of reentrant tetragonal phase in Ba <sub>1-x</sub> Bi <sub>x</sub> BiO <sub>3</sub> . Physical Review B, 2014, 90, .	3.2	28
59	Time-of-flight neutron-scattering study of YbInCu <sub>4</sub> and YbIn <sub>0.3</sub> Ag <sub>0.7</sub> Cu <sub>4</sub> . Physical Review B, 1999, 59, 1134-1140.	3.2	27
60	High-resolution neutron spectroscopy of crystal-field excitations in uranium dioxide. Journal of Physics C: Solid State Physics, 1988, 21, L931-L937.	1.5	26
61	High energy magnetic neutron scattering in heavy fermion compounds. Physica B: Condensed Matter, 1990, 163, 37-40.	2.7	26
62	Magnetic correlations in the bilayer manganite La <sub>1.2</sub> Sr <sub>1.8</sub> Mn <sub>2</sub> O <sub>7</sub> . Journal of Applied Physics, 1998, 83, 7348-7350.	2.5	25
63	Observation of the magnetic phase in Ca <sub>4</sub> phase in Physical Review B, 2017, 95, .	3.2	25
64	Intertwined density waves in a metallic nickelate. Nature Communications, 2020, 11, 6003.	12.8	24
65	Investigation of oxygen disorder, thermal parameters, lattice vibrations and elastic constants of UO <sub>2</sub> and ThO <sub>2</sub> at temperatures up to 2 930 K. Revue De Physique Appliquée, 1984, 19, 719-722.	0.4	23
66	Evolution of Ce dynamic magnetic response in Ce <sub>1-x</sub> La <sub>x</sub> Ni compounds. Europhysics Letters, 1996, 33, 141-146.	2.0	23
67	Phonon densities of states of La <sub>2-x</sub> Sr <sub>x</sub> NiO <sub>4</sub> : Evidence for strong electron-lattice coupling. Physical Review B, 1999, 60, 80-83.	3.2	23
68	Neutron Inelastic Scattering Study of LiNiO <sub>2</sub> : a Candidate for the Spin Quantum Liquid. Journal of the Physical Society of Japan, 1990, 59, 3081-3084.	1.6	22
69	Non-Fermi-liquid scaling in (x= 1, 1.5). Journal of Physics Condensed Matter, 1996, 8, 9815-9823.	1.8	22
70	Neutron spectroscopy of the crystalline electric field in high-Tc YbBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> . Solid State Communications, 1992, 81, 999-1002.	1.9	21
71	Two-dimensional ferromagnetic correlations above TC in the naturally layered CMR manganite La <sub>2-x</sub> Sr <sub>1+2x</sub> Mn <sub>2</sub> O <sub>7</sub> (x=0.3-0.4) (invited). Journal of Applied Physics, 1998, 83, 6374-6378.	2.5	21
72	Specific heat of La <sub>1.2</sub> Sr <sub>1.8</sub> Mn <sub>2</sub> O <sub>7</sub> . Physical Review B, 1999, 60, 6258-6261.	3.2	21

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73	Incommensurate spin-density wave and magnetic lock-in transition in $\text{CaFe}_4\text{As}_7$ . Physical Review B, 2010, 81, .	3.2	21
74	Neutron spectroscopic studies of crystalline electric fields in high-Tc ErBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> doped with Zn and Ni. Physica C: Superconductivity and Its Applications, 1991, 175, 587-594.	1.2	20
75	Crystal field potential of NdCu <sub>2</sub> Si <sub>2</sub> . Physica B: Condensed Matter, 1992, 179, 184-190.	2.7	19
76	Localized Excitation in the Hybridization Gap in YbAl <sub>3</sub> . Physical Review Letters, 2006, 96, 117206.	7.8	19
77	Crystal-field effects in PrCu <sub>2</sub> Si <sub>2</sub> : An evaluation of evidence for heavy-fermion behavior. Physical Review B, 1994, 50, 13863-13866.	3.2	18
78	Inelastic neutron scattering studies of the spin and lattice dynamics in iron arsenide compounds. Physica C: Superconductivity and Its Applications, 2009, 469, 498-506.	1.2	18
79	Non-Fermi-liquid scaling in UCu <sub>5-x</sub> Pd <sub>x</sub> (x = 1, 1.5): A phenomenological description. Europhysics Letters, 1997, 40, 245-250.	2.0	17
80	Evidence for Anisotropic Kondo Behavior in Ce <sub>0.8</sub> La <sub>0.2</sub> Al <sub>3</sub> . Physical Review Letters, 2000, 84, 2211-2214.	7.8	17
81	Low-energy spin-wave excitations in the bilayer manganite La <sub>1.2</sub> Sr <sub>1.8</sub> Mn <sub>2</sub> O <sub>7</sub> . Journal of Applied Physics, 2000, 87, 5816-5818.	2.5	16
82	Q-dependence of the spin fluctuations in the intermediate valence compound CePd <sub>3</sub> . Journal of Physics Condensed Matter, 2014, 26, 225602.	1.8	16
83	A neutron spectroscopy study of magnetic excitations in uranium oxysulphide. Journal of Physics Condensed Matter, 1989, 1, 5711-5720.	1.8	15
84	Neutron-spectroscopy study of the heavy-fermion compound CeCu <sub>6</sub> . Physical Review B, 1993, 47, 14580-14583.	3.2	15
85	Crystal field excitations in YbT <sub>2</sub> Si <sub>2</sub> (T = Fe, Co, Ni). Journal of Applied Physics, 2000, 87, 6818-6820.	2.5	15
86	A two-dimensional type I superionic conductor. Nature Materials, 2021, 20, 1683-1688.	27.5	15
87	Crystal field excitations in ErMn <sub>4</sub> Al <sub>8</sub> . Solid State Communications, 1989, 72, 249-251.	1.9	13
88	The effects of crystal symmetry on the hydrogen excitations in $\text{YHx}$ observed with inelastic neutron scattering. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 151, 325-329.	2.1	13
89	Crystal-field excitations and gap opening in Tm: YBa <sub>2</sub> Cu <sub>4</sub> O <sub>8</sub> by inelastic neutron scattering. Physica C: Superconductivity and Its Applications, 1994, 221, 227-236.	1.2	13
90	Importance of the magnetic ground state of Pr for T <sub>c</sub> suppression in high-T <sub>c</sub> superconductors. Europhysics Letters, 1997, 39, 663-668.	2.0	12

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91	Crystal field in the heavy fermion compound CeAl <sub>3</sub> . Journal of Applied Physics, 1999, 85, 6046-6048.	2.5	12
92	Magnetic Correlations and the Anisotropic Kondo Effect in Ce <sub>1-x</sub> La <sub>x</sub> Al <sub>3</sub> . Physical Review Letters, 2002, 89, 147201.	7.8	12
93	Crystalline electric field excitations in the heavy fermion superconductor CeCoIn <sub>5</sub> . Journal of Applied Physics, 2004, 95, 7201-7203.	2.5	12
94	Evidence of a lattice distortion in NpO <sub>2</sub> below 25 K from neutron magnetic inelastic scattering. Solid State Communications, 1991, 79, 197-200.	1.9	11
95	Spatial inhomogeneity in RFeAsO <sub>1-x</sub> F <sub>x</sub> (R=Pr, Nd) determined from rare-earth crystal-field excitations. Physical Review B, 2011, 83, .	3.2	11
96	Magnetism and crystal field in NdCu <sub>5</sub> . Physica B: Condensed Matter, 1991, 168, 251-256.	2.7	10
97	Inelastic neutron scattering study of the spin dynamics of Yb <sub>1-x</sub> Lu <sub>x</sub> Al <sub>3</sub> . Journal of Applied Physics, 1999, 85, 5344-5346.	2.5	10
98	Magnetic short-range correlations and quantum critical scattering in the non-Fermi liquid regime of $URu_2Si_2$ . Physical Review B, 2008, 78, .	3.2	10
99	$d$ -wave magnetic excitations in bilayer manganites probed by resonant inelastic x-ray scattering. Physical Review B, 2010, 82, .	3.2	10
100	Response of Acoustic Phonons to Charge and Orbital Order in the 50% Doped Bilayer Manganite LaSr <sub>2</sub> Mn <sub>2</sub> O <sub>7</sub> . Physical Review Letters, 2011, 107, 207202.	7.8	9
101	High energy magnetic inelastic neutron scattering at ISIS. Physica B: Condensed Matter, 1989, 159, 151-160.	2.7	8
102	Magnetic properties of Pb <sub>2</sub> Sr <sub>2</sub> PrCu <sub>3</sub> O <sub>8</sub> . Journal of Alloys and Compounds, 1997, 250, 581-584.	5.5	8
103	Magnetic dynamics of the spin-glass system PrAu <sub>2</sub> Si <sub>2</sub> : An inelastic neutron scattering study. Journal of Magnetism and Magnetic Materials, 2007, 310, 1535-1536.	2.3	8
104	Inelastic magnetic neutron scattering in CePd <sub>3</sub> . Physica B: Condensed Matter, 2008, 403, 783-785.	2.7	8
105	Antiferromagnetic and nematic phase transitions in $TbCo_3BaF_3$ .	3.2	8
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109	Quadrupolar effects in PrCu <sub>2</sub> Si <sub>2</sub> . Journal of Applied Physics, 1994, 76, 6124-6126.	2.5	7
110	Intermultiplet crystal field transitions in EuNiO <sub>3</sub> . Journal of Alloys and Compounds, 1997, 250, 577-580.	5.5	7
111	Order-Disorder Transitions in $C_{1-x}Ca_x$ . Review Letters, 2022, 120, 095701.	1.7	1
112	Crystal Field-Split Intermultiplet Transitions and Their Q <sup>-</sup> Dependence in EuBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> . Europhysics Letters, 1995, 31, 175-180.	2.0	6
113	Intermultiplet transitions in optically opaque EuBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> : an inelastic neutron scattering study. Journal of Alloys and Compounds, 1995, 225, 591-594.	5.5	6
114	Cesium vacancy ordering in phase-separated $C_{1-x}F_x$ . Physical Review Letters, 2010, 104, 176402.	3.2	6
115	High energy crystal field excitations in Pr <sub>x</sub> Y <sub>1-x</sub> Ba <sub>2</sub> Cu <sub>3</sub> O <sub>7-<math>\delta</math></sub> . Bulletin of Materials Science, 1991, 14, 613-617.	1.7	5
116	Magnetic excitations in tetragonal HoCr <sub>2</sub> Si <sub>2</sub> . Journal of Applied Physics, 2000, 87, 6283-6285.	2.5	5
117	Transition from Heavy Fermion to Mixed-Valence Behavior in $C_{1-x}Ce_x$ . A Quantitative Comparison with the Anderson Impurity Model. Physical Review Letters, 2010, 104, 176402.	3.8	5
118	High-energy magnetic excitations in chromium. Physica B: Condensed Matter, 1991, 174, 22-24.	2.7	4
119	Energy levels of Co <sub>2</sub> in CoF <sub>2</sub> and CsCoCl <sub>3</sub> . Journal of Physics Condensed Matter, 1995, 7, 2917-2929.	1.8	4
120	Wave-vector dependence of intermultiplet transitions in EuBa <sub>2</sub> Cu <sub>3</sub> O <sub>x</sub> (x=6.1 and 7): an inelastic neutron-scattering study. Physical Review B, 1997, 55, 11629-11636.	3.2	4
121	Neutron and x-ray evidence of charge melting in ferromagnetic layered colossal magnetoresistance manganites (invited). Journal of Applied Physics, 2001, 89, 6840-6845.	2.5	4
122	Extended X-ray Absorption Fine Structure spectroscopy in Co <sub>0.013</sub> NbSe <sub>2</sub> . Journal of Physics: Conference Series, 2010, 200, 012224.	0.4	4
123	Quantum critical scattering in uranium non-Fermi liquid compounds. Physica B: Condensed Matter, 1997, 241-243, 859-861.	2.7	3
124	Magnetic ground state of Pr in. Journal of Physics Condensed Matter, 1998, 10, 4637-4643.	1.8	3
125	Crystal field excitations in electron superconductors. Bulletin of Materials Science, 1991, 14, 607-611.	1.7	2
126	The magnetic properties of Pr in the Pb <sub>2</sub> Sr <sub>2</sub> PrCu <sub>3</sub> O <sub>8+<math>\delta</math></sub> cuprate. Physica C: Superconductivity and Its Applications, 2000, 333, 13-22.	1.2	2



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127	POLARON ORDERING IN FERROMAGNETIC COLOSSAL MAGNETORESISTIVE OXIDES. International Journal of Modern Physics B, 2000, 14, 3711-3718.	2.0	2
128	Crystal field in the CeAl <sub>3</sub> heavy-fermion compound. Physics of the Solid State, 2007, 49, 322-330.	0.6	2
129	Anomalous magnetic response of Ce <sub>1-x</sub> La <sub>x</sub> Al <sub>3</sub> . Journal of Applied Physics, 2000, 87, 5131-5133.	2.5	1
130	SPIN CORRELATIONS OF THE MAGNETORESISTIVE BILAYER MANGANITE La <sub>1.2</sub> Sr <sub>1.8</sub> Mn <sub>2</sub> O <sub>7</sub> . International Journal of Modern Physics B, 1999, 13, 3820-3822.	2.0	0
131	New oxygen lattice modes in the metallic region of La <sub>2-x</sub> Sr <sub>x</sub> CuO <sub>4</sub> . Applied Physics A: Materials Science and Processing, 2002, 74, s1621-s1623.	2.3	0