

# Ben J Powell

## List of Publications by Year in descending order

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113  
papers

4,222  
citations

147801

31  
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114465

63  
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121  
all docs

121  
docs citations

121  
times ranked

4633  
citing authors

#	ARTICLE	IF	CITATIONS
1	Regulation of Multistep Spin Crossover Across Multiple Stimuli in a 2-D Framework Material. <i>Inorganic Chemistry</i> , 2022, 61, 6641-6649.	4.0	6
2	Toward High-Temperature Light-Induced Spin-State Trapping in Spin-Crossover Materials: The Interplay of Collective and Molecular Effects. <i>Journal of the American Chemical Society</i> , 2022, 144, 9138-9148.	13.7	8
3	$\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msub} \langle \text{mml:mi} \rangle \text{C} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 3 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle \text{symmetry breaking metal-insulator transitions in a flat band in the half-filled Hubbard model on the decorated honeycomb lattice. } \langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msub} \langle \text{mml:mi} \rangle \text{B. } \langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msub} \langle \text{mml:mi} \rangle \text{2022, } \langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msub} \langle \text{mml:mi} \rangle \text{105,}$	3.2	1
4	Co-existence of five- and six-coordinate iron( $\text{II}$ ) species captured in a geometrically strained spin-crossover Hofmann framework. <i>Dalton Transactions</i> , 2022, 51, 9596-9600.	3.3	1
5	Dual-supramolecular contacts induce extreme Hofmann framework distortion and multi-stepped spin-crossover. <i>Dalton Transactions</i> , 2021, 50, 1434-1442.	3.3	9
6	Quasi-one dimensional magnetic interactions in the three-dimensional hyper-honeycomb framework $[(\text{C}_2\text{H}_5)_3\text{NH}]_2\text{Cu}_2(\text{C}_2\text{O}_4)_3$ . <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 5012-5019.	3.2	1
7	Hierarchical Spin-Crossover Cooperativity in Hybrid 1D Chains of $\text{Fe}^{\text{II}}$ - $1,2,4$ -Triazole Trimers Linked by $[\text{Au}(\text{CN})_2]^\sim$ Bridges. <i>Chemistry - A European Journal</i> , 2021, 27, 5136-5141.	3.3	4
8	Multiple insulating states due to the interplay of strong correlations and lattice geometry in a single-orbital Hubbard model. <i>Physical Review B</i> , 2021, 103, .	3.2	6
9	Fate of the Hebel-Slichter peak in superconductors with strong antiferromagnetic fluctuations. <i>Physical Review Research</i> , 2021, 3, .	3.6	3
10	Unconventional superconductivity near a flat band in organic and organometallic materials. <i>Physical Review B</i> , 2021, 103, .	3.2	6
11	Spin-Crossover 2-D Hofmann Frameworks Incorporating an Amide-Functionalized Ligand: N-(pyridin-4-yl)benzamide. <i>Chemistry</i> , 2021, 3, 360-372.	2.2	3
12	Spin-state smectics in spin crossover materials. <i>Journal of Applied Physics</i> , 2021, 129, .	2.5	3
13	Multiple Coulomb phases with temperature-tunable ice rules in pyrochlore spin-crossover materials. <i>Physical Review B</i> , 2021, 104, .	3.2	4
14	Tight-Binding Approach to Pyrazine-Mediated Superexchange in Copper-Pyrazine Antiferromagnets. <i>Inorganic Chemistry</i> , 2021, 60, 11907-11914.	4.0	4
15	Spin-0 Mott insulator to metal to spin-1 Mott insulator transition in the single-orbital Hubbard model on the decorated honeycomb lattice. <i>Physical Review B</i> , 2021, 104, .	3.2	6
16	$\text{[Pd(dmit)}_2\text{)]}_2$ as a quasi-one-dimensional scalene Heisenberg model. <i>Physical Review Materials</i> , 2021, 5, .	2.4	2
17	Structure-property relationships and the mechanisms of multistep transitions in spin crossover materials and frameworks. <i>Inorganic Chemistry Frontiers</i> , 2020, 7, 4424-4437.	6.0	36
18	Fast, accurate enthalpy differences in spin crossover crystals from DFT+U. <i>Journal of Chemical Physics</i> , 2020, 153, 104107.	3.0	14

#	ARTICLE	IF	CITATIONS
19	Publisher's Note: Low-energy effective theories of the two-thirds filled Hubbard model on the triangular necklace lattice [Phys. Rev. B <b>90</b> , 035120 (2014)]. Physical Review B, 2020, 101, .	3.2	0
20	Emergent particles and gauge fields in quantum matter. Contemporary Physics, 2020, 61, 96-131.	1.8	13
21	Quantitative calculations of the non-radiative rate of phosphorescent Ir(III) complexes. Physical Chemistry Chemical Physics, 2020, 22, 27348-27356.	2.8	9
22	Interplay of dipoles and spins in $\text{Ir}^{\text{III}}$ complexes, where $\hat{P}^{\alpha}$ is the dipole moment operator and $\hat{S}^{\alpha}$ is the spin operator.		

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37	Effect of n-propyl substituents on the emission properties of blue phosphorescent iridium(III) complexes. <i>Journal of Chemical Physics</i> , 2017, 146, 174305.	3.0	5
38	Heisenberg and Dzyaloshinskii-Moriya interactions controlled by molecular packing in trinuclear organometallic clusters. <i>Physical Review B</i> , 2017, 95, .	3.2	14
39	Dynamical Reduction of the Dimensionality of Exchange Interactions and the $3d^6$ Spin-Liquid Phase of $\text{Mn}^{2+}$ in $\text{Mn}_3\text{O}_4$ . <i>Physical Review B</i> , 2017, 95, .	7.8	16
40	Balance and frustration in strongly correlated itinerant electron systems: An extension of Nagaoka's theorem. <i>Physical Review B</i> , 2017, 96, .	3.2	1
41	Effects of anisotropy in spin molecular-orbital coupling on effective spin models of trinuclear organometallic complexes. <i>Physical Review B</i> , 2017, 96, .	3.2	9
42	Spin-orbit coupling in $\text{Mn}^{2+}$ complexes. <i>Physical Review B</i> , 2017, 95, .	3.2	14
43	Bond Fission and Non-Radiative Decay in Iridium(III) Complexes. <i>Inorganic Chemistry</i> , 2016, 55, 5266-5273.	4.0	49
44	Quasi-one-dimensional spin-orbit-coupled correlated insulator in a multinuclear coordinated organometallic crystal. <i>Physical Review B</i> , 2016, 94, .	3.2	10
45	Haldane insulator protected by reflection symmetry in the doped Hubbard model on the three-legged ladder. <i>Physical Review B</i> , 2016, 94, .	3.2	14
46	Exact exchange and the density functional theory of metal-to-ligand charge-transfer in $\text{fac-Ir}(\text{ppy})_3$ . <i>Organic Electronics</i> , 2016, 33, 110-115.	2.6	11
47	Emergence of quasi-one-dimensional physics in a nearly-isotropic three-dimensional molecular crystal: <i>Ab initio</i> modeling of $\text{Mn}^{2+}$ in $\text{Mn}_3\text{O}_4$ . <i>Physical Review B</i> , 2015, 91, .	3.2	16
48	Breakdown of the universality of the Kadowaki-Woods Ratio in multi-band metals. <i>Physical Review B</i> , 2015, 92, .	3.2	5
49	Conservation laws, radiative decay rates and excited state localization in organometallic complexes with strong spin-orbit coupling. <i>Scientific Reports</i> , 2015, 5, 10815.	3.3	11
50	Theories of phosphorescence in organo-transition metal complexes – From relativistic effects to simple models and design principles for organic light-emitting diodes. <i>Coordination Chemistry Reviews</i> , 2015, 295, 46-79.	18.8	93
51	Phase diagram of the $\text{Mn}^{2+}$ spin liquid in $\text{Mn}_3\text{O}_4$ . <i>Physical Review B</i> , 2015, 91, .	3.2	17
52	Interplay of Zero-Field Splitting and Excited State Geometry Relaxation in $\text{fac-Ir}(\text{ppy})_3$ . <i>Inorganic Chemistry</i> , 2015, 54, 10457-10461.	4.0	16
53	Haldane Phase in the Hubbard Model at $2/3$ -Filling for the Organic Molecular Compound $\text{Mo}_3\text{S}_7(\text{dmit})_3$ . <i>Physical Review Letters</i> , 2014, 113, 267204.	7.8	17
54	Spin-liquid phase due to competing classical orders in the semiclassical theory of the Heisenberg model with ring exchange on an anisotropic triangular lattice. <i>Physical Review B</i> , 2014, 89, .	3.2	28

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55	Synthesis and properties of pyrrolo[3,2-b]pyrrole-1,4-diones (isoDPP) derivatives. <i>Journal of Materials Chemistry C</i> , 2014, 2, 4276.	5.5	13
56	Low-energy effective theories of the two-thirds filled Hubbard model on the triangular necklace lattice. <i>Physical Review B</i> , 2014, 90, .	3.2	11
57	Spin-liquid phase in a spatially anisotropic frustrated antiferromagnet: A Schwinger boson mean-field approach. <i>Physical Review B</i> , 2014, 89, .	3.2	20
58	Three-dimensional carbazole-based dendrimers: model structures for studying charge transport in organic semiconductor films. <i>Polymer Chemistry</i> , 2013, 4, 916-925.	3.9	22
59	Hydration-Controlled X-Band EPR Spectroscopy: A Tool for Unravelling the Complexities of the Solid-State Free Radical in Eumelanin. <i>Journal of Physical Chemistry B</i> , 2013, 117, 4965-4972.	2.6	84
60	In-plane superfluid density and microwave conductivity of the organic superconductor $\text{I}^{\text{B}}\text{-(BEDT-TTF)}_2\text{Cu}[\text{N}(\text{CN})_2]\text{Br}$ : Evidence for d-wave pairing and resilient quasiparticles. <i>Physical Review B</i> , 2013, 88, .	3.2	28
61	<a href="http://www.w3.org/1998/Math/MathML" style="color: yellow;">http://www.w3.org/1998/Math/MathML</a> $\hat{\alpha}^2 \frac{d}{dx} \left[ \frac{1}{\text{Me}^3} \frac{d}{dx} \left( \frac{1}{\text{Pd}} \right) \right]$	7.8	42
62	Role of semiconductivity and ion transport in the electrical conduction of melanin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 8943-8947.	7.1	305
63	On the origin of electrical conductivity in the bio-electronic material melanin. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	76
64	Kinetics of charge transfer processes in organic solar cells: Implications for the design of acceptor molecules. <i>Organic Electronics</i> , 2012, 13, 2538-2545.	2.6	11
65	Equivalence of Electron-Vibration Interaction and Charge-Induced Force Variations: A New O(1) Approach to an Old Problem. <i>Crystals</i> , 2012, 2, 236-247.	2.2	0
66	Superconductivity suppression and peak resistivity enhancement for thin crystals of $\text{I}^{\text{B}}\text{-(BEDT-TTF)}_2\text{Cu}(\text{SCN})_2$ . <i>Physica Status Solidi (B): Basic Research</i> , 2012, 249, 979-984.	1.5	6
67	Effects of Fluorination on Iridium(III) Complex Phosphorescence: Magnetic Circular Dichroism and Relativistic Time-Dependent Density Functional Theory. <i>Inorganic Chemistry</i> , 2012, 51, 2821-2831.	4.0	48
68	Relativistic effects in a phosphorescent Ir(III) complex. <i>Physical Review B</i> , 2011, 83, .	3.2	39
69	Quantum frustration in organic Mott insulators: from spin liquids to unconventional superconductors. <i>Reports on Progress in Physics</i> , 2011, 74, 056501.	20.1	267
70	Electronic correlations in organometallic complexes. <i>Chemical Physics Letters</i> , 2011, 508, 22-28.	2.6	11
71	A Tunable Metal-Organic Resistance Thermometer. <i>ChemPhysChem</i> , 2011, 12, 116-121.	2.1	0
72	Spin-Orbit Coupling in Phosphorescent Iridium(III) Complexes. <i>ChemPhysChem</i> , 2011, 12, 2429-2438.	2.1	73

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73	Calculation of solid state molecular ionisation energies and electron affinities for organic semiconductors. Organic Electronics, 2011, 12, 394-403.	2.6	69
74	Charge transport properties of carbazole dendrimers in organic field-effect transistors. Proceedings of SPIE, 2011, , .	0.8	5
75	Towards quantum chemistry on a quantum computer. Nature Chemistry, 2010, 2, 106-111.	13.6	568
76	Competition between superconductivity and weak localization in metal-mixed ion-implanted polymers. Physical Review B, 2010, 81, .	3.2	3
77	Sensitivity of the photophysical properties of organometallic complexes to small chemical changes. Journal of Chemical Physics, 2010, 133, 124314.	3.0	12
78	Models of organometallic complexes for optoelectronic applications. Journal of Materials Chemistry, 2010, 20, 10301.	6.7	29
79	Gaseous Adsorption in Melanins: Hydrophilic Biomacromolecules with High Electrical Conductivities. Langmuir, 2010, 26, 412-416.	3.5	50
80	Effective Coulomb interactions within BEDT-TTF dimers. Physical Review B, 2009, 80, .	3.2	37
81	Preparation of metal mixed plastic superconductors: Electrical properties of tin-antimony thin films on plastic substrates. Journal of Applied Physics, 2009, 105, 093909.	2.5	2
82	Electronic and magnetic properties of the ionic Hubbard model on the striped triangular lattice at $3/4$ filling. Physical Review B, 2009, 80, .	3.2	7
83	Interplay of frustration, magnetism, charge ordering, and covalency in the ionic Hubbard model for $\text{Na}_{0.5}\text{CoO}_2$ . Physical Review B, 2009, 79, .	3.2	11
84	Spin fluctuations and the pseudogap in organic superconductors. Physical Review B, 2009, 80, .	3.2	18
85	A unified explanation of the Kadowaki-Woods ratio in strongly correlated metals. Nature Physics, 2009, 5, 422-425.	16.7	173
86	Vertex corrections and the Korringa ratio in strongly correlated electron materials. Journal of Physics Condensed Matter, 2009, 21, 195601.	1.8	6
87	Ionic Hubbard model on a triangular lattice for $\text{Na}_{0.5}\text{CoO}_2$ , $\text{Rb}_{0.5}\text{CoO}_2$ , and $\text{K}_{0.5}\text{CoO}_2$ : Mean-field slave boson theory. Physical Review B, 2009, 80, .	3.2	8
88	Toward the parametrization of the Hubbard model for salts of bis(ethylenedithio)tetrathiafulvalene: A density functional study of isolated molecules. Journal of Chemical Physics, 2009, 130, 104508.	3.0	34
89	Pomeranchuk instability: Symmetry-breaking and experimental signatures. Physica B: Condensed Matter, 2008, 403, 1279-1281.	2.7	12
90	A phenomenological model of the superconducting state of the Bechgaard salts. Journal of Physics Condensed Matter, 2008, 20, 345234.	1.8	9

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91	Antiferromagnetic spin fluctuations in the metallic phase of quasi-two-dimensional organic superconductors. <i>Physical Review B</i> , 2007, 75, .	3.2	17
92	Symmetry of the Superconducting Order Parameter in Frustrated Systems Determined by the Spatial Anisotropy of Spin Correlations. <i>Physical Review Letters</i> , 2007, 98, 027005.	7.8	53
93	Transition dipole strength of eumelanin. <i>Physical Review E</i> , 2007, 76, 021915.	2.1	21
94	Convergent Proton-Transfer Photocycles Violate Mirror-Image Symmetry in a Key Melanin Monomer. <i>Journal of the American Chemical Society</i> , 2007, 129, 6672-6673.	13.7	51
95	Strong electronic correlations in superconducting organic charge transfer salts. <i>Journal of Physics Condensed Matter</i> , 2006, 18, R827-R866.	1.8	146
96	Towards structureâ€“propertyâ€“function relationships for eumelanin. <i>Soft Matter</i> , 2006, 2, 37-44.	2.7	263
97	Ferromagnetism, paramagnetism, and a Curie-Weiss metal in an electron-doped Hubbard model on a triangular lattice. <i>Physical Review B</i> , 2006, 73, .	3.2	70
98	Effect of Irradiation-Induced Disorder on the Conductivity and Critical Temperature of the Organic Superconductor (BEDT-TTF) <sub>2</sub> Cu(SCN) <sub>2</sub> . <i>Physical Review Letters</i> , 2006, 96, 177002.	7.8	86
99	Chemical and Structural Disorder in Eumelanins: A Possible Explanation for Broadband Absorbance. <i>Biophysical Journal</i> , 2006, 90, 743-752.	0.5	230
100	Mixed order parameters, accidental nodes and broken time reversal symmetry in organic superconductors: a group theoretical analysis. <i>Journal of Physics Condensed Matter</i> , 2006, 18, L575-L584.	1.8	20
101	Superconductivity in metal-mixed ion-implanted polymer films. <i>Applied Physics Letters</i> , 2006, 89, 152503.	3.3	6
102	Broadband Photon-harvesting Biomolecules for Photovoltaics. , 2006, , 35-65.		3
103	5,6-Dihydroxyindole-2-carboxylic acid: a first principles density functional study. <i>Chemical Physics Letters</i> , 2005, 402, 111-115.	2.6	26
104	Half-Filled Layered Organic Superconductors and the Resonating-Valence-Bond Theory of the Hubbard-Heisenberg Model. <i>Physical Review Letters</i> , 2005, 94, 047004.	7.8	92
105	First-principle density-functional calculation of the Raman spectra of BEDT-TTF. <i>European Physical Journal Special Topics</i> , 2004, 114, 293-295.	0.2	1
106	On the relationship between the critical temperature and the London penetration depth in layered organic superconductors. <i>Journal of Physics Condensed Matter</i> , 2004, 16, L367-L373.	1.8	17
107	Dependence of the superconducting transition temperature of organic molecular crystals on intrinsically nonmagnetic disorder: A signature of either unconventional superconductivity or the atypical formation of magnetic moments. <i>Physical Review B</i> , 2004, 69, .	3.2	70
108	A first-principles density-functional calculation of the electronic and vibrational structure of the key melanin monomers. <i>Journal of Chemical Physics</i> , 2004, 120, 8608-8615.	3.0	147

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109	The origin of the difference in the superconducting critical temperatures of the $\hat{I}^2\text{H}$ and $\hat{I}^2\text{L}$ phases of (BEDT-TTF) <sub>2</sub> I <sub>3</sub> . European Physical Journal Special Topics, 2004, 114, 363-365.	0.2	3
110	The gap equations for spin singlet and triplet ferromagnetic superconductors. Journal of Physics A, 2003, 36, 9289-9302.	1.6	44
111	Competition between disorder and exchange splitting in superconducting ZrZn <sub>2</sub> . Journal of Physics Condensed Matter, 2003, 15, L235-L241.	1.8	7
112	The Behaviour of a Triplet Superconductor in a Spin Only Magnetic Field. Lecture Notes in Physics, 2002, , 46-59.	0.7	0
113	Multi-Redox Responsive Behavior in a Mixed-Valence Semiconducting Framework Based on Bis-[1,2,5]-thiadiazolo-tetracyanoquinodimethane. Journal of the American Chemical Society, 0, , .	13.7	5