David Pines

List of Publications by Year
in descending order

115 papers	12,615 citations	36203 51 h-index	30010 103 g-index
117 all docs	117 docs citations	117 times ranked	4826 citing authors

#	Article	IF	Citations
1	Quantum critical scaling and fluctuations in Kondo lattice materials. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6250-6255.	3.3	24
2	Toward a new microscopic framework for Kondo lattice materials. Reports on Progress in Physics, 2017, 80, 024501.	8.1	23
3	Emergent behavior in strongly correlated electron systems. Reports on Progress in Physics, 2016, 79, 092501.	8.1	12
4	Quantum critical scaling and superconductivity in heavy electron materials. Physical Review B, 2015, 92, .	1.1	8
5	What We Don't Understand, We Explain to Each Other. Physics Teacher, 2015, 53, 526-531.	0.2	0
6	Emergence of superconductivity in heavy-electron materials. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 18178-18182.	3.3	21
7	Quantum critical behavior in heavy electron materials. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8398-8403.	3.3	20
8	Finding New Superconductors: The Spin-Fluctuation Gateway to High T_c and Possible Room Temperature Superconductivity. Journal of Physical Chemistry B, 2013, 117, 13145-13153.	1.2	23
9	Emergent states in heavy-electron materials. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3060-6.	3.3	61
10	SUPERCONDUCTIVITY: FROM ELECTRON INTERACTION TO NUCLEAR SUPERFLUIDITY. International Journal of Modern Physics B, 2010, 24, 3814-3834.	1.0	1
11	SUPERCONDUCTIVITY: FROM ELECTRON INTERACTION TO NUCLEAR SUPERFLUIDITY. , 2010, , 85-105.		0
12	Magnetic Excitations in the Kondo Liquid: Superconductivity and Hidden Magnetic Quantum Critical Fluctuations. Physical Review Letters, 2009, 103, 197004.	2.9	22
13	Universal behaviour and the two-component character of magnetically underdoped cuprate superconductors. Advances in Physics, 2009, 58, 1-65.	35.9	34
14	Scaling the Kondo lattice. Nature, 2008, 454, 611-613.	13.7	183
15	Universal Behavior in Heavy-Electron Materials. Physical Review Letters, 2008, 100, 096404.	2.9	87
16	Phenomenological Model of Protected Behavior in the Pseudogap State of Underdoped Cuprate Superconductors. Physical Review Letters, 2006, 96, 247002.	2.9	13
17	Scaling and the Magnetic Origin of Emergent Behavior in Correlated Electron Superconductors. MRS Bulletin, 2005, 30, 442-446.	1.7	11
18	Complex Adaptive Matter: Emergent Phenomena in Materials. MRS Bulletin, 2005, 30, 425-432.	1.7	12

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19	Two Fluid Description of the Kondo Lattice. Physical Review Letters, 2004, 92, 016401.	2.9	171
20	Up Close: The Institute for Complex Adaptive Matter, An Emergent Institution. MRS Bulletin, 2004, 29, 963-966.	1.7	1
21	The Spin Fluctuation Model for High Temperature Superconductivity: Progress and Prospects. , 2002, , 111-142.		0
22	The quantum criticality conundrum. Advances in Physics, 2001, 50, 361-365.	35.9	56
23	Quantum protectorates in the cuprate superconductors. Physica C: Superconductivity and Its Applications, 2000, 341-348, 59-62.	0.6	25
24	Magnetic coherence as a universal feature of cuprate superconductors. Physical Review B, 2000, 62, 15177-15182.	1.1	10
25	Magnetic coherence in cuprate superconductors. Physical Review B, 2000, 61, R6483-R6486.	1.1	27
26	Microscopic theory of weak pseudogap behavior in the underdoped cuprate superconductors: General theory and quasiparticle properties. Physical Review B, 1999, 60, 667-686.	1.1	133
27	The ghost of magnetism. Nature, 1998, 394, 22-23.	13.7	17
28	WEAK PSEUDOGAP BEHAVIOR IN THE UNDERDOPED CUPRATE SUPERCONDUCTORS. Journal of Physics and Chemistry of Solids, 1998, 59, 1764-1768.	1.9	3
29	The Resonance Peak in Cuprate Superconductors. Physical Review Letters, 1998, 81, 1086-1089.	2.9	124
30	Weak Pseudogap Behavior in the Underdoped Cuprate Superconductors. Physical Review Letters, 1998, 80, 3839-3842.	2.9	192
31	Theory of the optical conductivity in the cuprate superconductors. Physical Review B, 1997, 56, 11931-11941.	1.1	46
32	StojkoviÄ‡ and Pines Reply:. Physical Review Letters, 1997, 78, 978-978.	2.9	2
33	Theory of the longitudinal and Hall conductivities of the cuprate superconductors. Physical Review B, 1997, 55, 8576-8595.	1.1	187
34	Understanding high temperature superconductors: Progress and prospects. Physica C: Superconductivity and Its Applications, 1997, 282-287, 273-278.	0.6	71
35	Spin fluctuations and $$d_{x^2 - y^2 }$$ pairing in the cuprate superconductors: A progress report. , 1996, , 201-220.		1
36	Nearly antiferromagnetic Fermi liquids: a progress report. Zeitschrift FÃ¼r Physik B-Condensed Matter, 1996, 103, 129-135.	1.1	110

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37	Knight shift and spin-echo decay time of YBa2Cu4O8and YBa2Cu3O7in the superconducting state. Physical Review B, 1996, 53, 5915-5921.	1.1	16
38	Anomalous Hall Effect inYBa2Cu3O7. Physical Review Letters, 1996, 76, 811-814.	2.9	115
39	Temperature crossovers in cuprates. Journal of Physics Condensed Matter, 1996, 8, 10017-10036.	0.7	37
40	dx2 â^' y2 Pairing and spin fluctuations in the cuprate superconductors: A progress report. Journal of Physics and Chemistry of Solids, 1995, 56, 1651-1658.	1.9	60
41	Understanding high-temperature superconductivity: a progress report. Physica B: Condensed Matter, 1994, 199-200, 300-309.	1.3	31
42	dx2-y2 pairing and spin fluctuations in the cuprate superconductors: Experiment meets theory. Physica C: Superconductivity and Its Applications, 1994, 235-240, 113-121.	0.6	70
43	Nearly antiferromagnetic Fermi liquids are high temperature superconductors: Are the superconducting cuprates nearly antiferromagnetic liquids?. Journal of Physics and Chemistry of Solids, 1993, 54, 1447-1455.	1.9	10
44	Toward a unified magnetic phase diagram of the cuprate superconductors. Physical Review Letters, 1993, 71, 2813-2816.	2.9	229
45	An Extraordinary Man: Reflections on John Bardeen. Physics Today, 1992, 45, 64-70.	0.3	2
46	Spin fluctuations and high temperature superconductivity in the antiferromagnetically correlated oxides: YBa2Cu3O7; YBa2Cu3O6.63; La1.85Sr0.15CuO4. Physica C: Superconductivity and Its Applications, 1991, 185-189, 120-129.	0.6	57
47	On the fast recovery of the Vela pulsar from its Christmas 1988 glitch. Nature, 1990, 348, 707-708.	13.7	14
48	Spin excitations and superconductivity in cuprate oxide and heavy electron superconductors. Physica B: Condensed Matter, 1990, 163, 78-88.	1.3	72
49	Spin excitations and pairing gaps in the superconducting state ofYBa2Cu3O7â^'Î´. Physical Review B, 1990, 41, 6297-6305.	1.1	92
50	Phenomenological model of nuclear relaxation in the normal state ofYBa2Cu3O7. Physical Review B, 1990, 42, 167-178.	1.1	970
51	Richard Feynman and Condensed Matter Physics. Physics Today, 1989, 42, 61-66.	0.3	5
52	Vortex Creep Dynamics: Theory and Observations. , 1989, , 441-455.		4
53	Unusual Transport Effects in Anisotropic Superconductors. Physical Review Letters, 1988, 60, 2206-2209.	2.9	36
54	Spin-fluctuation-induced superconductivity inYBa2Cu3O6.9. Physical Review B, 1988, 37, 3730-3733.	1.1	19

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55	Unconventional superconductors: from 1 mK to 90 K to 1010 K. AIP Conference Proceedings, 1988, , .	0.3	0
56	Understanding Heavy Electron Systems. , 1988, , 17-29.		0
57	Effective interactions, elementary excitations, and transport in the helium liquids. Canadian Journal of Physics, 1987, 65, 1357-1367.	0.4	65
58	Heavy Electron Superconductivity: From 1K to 90K to ?. , 1987, , 201-214.		1
59	Neutron Stars as Cosmic Hadron Physics Laboratories. , 1987, , 193-208.		3
60	Transport processes in heavy-fermion superconductors. Physical Review Letters, 1986, 57, 118-121.	2.9	167
61	One-Component Fermi-Liquid Theory and the Properties of UPt3. Physical Review Letters, 1986, 57, 1955-1958.	2.9	52
62	Effective interactions in dilute mixtures of3He in4He. Journal of Statistical Physics, 1985, 38, 273-312.	0.5	71
63	Gravitational radiation from a solid-crust neutron star. Nature, 1985, 314, 334-336.	13.7	23
64	Superfluidity in neutron stars. Nature, 1985, 316, 27-32.	13.7	216
65	Theory of electron liquids. II. Static and dynamic form factors, correlation energy, and plasmon dispersion. Physical Review B, 1984, 29, 3936-3951.	1.1	99
66	Theory of electron liquids. I. Electron-hole pseudopotentials. Physical Review B, 1984, 29, 3924-3935.	1.1	71
67	Effective interactions and elementary excitations in electron and Helium liquids. , 1984, , 113-126.		1
68	Roton liquid theory. Journal of Low Temperature Physics, 1982, 48, 417-433.	0.6	25
69	Excitations and transport in quantum liquids. Lecture Notes in Physics, 1981, , 202-219.	0.3	1
70	The superfluid transition temperature of liquid 3He. Physics Letters, Section A: General, Atomic and Solid State Physics, 1980, 78, 281-284.	0.9	20
71	Polarization Potentials and Transport Properties of NormalHe3. Physical Review Letters, 1980, 45, 39-42.	2.9	54
72	Polarization potentials and elementary excitations in liquid 3He. Journal of Low Temperature Physics, 1978, 32, 689-715.	0.6	171

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73	Polarization potentials and elementary excitations in He II at low temperatures. Journal of Low Temperature Physics, 1976, 25, 677-690.	0.6	119
74	Sum-Rule Analysis of Long-Wavelength Excitations in Electron Liquids. Progress of Theoretical Physics, 1975, 54, 1077-1092.	2.0	23
75	Neutron Star Structure from Pulsar Observations. Symposium - International Astronomical Union, 1974, 53, 189-207.	0.1	5
76	Free precession of neutron stars. Nature, 1974, 248, 483-486.	13.7	26
77	Neutron Star Structure from Pulsar Observations. , 1974, , 189-207.		12
78	Seismic Activity, Polar Tides and the Chandler Wobble. Nature, 1973, 245, 77-81.	13.7	18
79	Quadrupolar Analysis of Storage and Release of Elastic Energy in the Earth. Nature: Physical Science, 1973, 243, 122-127.	0.8	8
80	Corequakes and the Vela Pulsar. Nature: Physical Science, 1972, 237, 83-84.	0.8	76
81	Microquakes and Macroquakes in Neutron Stars. Nature: Physical Science, 1972, 235, 43-49.	0.8	47
82	The elastic energy and character of quakes in solid stars and planets. Physics of the Earth and Planetary Interiors, 1972, 6, 103-115.	0.7	28
83	Neutron Starquakes and Pulsar Speedup. , 1972, , 816-835.		0
84	Neutron starquakes and pulsar speedup. Annals of Physics, 1971, 66, 816-835.	1.0	178
85	Can Pulsar Masses be Determined ?. Nature, 1970, 225, 353-354.	13.7	10
86	"Extended Electron-Gas Hamiltonian" â€" an Author's Comment. Physical Review B, 1970, 2, 1424-1425.	1.1	3
87	Sum Rules, Structure Factors, and Phonon Dispersion in LiquidHe4at Long Wavelengths and Low Temperatures. Physical Review Letters, 1970, 24, 1044-1045.	2.9	32
88	Superfluidity in Neutron Stars. Nature, 1969, 224, 673-674.	13.7	358
89	Spin Up in Neutron Stars : The Future of the Vela Pulsar. Nature, 1969, 224, 872-874.	13.7	319
90	Elementary Excitations in Liquid Helium. Physical Review, 1962, 127, 1452-1464.	2.7	177

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91	Approach to Equilibrium of Electrons, Plasmons, and Phonons in Quantum and Classical Plasmas. Physical Review, 1962, 125, 804-812.	2.7	136
92	Collective Behavior in Solid-State Plasmas. Physical Review, 1961, 124, 1387-1400.	2.7	187
93	Plasma oscillations of electron gases. Physica, 1960, 26, S103-S123.	0.9	16
94	Electron Interaction in Solids. General Formulation. Physical Review, 1958, 109, 741-761.	2.7	188
95	Electron Interaction in Solids. Collective Approach to the Dielectric Constant. Physical Review, 1958, 109, 762-777.	2.7	212
96	Electron Interaction in Solids. The Nature of the Elementary Excitations. Physical Review, 1958, 109, 1062-1074.	2.7	79
97	Superconductivity in the Periodic System. Physical Review, 1958, 109, 280-287.	2.7	173
98	Ground-State Energy and Stopping Power of an Electron Gas. Physical Review, 1958, 109, 1009-1010.	2.7	15
99	Role of Subsidiary Conditions in the Collective Description of Electron Interactions. Physical Review, 1957, 107, 71-80.	2.7	35
100	ELECTRON INTERACTION IN SOLIDS. Canadian Journal of Physics, 1956, 34, 1379-1394.	0.4	144
101	Collective Energy Losses in Solids. Reviews of Modern Physics, 1956, 28, 184-198.	16.4	477
102	Mobility of Slow Electrons in Polar Crystals. Physical Review, 1955, 98, 414-418.	2.7	149
103	Electron Interaction in Metals. Solid State Physics, 1955, 1, 367-450.	1.3	163
104	Relaxation Times in Magnetic Resonance. Physical Review, 1955, 100, 1014-1020.	2.7	150
105	Electron-Phonon Interaction in Metals. Physical Review, 1955, 99, 1140-1150.	2.7	366
106	Paramagnetic Susceptibility of Conduction Electrons. Physical Review, 1954, 95, 1090-1091.	2.7	44
107	A Collective Description of Electron Interactions: III. Coulomb Interactions in a Degenerate Electron Gas. Physical Review, 1953, 92, 609-625.	2.7	1,594
108	A Collective Description of Electron Interactions: IV. Electron Interaction in Metals. Physical Review, 1953, 92, 626-636.	2.7	480

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109	Interaction of a Nonrelativistic Particle with a Scalar Field with Application to Slow Electrons in Polar Crystals. Physical Review, 1953, 92, 883-889.	2.7	85
110	The Mobility of Slow Electrons in Polar Crystals. Physical Review, 1953, 91, 193-194.	2.7	36
111	The Stopping Power of a Metal for Charged Particles. Physical Review, 1952, 85, 931-931.	2.7	11
112	The Motion of Slow Electrons in Polar Crystals. Physical Review, 1952, 88, 960-961.	2.7	51
113	A Collective Description of Electron Interactions: II. CollectivevsIndividual Particle Aspects of the Interactions. Physical Review, 1952, 85, 338-353.	2.7	1,167
114	A Collective Description of Electron Interactions. I. Magnetic Interactions. Physical Review, 1951, 82, 625-634.	2.7	578
115	Screening of Electronic Interactions in a Metal. Physical Review, 1950, 80, 903-904.	2.7	19