

Przemysław Piekarczyk

List of Publications by Year in descending order

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92
papers

1,514
citations

361045

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93
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93
docs citations

93
times ranked

2058
citing authors

#	ARTICLE	IF	CITATIONS
1	Equivalence of the Boson Peak in Glasses to the Transverse Acoustic van Hove Singularity in Crystals. Physical Review Letters, 2011, 106, 225501.	2.9	234
2	Mechanism of the Verwey Transition in Magnetite. Physical Review Letters, 2006, 97, 156402.	2.9	111
3	Origin of the Verwey transition in magnetite: Group theory, electronic structure, and lattice dynamics study. Physical Review B, 2007, 76, .	1.1	93
4	Anharmonicity due to Electron-Phonon Coupling in Magnetite. Physical Review Letters, 2013, 110, 207204.	2.9	42
5	First-principles study of phonon modes in PuCoGa ₅ superconductor. Physical Review B, 2005, 72, .	1.1	39
6	High-pressure and thermal properties of $\hat{1}^3$ -Mg ₂ SiO ₄ from first-principles calculations. Journal of Chemical Physics, 2002, 117, 3340-3344.	1.2	37
7	Short-Range Correlations in Magnetite above the Verwey Temperature. Physical Review X, 2014, 4, .	2.8	36
8	Probing the Coulomb Interaction of the Unconventional Superconductor PuCoGa ₅ by Phonon Spectroscopy. Physical Review Letters, 2006, 96, 237003.	2.9	30
9	Magnetic Lifshitz transition and its consequences in multi-band iron-based superconductors. Scientific Reports, 2017, 7, 41979.	1.6	30
10	Vibrational Properties of $\hat{1}^{\pm}$ and $\hat{1}^f$ Phase Fe-Cr Alloy. Physical Review Letters, 2010, 104, 155503.	2.9	29
11	Mechanism of the phase transitions in MnAs. Physical Review B, 2011, 83, .	1.1	27
12	Lattice Dynamics of EuO: Evidence for Giant Spin-Phonon Coupling. Physical Review Letters, 2016, 116, 185501.	2.9	26
13	Discovery of the soft electronic modes of the trimeron order in magnetite. Nature Physics, 2020, 16, 541-545.	6.5	26
14	Phonon Mechanism of the Magnetostructural Phase Transition in MnAs. Physical Review Letters, 2010, 104, 147205.	2.9	25
15	Theab initiostudy of unconventional superconductivity in CeCoIn ₅ and FeSe. New Journal of Physics, 2017, 19, 063039.	1.2	25
16	Lattice Dynamics and Structural Phase Transitions in Eu ₂ O ₃ . Inorganic Chemistry, 2021, 60, 9571-9579.	1.9	24
17	Dynamic charge transfer and spin-phonon interaction in high-T _c superconductors. Physical Review B, 2005, 72, .	1.1	23
18	Strong effects of cation vacancies on the electronic and dynamical properties of FeO. Physical Review B, 2013, 87, .	1.1	23

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19	Structures of Late Transition Metal Monoxides from Jahn-Teller Instabilities in the Rock Salt Lattice. Physical Review Letters, 2014, 113, 025505.	2.9	22
20	Phonons in Ultrathin Oxide Films: 2D to 3D Transition in FeO on Pt(111). Physical Review Letters, 2015, 115, 186102.	2.9	22
21	Dynamical properties of ordered FePt alloys. Journal of Alloys and Compounds, 2015, 651, 528-536.	2.8	20
22	Nuclear inelastic scattering studies of lattice dynamics in magnetite with a first- and second-order Verwey transition. Physical Review B, 2012, 85, .	1.1	19
23	Electronic and dynamical properties of CeRh_2 : Role of d - d hybridization layers and expected orbital order. Physical Review B, 2021, 104, .	1.1	19
24	Lattice dynamics of the heavy-fermion compound URu_2Si_2 . Physical Review B, 2015, 91, .	1.1	18
25	Effect of spin-orbit and on-site Coulomb interactions on the electronic structure and lattice dynamics of uranium monocarbide. Physical Review B, 2016, 94, .	1.1	18
26	Preparation of Pt-skin PtRhNi Nanoframes Decorated with Small SnO_2 Nanoparticles as an Efficient Catalyst for Ethanol Oxidation Reaction. ACS Applied Materials & Interfaces, 2019, 11, 22352-22363.	4.0	18
27	Electron-phonon interaction in the cuprates: Breathing versus buckling mode. Physical Review B, 1999, 59, 14697-14701.	1.1	17
28	Quasiharmonic approach to a second-order phase transition. Physical Review B, 2004, 70, .	1.1	17
29	Structure and elastic properties of $\text{Mg}(\text{OH})_2$ from density functional theory. Journal of Physics Condensed Matter, 2010, 22, 445403.	0.7	17
30	Electronic and lattice properties of noncentrosymmetric superconductors ThTiSi		

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37	Lattice dynamics of Mg ₂ SiO ₄ . Journal of Molecular Structure, 2001, 596, 3-6.	1.8	13
38	Influence of local electron interactions on phonon spectrum in iron. Physical Review B, 2006, 74, .	1.1	13
39	Hard X-ray induced fast secondary electron cascading processes in solids. Applied Physics Letters, 2018, 113, .	1.5	13
40	DFT modelling of the edge dislocation in 4H-SiC. Journal of Materials Science, 2019, 54, 10737-10745.	1.7	13
41	Multiple magnetic phase transitions in Tb ₃ Cu ₄ Si ₄ . Journal of Physics Condensed Matter, 2007, 19, 246225.	0.7	12
42	Anomalous Lattice Dynamics of EuSi_2 Role of Interfaces Unveiled. Physical Review Letters, 2016, 117, 276101.	1.1	11
43	Magnetically induced dynamical stability of a Fe monolayer on W(110). Physical Review B, 2007, 76, .	1.1	11
44	Comparative <i>ab initio</i> study of lattice dynamics and thermodynamics of Fe ₂ SiO ₄ - and Mg ₂ SiO ₄ -spinel. Journal of Physics Condensed Matter, 2011, 23, 105401.	0.7	11
45	Phonon confinement and spin-phonon coupling in tensile-strained ultrathin EuO films. Nanoscale, 2019, 11, 10968-10976.	2.8	11
46	Lattice dynamics of neodymium: Influence of Nd_4f_2 correlations. Physical Review B, 2016, 94, .	1.1	10
47	Lattice dynamics of epitaxial strain-free interfaces. Physical Review B, 2018, 98, .	1.1	10
48	Structural, electronic, and dynamical properties of the tetragonal and collapsed tetragonal phases of KFe ₂ As ₂ . Physical Review B, 2019, 99, .	1.1	10
49	Discovery of a low-temperature orthorhombic phase of the Cd_2O_7 superconductor. Physical Review Research, 2020, 2, .	1.3	9
50	Lattice dynamics of Eu from nuclear inelastic scattering and first-principles calculations. Physical Review B, 2008, 78, .	1.1	8
51	Trimeron-phonon coupling in magnetite. Physical Review B, 2021, 103, .	1.1	8
52	Thin layer vs. nanoparticles: Effect of SnO ₂ addition to PtRhNi nanoframes for ethanol oxidation reaction. International Journal of Hydrogen Energy, 2022, 47, 14823-14835.	3.8	8
53	Bismuth cubic superconductors: polaronic and superconducting properties of the Rice–Sneddon model. Physica C: Superconductivity and Its Applications, 2000, 329, 121-129.	0.6	7
54	Influence of isolated and clustered defects on electronic and dielectric properties of $\text{w}\tilde{\text{A}}\frac{1}{4}$ stite. Physical Review B, 2015, 91, .	1.1	7

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55	Vibrational properties and stability of FePt nanoalloys. <i>Physical Review B</i> , 2017, 95, .	1.1	7
56	Light scattering from the critical modes of the Verwey transition in magnetite. <i>Physical Review B</i> , 2018, 98, .	1.1	7
57	First-principles study of the nontrivial topological phase in chains of 3d transition metals. <i>Physical Review B</i> , 2020, 101, .	1.1	7
58	DFT study of structure stability and elasticity of wadsleyite II. <i>Journal of Physics Condensed Matter</i> , 2010, 22, 145402.	0.7	6
59	Dynamics and stability of icosahedral FePt nanoparticles. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 28096-28102.	1.3	6
60	Ab initio determination of Raman spectra of Mg_2SiO_4 and $\text{Ca}_2\text{MgSi}_2\text{O}_7$ showing mixed modes related to LO/TO splitting. <i>Journal of Raman Spectroscopy</i> , 2021, 52, 1346-1359.	1.2	6
61	Ab initio studies for characterization and identification of nanocrystalline copper pyrophosphate confined in mesoporous silica. <i>Nanotechnology</i> , 2021, 32, 415701.	1.3	6
62	Comparative Study of the Electronic Structures of Fe_3O_4 and Fe_2SiO_4 . <i>Acta Physica Polonica A</i> , 2010, 118, 307-312.	0.2	6
63	Ab initio and nuclear inelastic scattering studies of $\text{Fe}_3\text{Si}/\text{GaAs}$ heterostructures. <i>Physical Review B</i> , 2019, 99, .	1.1	5
64	Effects of Pair-Hopping Coupling on Properties of Multi-Band Iron-Based Superconductors. <i>Frontiers in Physics</i> , 2020, 8, .	1.0	5
65	Probing the chirality of one-dimensional Majorana edge states around a two-dimensional nanoflake in a superconductor. <i>Physical Review B</i> , 2020, 102, .	1.1	5
66	Low temperature thermodynamical properties of ErCu_2Si_2 . <i>Journal of Magnetism and Magnetic Materials</i> , 2010, 322, 12-18.	1.0	4
67	Electronic and optical properties of the Mg_2Si . From band insulator to Mott insulator. <i>Physical Review B</i> , 2010, 82, .	1.1	4
68	Structural phase transition in $\text{LiFeSi}_2\text{O}_6$ from ab initio calculations. <i>Journal of Physics Condensed Matter</i> , 2012, 24, 195401.	0.7	4
69	Raman active high energy excitations in URu_2Si_2 . <i>Physica B: Condensed Matter</i> , 2017, 506, 19-22.	1.3	4
70	Lattice dynamics and polarization-dependent phonon damping in $\hat{1}\hat{1}\hat{1}$ -phase FeSi_2 nanostructures. <i>Physical Review B</i> , 2020, 101, .	1.1	4
71	Charge ordering mechanism in silver difluoride. <i>Physical Review B</i> , 2022, 105, .	1.1	4
72	Role of phonons in the mechanism of high-temperature superconductivity. <i>Physica C: Superconductivity and Its Applications</i> , 2004, 408-410, 292-295.	0.6	3

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73	Order parameters in the Verwey phase transition. Journal of Physics: Conference Series, 2007, 92, 012164.	0.3	3
74	Probing the Coulomb interaction of PuCoGa5 by phonon spectroscopy. Journal of Alloys and Compounds, 2007, 444-445, 104-108.	2.8	3
75	Investigation into the evolution of the structure of $K_{1-x}Li_xTa_{1-y}Nb_yO_3$ single crystals under variations in temperature. Crystallography Reports, 2007, 52, 440-446.	0.1	3
76	Crystal structure, hydrogen bonds, and lattice dynamics in kanemite from first-principles calculations. Physical Review B, 2009, 79, .	1.1	3
77	Effect of ferromagnetic ordering on phonons in KCo2Se2. Journal of Physics Condensed Matter, 2015, 27, 415403.	0.7	3
78	Multiband model for the electronic structure of Sr_2TiO_4 . Physica Status Solidi (B): Basic Research, 2017, 254, 1700022.	0.7	3
79	Superconductivity of KFe2As2 Under Pressure: Ab Initio Study of Tetragonal and Collapsed Tetragonal Phases. Journal of Superconductivity and Novel Magnetism, 2020, 33, 2347-2354.	0.8	3
80	Phonon-induced hole-hole effective interactions in the cuprates. Physical Review B, 2001, 63, .	1.1	2
81	Thermodynamic properties and phase stability of wadsleyite II. Physics and Chemistry of Minerals, 2013, 40, 251-257.	0.3	2
82	Lattice dynamics of the rare-earth element samarium. Physical Review B, 2013, 88, .	1.1	2
83	Origin of the monoclinic distortion and its impact on the electronic properties in KO_2 . Physical Review B, 2020, 102, .		
84	Lattice dynamics of endotaxial silicide nanowires. Physical Review B, 2020, 102, .	1.1	2
85	Phonon confinement and interface lattice dynamics of ultrathin high- k rare earth sesquioxide films: the case of Eu_2O_3 on YSZ(001). Nanoscale Advances, 2021, 4, 19-25.	2.2	2
86	Spin-phonon effects in the two-band Hubbard model. Physica C: Superconductivity and Its Applications, 2004, 408-410, 334-335.	0.6	1
87	Publisher's Note: Magnetically induced dynamical stability of a Fe monolayer on W(110) [Phys. Rev. B76, 205427 (2007)]. Physical Review B, 2007, 76, .	1.1	1
88	Correlation effects in PuCoGa5 superconductor. Physica C: Superconductivity and Its Applications, 2007, 460-462, 655-656.	0.6	1
89	Magnetic properties of Nd3Ag4Ge4. Intermetallics, 2010, 18, 1211-1215.	1.8	1
90	A role of multiple scattering in the interaction of low energy ions with a cold Au surface covered by a film of condensed xenon. Vacuum, 1995, 46, 609-611.	1.6	0

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91	Influence of local Coulomb interactions on lattice dynamics in superconductor. Physica B: Condensed Matter, 2006, 378-380, 1029-1030.	1.3	0
92	Structural and electronic properties of Fe monolayer on BaTiO ₃ (0001). Journal of Physics Condensed Matter, 2018, 30, 365402.	0.7	0