Karin M Rabe

List of Publications by Year
in descending order

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Version: 2024-02-01

77 papers	11,076 citations	66343 42 h-index	74163 75 g-index
79 all docs	79 docs citations	79 times ranked	11617 citing authors

#	Article	IF	Citations
1	Vibrational fingerprints of ferroelectric HfO2. Npj Quantum Materials, 2022, 7, .	5.2	24
2	High-temperature phonon-mediated superconductivity in monolayer Mg2B4C2. Npj Quantum Materials, 2022, 7, .	5.2	11
3	Vibrational properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>CuInP</mml:mi><mml:mn>2</mml:mn><mml:mi mathvariant="normal">S</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:mrow></mml:math> across the ferroelectric transition. Physical Review B, 2022, 105, .	3.2	14
4	Kinetically stabilized ferroelectricity in bulk single-crystalline HfO2:Y. Nature Materials, 2021, 20, 826-832.	27.5	114
5	Epitaxy, exfoliation, and strain-induced magnetism in rippled Heusler membranes. Nature Communications, 2021, 12, 2494.	12.8	25
6	Lattice dynamics and magnetic exchange interactions in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>GeCo</mml:mi><mml:mn>2</mml:mn><mml:mi mathvariant="normal">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> : A spinel with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>S</mml:mi><mml:mo>=</mml:mo><mml:mfrac> pyrochlore lattice. Physical Review B, 2021, 104, .	3.2	7
7	Resonant band engineering of ferroelectric tunnel junctions. Physical Review B, 2021, 104, .	3.2	10
8	Neuromorphic learning with Mott insulator NiO. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	15
9	Stabilizing hidden room-temperature ferroelectricity via a metastable atomic distortion pattern. Nature Communications, 2020, 11, 4944.	12.8	25
10	Engineering Weyl Phases and Nonlinear Hall Effects in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi mathvariant="normal">T</mml:mi></mml:mrow><mml:mrow><mml:mi>d</mml:mi></mml:mrow></mml:msub></mml:mrow></mml:ma - <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"	7.8	45
11	Stabilization of Competing Ferroelectric Phases of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>MoTe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></ Epitaxial Strain. Physical Review Letters, 2020, 125, 257603.	7.8	46
12	Carrier localization in perovskite nickelates from oxygen vacancies. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 21992-21997.	7.1	71
13	Superlattice-induced ferroelectricity in charge-ordered La _{1/3} Sr _{2/3} FeO ₃. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23972-23976.	7.1	7
14	Polar and phase domain walls with conducting interfacial states in a Weyl semimetal MoTe2. Nature Communications, 2019, 10, 4211.	12.8	50
15	Interfacial charge-transfer Mott state in iridateâ€“nickelate superlattices. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 19863-19868.	7.1	31
16	Systematic beyond-DFT study of binary transition metal oxides. Npj Computational Materials, 2019, 5, .	8.7	50
17	Ferroelectricity in [111]-oriented epitaxially strained <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math> from first principles. Physical Review Materials, 2019, 3, .	2.4	11
18	Artificial two-dimensional polar metal at room temperature. Nature Communications, 2018, 9, 1547.	12.8	61

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19	Perovskite nickelates as electric-field sensors in salt water. Nature, 2018, 553, 68-72.	27.8	146
20	Phonon-assisted optical absorption in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>BaSnO</mml:mi><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math> from first principles. Physical Review B, 2018, 97, .	3.2	26
21	Polarization-controlled modulation doping of a ferroelectric from first principles. Physical Review B, 2018, 97, .	3.2	13
22	Strongly correlated perovskite lithium ion shuttles. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9672-9677.	7.1	55
23	Charge-Order-Induced Ferroelectricity in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:msub><mml:mrow><mml:mi>LaVO</mml:mi></mml:mrow><mml:mrow><mml:mn 3 Physical Review Letters, 2017, 118, 087602.	7.8	29
24	Picoscale materials engineering. Nature Reviews Materials, 2017, 2, .	48.7	42
25	Habituation based synaptic plasticity and organismic learning in a quantum perovskite. Nature Communications, 2017, 8, 240.	12.8	84
26	Antiferroelectric Topological Insulators in Orthorhombic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>A</mml:mi><mml:mi>MgBi</mml:mi></mml:mrow></mml:math> Compounds (<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML") Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 452 Td (display=	7.8	30
27	Pb2MnTeO6 Double Perovskite: An Antipolar Anti-ferromagnet. Inorganic Chemistry, 2016, 55, 4320-4329.	4.0	20
28	Stabilization of Highly Polar<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>BiFeO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></ Structure: A New Interface Design Route for Enhanced Ferroelectricity in Artificial Perovskite Superlattices. Physical Review X, 2016, 6, .	8.9	16
29	Correlated metals as transparent conductors. Nature Materials, 2016, 15, 204-210.	27.5	291
30	Coupled Nonpolar-Polar Metal-Insulator Transition in1âˆ¶1SrCrO3/SrTiO3Superlattices: A First-Principles Study. Physical Review Letters, 2015, 115, 106401.	7.8	12
31	Lead-free antiferroelectric: xCaZrO₃-(1 â€“ x)NaNbO₃ system (0 â‰¤ x â‰¤ 0.10). Dalton Transactions, 2015, 44, 10763-10772.	3.3	236
32	Alkaline earth stannates: The next silicon?. APL Materials, 2015, 3, 062510.	5.1	71
33	Hyperferroelectrics: Proper Ferroelectrics with Persistent Polarization. Physical Review Letters, 2014, 112, 127601.	7.8	76
34	Pseudopotentials for high-throughput DFT calculations. Computational Materials Science, 2014, 81, 446-452.	3.0	1,114
35	Strong coupling of Jahn-Teller distortion to oxygen-octahedron rotation and functional properties in epitaxially strained orthorhombic LaMnO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 88, .	3.2	82
36	Epitaxial strain effects on magnetic ordering and spin-phonon couplings in the (SrMnO<mml:math) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow		

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37	Orthorhombic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>A</mml:mi><mml:mi>B</mml:mi><mml:mi>C</mml:mi></mml:math>Semiconductors as Antiferroelectrics. Physical Review Letters, 2013, 110, 017603.	7.8	59
38	Domain formation and dielectric response in PbTiO3: A first-principles free-energy landscape analysis. Physical Review B, 2013, 87, .	3.2	10
39	Integration of first-principles methods and crystallographic database searches for new ferroelectrics: Strategies and explorations. Journal of Solid State Chemistry, 2012, 195, 21-31.	2.9	42
40	Hexagonal<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>A</mml:mi><mml:mi>B</mml:mi><mml:mi>C</mml:mi></mml:math>Semiconductors as Ferroelectrics. Physical Review Letters, 2012, 109, 167602.	7.8	114
41	Half-Heusler Semiconductors as Piezoelectrics. Physical Review Letters, 2012, 109, 037602.	7.8	180
42	Coupled Magnetic-Ferroelectric Metal-Insulator Transition in Epitaxially Strained<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>SrCoO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>from First Principles. Physical Review Letters, 2011, 107, 057601.	7.8	73
43	Large spin-phonon coupling and magnetically induced phonon anisotropy in Sr<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>M</mml:mi></mml:math>O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow		

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55	Magnetic and Electric Phase Control in EpitaxialEuTiO3from First Principles. Physical Review Letters, 2006, 97, 267602.	7.8	337
56	Structural, electronic, and magnetic properties ofSrRuO3under epitaxial strain. Physical Review B, 2006, 74, .	3.2	162
57	New life for the 'dead layer'. Nature Nanotechnology, 2006, 1, 171-172.	31.5	14
58	Magnetically Induced Phonon Anisotropy inZnCr2O4from First Principles. Physical Review Letters, 2006, 96, 205505.	7.8	109
59	Ferroelectricity in the Dion-Jacobson CsBiNb2O7 from first principles. Applied Physics Letters, 2006, 88, 262902.	3.3	25
60	Tunability of the dielectric response of epitaxially strainedSrTiO3from first principles. Physical Review B, 2005, 71, .	3.2	178
61	Theoretical investigations of epitaxial strain effects in ferroelectric oxide thin films and superlattices. Current Opinion in Solid State and Materials Science, 2005, 9, 122-127.	11.5	53
62	Metric tensor formulation of strain in density-functional perturbation theory. Physical Review B, 2005, 71, .	3.2	260
63	Generalized-gradient-functional treatment of strain in density-functional perturbation theory. Physical Review B, 2005, 72, .	3.2	15
64	First-principles study of epitaxial strain in perovskites. Physical Review B, 2005, 72, .	3.2	261
65	Phonon anomalies and elastic constants of cubicNiAlfrom first principles. Physical Review B, 2004, 70, .	3.2	26
66	Crystal structures and shape-memory behaviour of NiTi. Nature Materials, 2003, 2, 307-311.	27.5	320
67	First-principles thermodynamics of transition metals: W, NiAl, and PdTi. Physical Review B, 2003, 68, .	3.2	31
68	First-principles study of the structural energetics of PdTi and PtTi. Physical Review B, 2003, 67, .	3.2	37
69	Lattice instabilities of cubic NiTi from first principles. Physical Review B, 2001, 65, .	3.2	68
70	First-principles investigation of ferromagnetism and ferroelectricity in bismuth manganite. Physical Review B, 1999, 59, 8759-8769.	3.2	324
71	First Principles Investigation of Multiferroism in Perovskite Manganites. Materials Research Society Symposia Proceedings, 1999, 574, 157.	0.1	0
72	Anomalous effective charges and far-IR optical absorption ofAl2Ru from first principles. Physical Review B, 1996, 54, R8297-R8300.	3.2	19

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73	Polymorphism and metastability in NbN: Structural predictions from first principles. Physical Review B, 1995, 52, R8585-R8588.	3.2	16
74	Band gap and stability in the ternary intermetallic compounds NiSnM(M=Ti,Zr,Hf): A first-principles study. Physical Review B, 1995, 51, 10443-10453.	3.2	312
75	Ab initiopseudopotential calculations for aluminum-rich cobalt compounds. Physical Review B, 1994, 50, 2075-2084.	3.2	17
76	Optimized pseudopotentials. Physical Review B, 1990, 41, 1227-1230.	3.2	2,139
77	Novel Functionality in Switchable Polar Materials. Advanced Electronic Materials, 0, , 2200146.	5.1	0