

# Karin M Rabe

## List of Publications by Year in descending order

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Version: 2024-02-01

77  
papers

11,076  
citations

66234

42  
h-index

74018

75  
g-index

79  
all docs

79  
docs citations

79  
times ranked

11617  
citing authors

#	ARTICLE	IF	CITATIONS
1	Optimized pseudopotentials. <i>Physical Review B</i> , 1990, 41, 1227-1230.	1.1	2,139
2	Pseudopotentials for high-throughput DFT calculations. <i>Computational Materials Science</i> , 2014, 81, 446-452.	1.4	1,114
3	Strain Tuning of Ferroelectric Thin Films. <i>Annual Review of Materials Research</i> , 2007, 37, 589-626.	4.3	987
4	A strong ferroelectric ferromagnet created by means of spin-lattice coupling. <i>Nature</i> , 2010, 466, 954-958.	13.7	668
5	Universal Behavior and Electric-Field-Induced Structural Transition in Rare-Earth-Substituted $\text{BiFeO}_3$ . <i>Advanced Functional Materials</i> , 2010, 20, 1108-1115.	7.8	364
6	Magnetic and Electric Phase Control in Epitaxial $\text{EuTiO}_3$ from First Principles. <i>Physical Review Letters</i> , 2006, 97, 267602.	2.9	337
7	First-principles investigation of ferromagnetism and ferroelectricity in bismuth manganite. <i>Physical Review B</i> , 1999, 59, 8759-8769.	1.1	324
8	Crystal structures and shape-memory behaviour of NiTi. <i>Nature Materials</i> , 2003, 2, 307-311.	13.3	320
9	Band gap and stability in the ternary intermetallic compounds $\text{NiSnM}$ ( $M=\text{Ti, Zr, Hf}$ ): A first-principles study. <i>Physical Review B</i> , 1995, 51, 10443-10453.	1.1	312
10	Epitaxial-Strain-Induced Multiferroicity in $\text{SrMnO}_3$ from First Principles. <i>Physical Review Letters</i> , 2010, 104, 207204.	2.9	297
11	Correlated metals as transparent conductors. <i>Nature Materials</i> , 2016, 15, 204-210.	13.3	291
12	First-principles study of epitaxial strain in perovskites. <i>Physical Review B</i> , 2005, 72, .	1.1	261
13	Metric tensor formulation of strain in density-functional perturbation theory. <i>Physical Review B</i> , 2005, 71, .	1.1	260
14	Lead-free antiferroelectric: $x\text{CaZrO}_3-(1-x)\text{NaNbO}_3$ system ( $0 \leq x \leq 0.10$ ). <i>Dalton Transactions</i> , 2015, 44, 10763-10772.	1.6	236
15	A strong ferroelectric ferromagnet created by means of spin-lattice coupling. <i>Nature</i> , 2011, 476, 114-114.	13.7	183
16	Half-Heusler Semiconductors as Piezoelectrics. <i>Physical Review Letters</i> , 2012, 109, 037602.	2.9	180
17	Tunability of the dielectric response of epitaxially strained $\text{SrTiO}_3$ from first principles. <i>Physical Review B</i> , 2005, 71, .	1.1	178
18	Structural, electronic, and magnetic properties of $\text{SrRuO}_3$ under epitaxial strain. <i>Physical Review B</i> , 2006, 74, .	1.1	162

#	ARTICLE	IF	CITATIONS
19	Perovskite nickelates as electric-field sensors in salt water. Nature, 2018, 553, 68-72.	13.7	146
20	Hexagonal $A_2B_2C_3$ Semiconductors as Ferroelectrics. Physical Review Letters, 2012, 109, 167602.	2.9	114
21	Kinetically stabilized ferroelectricity in bulk single-crystalline HfO <sub>2</sub> :Y. Nature Materials, 2021, 20, 826-832.	13.3	114
22	Magnetically Induced Phonon Anisotropy in ZnCr <sub>2</sub> O <sub>4</sub> from First Principles. Physical Review Letters, 2006, 96, 205505.	2.9	109
23	Manipulating magnetic properties of $SrRuO_3$ epitaxial and uniaxial strains. Physical Review B, 2008, 77, .	1.1	98
24	Habituation based synaptic plasticity and organismic learning in a quantum perovskite. Nature Communications, 2017, 8, 240.	5.8	84
25	Strong coupling of Jahn-Teller distortion to oxygen-octahedron rotation and functional properties in epitaxially strained orthorhombic LaMnO <sub>3</sub> . Physical Review B, 2013, 88, .	1.1	82
26	Hyperferroelectrics: Proper Ferroelectrics with Persistent Polarization. Physical Review Letters, 2014, 112, 127601.	2.9	76
27	Coupled Magnetic-Ferroelectric Metal-Insulator Transition in Epitaxially Strained $SrCoO_3$ from First Principles. Physical Review Letters, 2011, 107, 067601.	2.9	73
28	Alkaline earth stannates: The next silicon?. APL Materials, 2015, 3, 062510.	2.2	71
29	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.	3.3	71
30	Lattice instabilities of cubic NiTi from first principles. Physical Review B, 2001, 65, .	1.1	68
31	Artificial two-dimensional polar metal at room temperature. Nature Communications, 2018, 9, 1547.	5.8	61
32	Orthorhombic $A_2B_2C_3$ Semiconductors as Antiferroelectrics. Physical Review Letters, 2013, 110, 017603.	2.9	59
33	Strongly correlated perovskite lithium ion shuttles. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9672-9677.	3.3	55
34	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.	5.6	53
35	Interfacial enhancement of ferroelectricity in CaTiO <sub>3</sub> /BaTiO <sub>3</sub> superlattices. Physical Review B, 2011, 83, .	1.1	52
36	Polar and phase domain walls with conducting interfacial states in a Weyl semimetal MoTe <sub>2</sub> . Nature Communications, 2019, 10, 4211.	5.8	50

#	ARTICLE	IF	CITATIONS
37	Systematic beyond-DFT study of binary transition metal oxides. Npj Computational Materials, 2019, 5, .	3.5	50
38	Stabilization of Competing Ferroelectric Phases of $\text{HfO}_2$ Epitaxial Strain. Physical Review Letters, 2020, 125, 257603.	2.9	46
39	Predicting Polarization and Nonlinear Dielectric Response of Arbitrary Perovskite Superlattice Sequences. Physical Review Letters, 2008, 101, 087601.	2.9	45
40	Large spin-phonon coupling and magnetically induced phonon anisotropy in SrMnO <sub>3</sub>		

#	ARTICLE	IF	CITATIONS
55	Stabilizing hidden room-temperature ferroelectricity via a metastable atomic distortion pattern. Nature Communications, 2020, 11, 4944.	5.8	25
56	Epitaxy, exfoliation, and strain-induced magnetism in rippled Heusler membranes. Nature Communications, 2021, 12, 2494.	5.8	25
57	Vibrational fingerprints of ferroelectric HfO <sub>2</sub> . Npj Quantum Materials, 2022, 7, .	1.8	24
58	Pb <sub>2</sub> MnTeO <sub>6</sub> Double Perovskite: An Antipolar Anti-ferromagnet. Inorganic Chemistry, 2016, 55, 4320-4329.	1.9	20
59	Anomalous effective charges and far-IR optical absorption of Al <sub>2</sub> Ru from first principles. Physical Review B, 1996, 54, R8297-R8300.	1.1	19
60	Ab initio pseudopotential calculations for aluminum-rich cobalt compounds. Physical Review B, 1994, 50, 2075-2084.	1.1	17
61	Polymorphism and metastability in NbN: Structural predictions from first principles. Physical Review B, 1995, 52, R8585-R8588.	1.1	16
62	Stabilization of Highly Polar $\text{BiFeO}_3$ Structure: A New Interface Design Route for Enhanced Ferroelectricity in Artificial Perovskite Superlattices. Physical Review X, 2016, 6, .	2.8	16
63	Generalized-gradient-functional treatment of strain in density-functional perturbation theory. Physical Review B, 2005, 72, .	1.1	15
64	Neuromorphic learning with Mott insulator NiO. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	15
65	New life for the 'dead layer'. Nature Nanotechnology, 2006, 1, 171-172.	15.6	14
66	Vibrational properties of $\text{CuInP}_2\text{S}_6$ across the ferroelectric transition. Physical Review B, 2022, 105, .	1.1	14
67	Polarization-controlled modulation doping of a ferroelectric from first principles. Physical Review B, 2018, 97, .	1.1	13
68	Coupled Nonpolar-Polar Metal-Insulator Transition in $\text{SrCrO}_3/\text{SrTiO}_3$ Superlattices: A First-Principles Study. Physical Review Letters, 2015, 115, 106401.	2.9	12
69	Ferroelectricity in [111]-oriented epitaxially strained $\text{SrTiO}_3$ from first principles. Physical Review Materials, 2019, 3, .	0.9	11
70	High-temperature phonon-mediated superconductivity in monolayer Mg <sub>2</sub> B <sub>4</sub> C <sub>2</sub> . Npj Quantum Materials, 2022, 7, .	1.8	11
71	Domain formation and dielectric response in PbTiO <sub>3</sub> : A first-principles free-energy landscape analysis. Physical Review B, 2013, 87, .	1.1	10
72	Resonant band engineering of ferroelectric tunnel junctions. Physical Review B, 2021, 104, .	1.1	10

# ARTICLE strain effects on magnetic ordering and spin-phonon couplings in the (SrMnO $\times$ )<sub>1-x</sub>(La $\times$ )<sub>1-x</sub> CITATIONS

73  $\langle \text{mml:mrow} \rangle$