

# Claude Ederer

## List of Publications by Year in descending order

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68  
papers

5,203  
citations

147726

31  
h-index

98753

67  
g-index

70  
all docs

70  
docs citations

70  
times ranked

5710  
citing authors

#	ARTICLE	IF	CITATIONS
1	Weak ferromagnetism and magnetoelectric coupling in bismuth ferrite. Physical Review B, 2005, 71, .	1.1	1,235
2	Effect of Epitaxial Strain on the Spontaneous Polarization of Thin Film Ferroelectrics. Physical Review Letters, 2005, 95, 257601.	2.9	512
3	Influence of strain and oxygen vacancies on the magnetoelectric properties of multiferroic bismuth ferrite. Physical Review B, 2005, 71, .	1.1	339
4	First principles study of the multiferroics BiFeO <sub>3</sub> , Bi <sub>2</sub> FeCrO <sub>6</sub> , and BiCrO <sub>3</sub> : Structure, polarization, and magnetic ordering temperature. Physical Review B, 2005, 72, .	1.1	289
5	Strain-induced isosymmetric phase transition in BiFeO <sub>3</sub> . Physical Review B, 2010, 81, .	1.1	243
6	Towards a microscopic theory of toroidal moments in bulk periodic crystals. Physical Review B, 2007, 76, .	1.1	173
7	First principles studies of multiferroic materials. Journal of Physics Condensed Matter, 2009, 21, 303201.	0.7	164
8	A new route to magnetic ferroelectrics. Nature Materials, 2004, 3, 849-851.	13.3	158
9	Epitaxial strain effects in the spinel ferrites CoFe <sub>2</sub> O <sub>4</sub> and NiFe <sub>2</sub> O <sub>4</sub> . Physical Review B, 2010, 82.	1.1	135
10	Recent progress in first-principles studies of magnetoelectric multiferroics. Current Opinion in Solid State and Materials Science, 2005, 9, 128-139.	5.6	107
11	Potentially multiferroic Aurivillius phase Bi <sub>5</sub> Fe <sub>3</sub> O <sub>15</sub> : First-principles calculation of magnetoelastic coefficients and magnetostriction in the spinel ferrites CoFe <sub>2</sub> O <sub>4</sub> and NiFe <sub>2</sub> O <sub>4</sub> . Physical Review B, 2010, 81.	1.1	107
12	Origin of ferroelectricity in the multiferroic barium fluorides BaMF <sub>4</sub> : A first principles study. Physical Review B, 2006, 74, .	1.1	103
13	First-principles-based calculation of the electrocaloric effect in BaTiO <sub>3</sub> : A comparison of direct and indirect methods. Physical Review B, 2016, 93, .	1.1	99
14	Electric-field switchable magnetization via the Dzyaloshinskii-Moriya interaction: FeTiO <sub>3</sub> versus BiFeO <sub>3</sub> . Journal of Physics Condensed Matter, 2008, 20, 434219.	0.7	88
15	Effect of epitaxial strain on the cation distribution in spinel ferrites CoFe <sub>2</sub> O <sub>4</sub> and NiFe <sub>2</sub> O <sub>4</sub> : A density functional theory study. Applied Physics Letters, 2011, 99, 081916.	1.5	81
16	Origin of ferroelectricity in the multiferroic barium fluorides BaMF <sub>4</sub> : A first principles study. Physical Review B, 2006, 74, .	1.1	71
17	Experimental and computational investigation of structure and magnetism in pyrite Co <sub>1-x</sub> Fe <sub>x</sub> S <sub>2</sub> : Chemical bonding and half-metallicity. Physical Review B, 2004, 70, .	1.1	70

#	ARTICLE	IF	CITATIONS
19	From the bulk to monatomic wires: A study of magnetism in Co systems with various dimensionality. Physical Review B, 2002, 66, . Magnetic coupling in $\text{CoCr}_2\text{O}_4$ and $\text{MnCr}_2\text{O}_4$ . Physical Review B, 2006, 74, .	1.1	67
20	Electric-field-switchable magnets: The case of $\text{BaNiF}_4$ . Physical Review B, 2006, 74, .	1.1	56
22	Biquadratic and ring exchange interactions in orthorhombic perovskite manganites. Physical Review B, 2015, 91, .	1.1	55
23	Electrocaloric effect in $\text{BaTiO}_3$ at all three ferroelectric transitions: Anisotropy and inverse caloric effects. Physical Review B, 2017, 96, .	1.1	53
24	Magnetism in systems with various dimensionalities: A comparison between Fe and Co. Physical Review B, 2003, 68, .	1.1	44
25	Theory of induced magnetic moments and x-ray magnetic circular dichroism in Co-Pt multilayers. Physical Review B, 2002, 66, .	1.1	40
26	Electrocaloric effect in $\text{BaTiO}_3$ : A first-principles-based study on the effect of misfit strain. Applied Physics Letters, 2014, 104, .	1.5	39
27	Tuning the metal-insulator transition in $\text{LaNiO}_3$ and $\text{LaCoO}_3$ perovskites by epitaxial strain: A first-principles-based study. Physical Review B, 2016, 94, .	1.1	39
28	Origins of the Inverse Electrocaloric Effect. Energy Technology, 2018, 6, 1491-1511.	1.8	39
29	Mechanism and control parameters of the coupled structural and metal-insulator transition in nickelates. Physical Review B, 2019, 99, .	1.1	38
30	Interplay between breathing mode distortion and magnetic order in rare-earth nickelates within $\text{R}_2\text{NiO}_4$ . Physical Review B, 2017, 96, .	1.1	37
31	Crystal field splitting in $\text{RbO}_2$ and $\text{CaMn}_2\text{O}_7$ : Electronic structure of $\text{RbO}_2$ . Physical Review B, 2017, 96, .	1.1	32
32	Mechanism of ferroelectric instabilities in $\text{LaCrO}_3$ . Physical Review B, 2017, 96, .	1.1	31
33	Structural distortions and model Hamiltonian parameters: From LSDA to a tight-binding description of $\text{LaMnO}_3$ . Physical Review B, 2007, 76, .	1.1	29
34	Dielectric response of epitaxially strained $\text{CoFe}_2\text{O}_4$ spinel thin films. Physical Review B, 2012, 86, .	1.1	29
35	Energetics of the coupled electronic-structural transition in the rare-earth nickelates. Npj Quantum Materials, 2019, 4, .	1.8	28
36	Magnetic order in four-layered Aurivillius phases. Physical Review B, 2017, 95, .	1.1	27

#	ARTICLE	IF	CITATIONS
37	Buried In-Plane Ferroelectric Domains in Fe-Doped Single-Crystalline Aurivillius Thin Films. ACS Applied Electronic Materials, 2019, 1, 1019-1028.	2.0	27
38	Strain-induced insulator-to-metal transition in $\text{LaTiO}_3$ within DFT+DMFT. Physical Review B, 2014, 89, .	1.1	25
39	Combined first-principles and model Hamiltonian study of the perovskite series $\text{R}_x\text{MnO}_{3-x}$		



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55	Strain effects in spinel ferrite thin films from first principles calculations. Journal of Physics: Conference Series, 2011, 292, 012014.	0.3	11
56	Controlling the cation distribution and electric polarization with epitaxial strain in Aurivillius-phase Bi5FeTi3O15. Applied Physics Letters, 2016, 108, .	1.5	10
57	Interplay between chemical order and magnetic properties in $L_{1-x}Fe_xNi_x$ (tetrataenite): A first-principles study. Physical Review Materials, 2020, 4, .	0.9	9
58	Tuning the caloric response of $BaTiO_3$ by tensile epitaxial strain. Europhysics Letters, 2016, 115, 47002.	0.7	8
59	Oxygen vacancies in strontium titanate: A DFT+DMFT study. Physical Review Research, 2021, 3, .	1.1	7
60	Charge transfer in $LaVO_3$ multilayers: Strain-controlled dimensionality of interface metallicity between two Mott insulators. Physical Review Materials, 2019, 3, .	0.9	7
61	Charge disproportionation and Hund's insulating behavior in a five-orbital Hubbard model applicable to $d_4$ perovskites. Physical Review B, 2021, 104, .	1.1	6
62	Magnetic and ferroelectric properties of $SrVO_3$ from first principles. Physical Review Research, 2020, 2, .	1.3	4
63	Charge self-consistent electronic structure calculations with dynamical mean-field theory using Quantum ESPRESSO, Wannier 90 and TRIQS. Journal of Physics Condensed Matter, 2022, 34, 235601.	0.7	4
64	Impact of chemical disorder on magnetic exchange interactions in $L_2M_2O_7$ . Physical Review B, 2022, 105, .	1.4	4
65	Tailoring interfacial properties in $CaVO_3$ thin films and heterostructures with $SrTiO_3$ and $LaAlO_3$ : A DFT+DMFT study. Physical Review Materials, 2020, 4, .	0.9	3
66	$DFT+DMFT$ study of oxygen vacancies in a Mott insulator. Physical Review B, 2019, 100, .	1.1	2
67	Evidence for Jahn-Teller-driven metal-insulator transition in strained $SrCrO_3$ from first-principles calculations. Physical Review Materials, 2022, 6, .	0.9	1
68	Understanding the Effect of Doping and Epitaxial Strain on the Ferroelectric Polarization of Layered Perovskite Thin Films. Microscopy and Microanalysis, 2017, 23, 1606-1607.	0.2	0