Dennis Meier

List of Publications by Year
in descending order

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71 papers	3,741 citations	186265 28 h-index	128289 60 g-index
76 all docs	76 docs citations	76 times ranked	4302 citing authors

#	Article	IF	Citations
1	The evolution of multiferroics. Nature Reviews Materials, 2016, 1, .	48.7	933
2	Anisotropic conductance at improper ferroelectric domain walls. Nature Materials, 2012, 11, 284-288.	27.5	409
3	Piezoresponse force microscopy and nanoferroic phenomena. Nature Communications, 2019, 10, 1661.	12.8	252
4	Domain-wall engineering and topological defects in ferroelectric and ferroelastic materials. Nature Reviews Physics, 2020, 2, 634-648.	26.6	154
5	Strain-induced coupling of electrical polarization and structural defects in SrMnO3 films. Nature Nanotechnology, 2015, 10, 661-665.	31.5	153
6	Functional electronic inversion layers at ferroelectric domain walls. Nature Materials, 2017, 16, 622-627.	27.5	127
7	Magnetoelectric domain control in multiferroic TbMnO ₃. Science, 2015, 348, 1112-1115.	12.6	107
8	Functional domain walls in multiferroics. Journal of Physics Condensed Matter, 2015, 27, 463003.	1.8	106
9	Ferroelectric domain walls for nanotechnology. Nature Reviews Materials, 2022, 7, 157-173.	48.7	89
10	Observation and Coupling of Domains in a Spin-Spiral Multiferroic. Physical Review Letters, 2009, 102, 107202.	7.8	85
11	Electrical half-wave rectification at ferroelectric domain walls. Nature Nanotechnology, 2018, 13, 1028-1034.	31.5	77
12	Reversible optical switching of antiferromagnetism in TbMnO3. Nature Photonics, 2016, 10, 653-656.	31.4	76
13	Topological Defects in Hexagonal Manganites: Inner Structure and Emergent Electrostatics. Nano Letters, 2017, 17, 5883-5890.	9.1	56
14	Local dynamics of topological magnetic defects in the itinerant helimagnet FeGe. Nature Communications, 2016, 7, 12430.	12.8	53
15	Topological domain walls in helimagnets. Nature Physics, 2018, 14, 465-468.	16.7	47
16	Precipitation Hardening in Ferroelectric Ceramics. Advanced Materials, 2021, 33, e2102421.	21.0	46
17	Hysteresis effects in the phase diagram of multiferroicGdMnO3. Physical Review B, 2006, 73, .	3.2	44
18	New features in the phase diagram of TbMnO3. New Journal of Physics, 2007, 9, 100-100.	2.9	40

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19	Global Formation of Topological Defects in the Multiferroic Hexagonal Manganites. Physical Review X, 2017, 7, .	8.9	40
20	Mutual induction of magnetic 3dand 4forder in multiferroic hexagonal ErMnO3. Physical Review B, 2012, 86, .	3.2	37
21	Conductivity Contrast and Tunneling Charge Transport in the Vortexlike Ferroelectric Domain Patterns of Multiferroic Hexagonal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>YMnO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn> Physical Review Letters, 2017, 118, 036803.	7.8	36
22	Optimization of Electronic Domainâ€Wall Properties by Aliovalent Cation Substitution. Advanced Electronic Materials, 2016, 2, 1500195.	5.1	35
23	Electronic bulk and domain wall properties in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>B</mml:mi></mml:math> -site doped hexagonal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>ErMnO</mml:mi><mml:mn>3</mml:mn></mml:msub> Physical Review B, 2018, 97, .	3.2	34
24	Magnetoelectric inversion of domain patterns. Nature, 2018, 560, 466-470.	27.8	32
25	Anomalous thermal expansion and strong damping of the thermal conductivity of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">Nd</mml:mi><mml:mi mathvariant="normal">Mn</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">Tb</mml:mi><mml:mi mathvariant="normal">Mn</mml:mi><mml:mi> Physical Review	3.2	31
26	Growth of high-quality hexagonal ErMnO3 single crystals by the pressurized floating-zone method. Journal of Crystal Growth, 2015, 409, 75-79.	1.5	31
27	Polarization control at spin-driven ferroelectric domain walls. Nature Communications, 2015, 6, 6661.	12.8	30
28	Charged domain walls in improper ferroelectric hexagonal manganites and gallates. Physical Review Materials, 2018, 2, .	2.4	29
29	Robustness of magnetic and electric domains against charge carrier doping in multiferroic hexagonal ErMnO3. New Journal of Physics, 2016, 18, 043015.	2.9	28
30	Observation of Uncompensated Bound Charges at Improper Ferroelectric Domain Walls. Nano Letters, 2019, 19, 1659-1664.	9.1	28
31	Domains and domain walls in multiferroics. ChemistrySelect, 2020, 5, .	1.5	28
32	Topology and manipulation of multiferroic hybrid domains in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>MnWO</mml:mtext></mml:mrow><mml:mn>4</mml:mn></mml:msub></mml Physical Review B, 2009, 80, .	3.2	27
33	Imaging and characterization of conducting ferroelectric domain walls by photoemission electron microscopy. Applied Physics Letters, 2014, 104, .	3.3	27
34	Frequency dependent polarisation switching in h-ErMnO3. Applied Physics Letters, 2018, 112, .	3.3	26
35	Characterization of ferroelectric domain walls by scanning electron microscopy. Journal of Applied Physics, 2020, 128, .	2.5	22
36	FIB lift-out of conducting ferroelectric domain walls in hexagonal manganites. Applied Physics Letters, 2019, 115, 122901.	3.3	21

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37	Conductivity control via minimally invasive anti-Frenkel defects in a functional oxide. Nature Materials, 2020, 19, 1195-1200.	27.5	20
38	Domain Walls. , 2020, , .		19
39	Domain-Pattern Transfer across an Artificial Magnetoelectric Interface. Physical Review Applied, 2018, 10, .	3.8	17
40	Translation domains in multiferroics. Phase Transitions, 2013, 86, 33-52.	1.3	16
41	Magnetoelectric Force Microscopy on Antiferromagnetic 180â˜ Domains in Cr2O3. Materials, 2017, 10, 1051.	2.9	16
42	Functional ferroic heterostructures with tunable integral symmetry. Nature Communications, 2014, 5, 4295.	12.8	15
43	Application of a long short-term memory for deconvoluting conductance contributions at charged ferroelectric domain walls. Npj Computational Materials, 2020, 6, .	8.7	15
44	Observation of Unconventional Dynamics of Domain Walls in Uniaxial Ferroelectric Lead Germanate. Advanced Functional Materials, 2020, 30, 2000284.	14.9	14
45	Independent ferroelectric contributions and rare-earth-induced polarization reversal in multiferroic TbMn2O5. Physical Review B, 2012, 85, .	3.2	13
46	Dimensionality-Induced Change in Topological Order in Multiferroic Oxide Superlattices. Physical Review Letters, 2021, 126, 157601.	7.8	12
47	A short history of multiferroics. ChemistrySelect, 2021, 6, .	1.5	12
48	Local control of improper ferroelectric domains in YMnO3. Physical Review B, 2020, 102, .	3.2	11
49	Intrinsic and extrinsic conduction contributions at nominally neutral domain walls in hexagonal manganites. Applied Physics Letters, 2020, 116, .	3.3	11
50	Domain wall mobility and roughening in doped ferroelectric hexagonal manganites. Physical Review Research, 2020, 2, .	3.6	11
51	First-principles study of topologically protected vortices and ferroelectric domain walls in hexagonal YGaO3. Physical Review B, 2020, 102, .	3.2	10
52	Local electric-field control of multiferroic spin-spiral domains in TbMnO3. Npj Quantum Materials, 2020, 5, .	5.2	10
53	Anisotropic in-plane dielectric and ferroelectric properties of tensile-strained BaTiO3 films with three different crystallographic orientations. AIP Advances, 2021, 11, 025016.	1.3	10
54	Magnetic and geometric control of spin textures in the itinerant kagome magnet <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Fe</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:r Physical Review Research, 2021, 3, .	3.6	10

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55	Insulating improper ferroelectric domain walls as robust barrier layer capacitors. Journal of Applied Physics, 2021, 129, .	2.5	9
56	Contact-free reversible switching of improper ferroelectric domains by electron and ion irradiation. APL Materials, 2021, 9, .	5.1	9
57	Observation of Electric-Field-Induced Structural Dislocations in a Ferroelectric Oxide. Nano Letters, 2021, 21, 3386-3392.	9.1	9
58	Unveiling Alternating Current Electronic Properties at Ferroelectric Domain Walls. Advanced Electronic Materials, 2022, 8, .	5.1	9
59	The Third Dimension of Ferroelectric Domain Walls. Advanced Materials, 2022, 34, .	21.0	8
60	Contact-Free Mapping of Electronic Transport Phenomena of Polar Domains inSrMnO3Films. Physical Review Applied, 2016, 5, .	3.8	7
61	Charged Ferroelectric Domain Walls for Deterministic ac Signal Control at the Nanoscale. Nano Letters, 2021, 21, 9560-9566.	9.1	7
62	Ferroelectric Domain Engineering Using Structural Defect Ordering. Chemistry of Materials, 2022, 34, 6468-6475.	6.7	7
63	Electrostatic potential mapping at ferroelectric domain walls by low-temperature photoemission electron microscopy. Applied Physics Letters, 2019, 115, .	3.3	6
64	Magnetoelastic properties of multiferroic hexagonal ErMnO3. Journal of Magnetism and Magnetic Materials, 2022, 554, 169277.	2.3	6
65	Ferroelectric domains in the multiferroic phase of ErMnO₃imaged by low-temperature photoemission electron microscopy. Journal of Physics: Conference Series, 2015, 592, 012120.	0.4	5
66	Strain relaxation dynamics of multiferroic orthorhombic manganites. Journal of Physics Condensed Matter, 2021, 33, 125402.	1.8	5
67	Domains and domain walls in ferroic materials. Journal of Applied Physics, 2021, 129, .	2.5	5
68	Observation of cation-specific critical behavior at the improper ferroelectric phase transition in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Gd</mml:mi><mml:mn>2</mml:mn></mml: Physical Review Materials, 2022, 6, .	2.4	3
69	Detection of Topological Spin Textures via Nonlinear Magnetic Responses. Nano Letters, 2022, 22, 14-21.	9.1	3
70	Measuring Ferroelectric Order Parameters at Domain Walls and Vortices in Hexagonal Manganites with Atomic Resolution STEM. Microscopy and Microanalysis, 2017, 23, 1636-1637.	0.4	0
71	Dislocation-Driven Relaxation Processes at the Conical to Helical Phase Transition in FeGe. ACS Nano, 2021, , .	14.6	0