Manfred Fiebig

List of Publications by Citations

159 papers	15,909 citations	47 h-index	125 g-index
169 ext. papers	17,738 ext. citations	10 avg, IF	7.18 L-index

#	Paper	IF	Citations
159	Revival of the magnetoelectric effect. *Journal Physics D: Applied Physics*, **2005**, 38, R123-R152	3	4061
158	Materials science. The renaissance of magnetoelectric multiferroics. *Science*, **2005**, 309, 391-2	33.3	2287
157	Observation of coupled magnetic and electric domains. *Nature*, **2002**, 419, 818-20	50.4	1268
156	Magnetic phase control by an electric field. *Nature*, **2004**, 430, 541-4	50.4	836
155	The evolution of multiferroics. *Nature Reviews Materials*, **2016**, 1,	73.3	624
154	Coherent terahertz control of antiferromagnetic spin waves. *Nature Photonics*, **2011**, 5, 31-34	33.9	578
153	Anisotropic conductance at improper ferroelectric domain walls. *Nature Materials*, **2012**, 11, 284-8	27	347
152	Visualization of the local insulator-metal transition in Pr0.7Ca0. 3MnO3. *Science*, **1998**, 280, 1925-8	33.3	319
151	Second-harmonic generation as a tool for studying electronic and magnetic structures of crystals: review. *Journal of the Optical Society of America B: Optical Physics*, **2005**, 22, 96	1.7	309
150	Determination of the magnetic symmetry of hexagonal manganites by second harmonic generation. *Physical Review Letters*, **2000**, 84, 5620-3	7.4	272
149	Observation of ferrotoroidic domains. *Nature*, **2007**, 449, 702-5	50.4	268
148	The toroidal moment in condensed-matter physics and its relation to the magnetoelectric effect. *Journal of Physics Condensed Matter*, **2008**, 20, 434203	1.8	265
147	Antiferromagnetic opto-spintronics. *Nature Physics*, **2018**, 14, 229-241	16.2	190
146	Spin oscillations in antiferromagnetic NiO triggered by circularly polarized light. *Physical Review Letters*, **2010**, 105, 077402	7.4	173
145	Second harmonic generation and magnetic-dipole-electric-dipole interference in antiferromagnetic Cr2O3. *Physical Review Letters*, **1994**, 73, 2127-2130	7.4	170
144	Spin-rotation phenomena and magnetic phase diagrams of hexagonal RMnO3. *Journal of Applied Physics*, **2003**, 93, 8194-8196	2.5	124
143	Strain-induced coupling of electrical polarization and structural defects in SrMnO3 films. *Nature Nanotechnology*, **2015**, 10, 661-5	28.7	119

142	Magnetoelectric behavior of domain walls in multiferroic HoMnO3. *Physical Review B*, **2004**, 70,	3.3	106
141	Electrostatic topology of ferroelectric domains in YMnO3. *Applied Physics Letters*, **2010**, 97, 012904	3.4	102
140	Ferroelectricity in the multiferroic hexagonal manganites. *Nature Physics*, **2015**, 11, 1070-1073	16.2	100
139	Second harmonic generation in the centrosymmetric antiferromagnet NiO. *Physical Review Letters*, **2001**, 87, 137202	7.4	100
138	Domain topography of antiferromagnetic Cr2O3 by second-harmonic generation. *Applied Physics Letters*, **1995**, 66, 2906-2908	3.4	89
137	Scaling Behavior and Beyond Equilibrium in the Hexagonal Manganites. *Physical Review X*, **2012**, 2,	9.1	88
136	Structure and interaction of antiferromagnetic domain walls in hexagonal YMnO3. *Physical Review Letters*, **2003**, 90, 177204	7.4	88
135	Ultrafast manipulation of antiferromagnetism of NiO. *Physical Review Letters*, **2004**, 93, 117402	7.4	85
134	Multiferroics. Magnetoelectric domain control in multiferroic TbMnO *Science*, **2015**, 348, 1112-5	33.3	83
133	Observation and coupling of domains in a spin-spiral multiferroic. *Physical Review Letters*, **2009**, 102, 107202	7.4	75
132	Sub-picosecond photo-induced melting of a charge-ordered state in a perovskite manganite. *Applied Physics B: Lasers and Optics*, **2000**, 71, 211-215	1.9	75
131	Terahertz-Driven Nonlinear Spin Response of Antiferromagnetic Nickel Oxide. *Physical Review Letters*, **2016**, 117, 197201	7.4	70
130	High-speed domain wall racetracks in a magnetic insulator. *Nature Communications*, **2019**, 10, 4750	17.4	68
129	Ferroic nature of magnetic toroidal order. *Nature Communications*, **2014**, 5, 4796	17.4	66
128	Interaction of frustrated magnetic sublattices in ErMnO3. *Physical Review Letters*, **2002**, 88, 027203	7.4	66
127	Writing and reading of an arbitrary optical polarization state in an antiferromagnet. *Nature Photonics*, **2015**, 9, 25-29	33.9	58
126	Reversible optical switching of antiferromagnetism in TbMnO3. *Nature Photonics*, **2016**, 10, 653-656	33.9	57
125	Electrical half-wave rectification at ferroelectric domain walls. *Nature Nanotechnology*, **2018**, 13, 1028-1034	38.7	57

124	Ultrafast magnetization dynamics of antiferromagnetic compounds. *Journal Physics D: Applied Physics*, **2008**, 41, 164005	3	56
123	Magnetic-field induced second harmonic generation in CuB2O4. *Physical Review Letters*, **2004**, 93, 037204	7.4	56
122	Nanoscale design of polarization in ultrathin ferroelectric heterostructures. *Nature Communications* , **2017**, 8, 1419	17.4	55
121	Current trends of the magnetoelectric effect. *European Physical Journal B*, **2009**, 71, 293-297	1.2	55
120	Microstructure and ferroelectricity of BaTiO thin films on Si for integrated photonics. *Nanotechnology*, **2017**, 28, 075706	3.4	53
119	Nonlinear optical spectroscopy of electronic transitions in hexagonal manganites. *Applied Physics B: Lasers and Optics*, **2001**, 73, 139-144	1.9	53
118	Magnetoresistance of heavy and light metal/ferromagnet bilayers. *Applied Physics Letters*, **2015**, 107, 192405	3.4	52
117	Probing Ferroelectric Domain Engineering in BiFeO3 Thin Films by Second Harmonic Generation. *Advanced Materials*, **2015**, 27, 4871-6	24	52
116	Probing of ferroelectric surface and bulk domains in RMnO3 (R=Y, Ho) by second harmonic generation. *Physical Review B*, **2002**, 66,	3.3	52
115	Magnetic phase diagram of HoMnO3. *Journal of Applied Physics*, **2002**, 91, 8867	2.5	52
114	Observation of persistent centrosymmetricity in the hexagonal manganite family. *Physical Review B* , **2012**, 85,	3.3	50
113	Second-harmonic near-field imaging of ferroelectric domain structure of YMnO3. *Physical Review B*, **2009**, 79,	3.3	49
112	Determination of spin direction in the spin-flop phase of Cr2O3. *Physical Review B*, **1996**, 54, R12681-R12684	3.3	47
111	Domain Wall Architecture in Tetragonal Ferroelectric Thin Films. *Advanced Materials*, **2017**, 29, 1605145	24	46
110	Ultrafast optical excitation of coherent magnons in antiferromagnetic NiO. *Physical Review B*, **2017**, 95,	3.3	45
109	Topography of antiferromagnetic domains using second harmonic generation with an external reference. *Applied Physics B: Lasers and Optics*, **1998**, 66, 265-270	1.9	42
108	Complex magnetism and magnetic-field-driven electrical polarization of Co3TeO6. *Physical Review B*, **2011**, 84,	3.3	40
107	Giant coupling of second-harmonic generation to a multiferroic polarization. *Physical Review B*, **2009**, 80,	3.3	40

106	Theory of high-temperature multiferroicity in cupric oxide. *Physical Review Letters*, **2011**, 106, 257601	7.4	38
105	Time-resolved imaging of magnetoelectric switching in multiferroic MnWO4. *Physical Review B*, **2011**, 84,	3.3	35
104	Seeing is believing: visualization of antiferromagnetic domains. *Npj Quantum Materials*, **2020**, 5,	5	33
103	Probing Ferroic States in Oxide Thin Films Using Optical Second Harmonic Generation. *Applied Sciences (Switzerland)*, **2018**, 8, 570	2.6	32
102	Conductivity Contrast and Tunneling Charge Transport in the Vortexlike Ferroelectric Domain Patterns of Multiferroic Hexagonal YMnO_{3}. *Physical Review Letters*, **2017**, 118, 036803	7.4	31
101	Global Formation of Topological Defects in the Multiferroic Hexagonal Manganites. *Physical Review X*, **2017**, 7,	9.1	30
100	Primary ferrotoroidicity in antiferromagnets. *Physical Review B*, **2015**, 92,	3.3	30
99	Mutual induction of magnetic 3d and 4f order in multiferroic hexagonal ErMnO3. *Physical Review B*, **2012**, 86,	3.3	30
98	Ultrafast spin and lattice dynamics in antiferromagnetic Cr2O3. *Physical Review B*, **2007**, 75,	3.3	30
97	Reflection spectroscopy on the photoinduced local metallic phase of Pr0.7Ca0.3MnO3. *Applied Physics Letters*, **1999**, 74, 2310-2312	3.4	30
96	Optimization of Electronic Domain-Wall Properties by Aliovalent Cation Substitution. *Advanced Electronic Materials*, **2016**, 2, 1500195	6.4	29
95	Accelerated Ionic Motion in Amorphous Memristor Oxides for Nonvolatile Memories and Neuromorphic Computing. *Advanced Functional Materials*, **2019**, 29, 1804782	15.6	29
94	Nanodomains in multiferroic hexagonal RMnO3 films (R=Y,Dy,Ho,Er). *Physical Review B*, **2009**, 80,	3.3	28
93	Second harmonic spectroscopy and control of domain size in antiferromagnetic YMnO3. *Journal of Applied Physics*, **1998**, 83, 6560-6562	2.5	28
92	Investigation of the nonlinear optical properties of metamaterials by second harmonic generation. *Applied Physics B: Lasers and Optics*, **2011**, 105, 149-162	1.9	26
91	Multiphoton Polariton Spectroscopy on ZnO. *Physica Status Solidi (B): Basic Research*, **1993**, 177, 187-199	1.3	26
90	Polarization control at spin-driven ferroelectric domain walls. *Nature Communications*, **2015**, 6, 6661	17.4	25
89	Topology and manipulation of multiferroic hybrid domains in MnWO4. *Physical Review B*, **2009**, 80,	3.3	24

88	The ultrathin limit of improper ferroelectricity. *Nature Communications*, **2019**, 10, 5591	17.4	24
87	Incompatible magnetic order in multiferroic hexagonal DyMnO3. *Physical Review B*, **2010**, 82,	3.3	23
86	Anisotropy of antiferromagnetic 180° domains in magnetoelectric LiMPO4 (M = Fe, Co, Ni). *European Physical Journal B*, **2009**, 71, 355-360	1.2	22
85	Interference of second harmonics due to electric and magnetic dipoles in antiferromagnetic Cr2O3. *Physical Review B*, **1998**, 58, 8654-8666	3.3	22
84	Observation of Uncompensated Bound Charges at Improper Ferroelectric Domain Walls. *Nano Letters*, **2019**, 19, 1659-1664	11.5	21
83	Symmetry replication and toroidic effects in the multiferroic pyroxene NaFeSi2O6. *Physical Review B*, **2010**, 81,	3.3	21
82	Action spectra of the two-stage photoinduced insulator-metal transition in Pr1⊠CaxMnO3. *Physical Review B*, **1999**, 60, 7944-7949	3.3	21
81	Frequency dependent polarisation switching in h-ErMnO3. *Applied Physics Letters*, **2018**, 112, 182908	3.4	20
80	Spatial inhomogeneities at the LaAlO3/SrTiO3 interface: Evidence from second harmonic generation. *Physical Review B*, **2012**, 86,	3.3	20
79	Nonlinear optical spectroscopy of magnetoelectric and piezomagnetic crystals. *Ferroelectrics*, **1997**, 204, 1-21	0.6	20
78	Depolarizing-Field Effects in Epitaxial Capacitor Heterostructures. *Physical Review Letters*, **2019**, 123, 147601	7.4	19
77	Magnetoelectric inversion of domain patterns. *Nature*, **2018**, 560, 466-470	50.4	19
76	Second harmonic generation on incommensurate structures: The case of multiferroic MnWO4. *Physical Review B*, **2010**, 82,	3.3	19
75	Phase-resolved second-harmonic imaging with nonideal laser sources. *Optics Letters*, **2004**, 29, 41-3	3	19
74	Poling of an artificial magneto-toroidal crystal. *Nature Nanotechnology*, **2019**, 14, 141-144	28.7	19
73	Tracking the ultrafast motion of an antiferromagnetic order parameter. *Nature Communications*, **2019**, 10, 3995	17.4	18
72	Spin-angle topography of hexagonal manganites by magnetic second-harmonic generation. *Applied Physics Letters*, **2000**, 77, 4401-4403	3.4	17
71	Robust In-Plane Ferroelectricity in Ultrathin Epitaxial Aurivillius Films. *Advanced Materials Interfaces* , **2020**, 7, 2000202	4.6	15

70	Translation domains in multiferroics. *Phase Transitions*, **2013**, 86, 33-52	1.3	15
69	Anisotropy of antiferromagnetic 180 degrees domains in LiCoPO4 and LiNiPO4. *Physical Review Letters*, **2008**, 101, 157202	7.4	15
68	Interface and surface stabilization of the polarization in ferroelectric thin films. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 28589-28595	11.5	15
67	First-order multi-k phase transitions and magnetoelectric effects in multiferroic Co3TeO6. *Physical Review B*, **2012**, 85,	3.3	14
66	Magnetoelectric phase control in multiferroic manganites. *Phase Transitions*, **2006**, 79, 947-956	1.3	14
65	Reverse and forward engineering of Drosophila corneal nanocoatings. *Nature*, **2020**, 585, 383-389	50.4	14
64	Enhanced Nonlinear Yield from Barium Titanate Metasurface Down to the Near Ultraviolet. *Advanced Optical Materials*, **2019**, 7, 1900936	8.1	13
63	Magnetic second harmonic generation in centrosymmetric CoO, NiO, and KNiF3. *Journal of Applied Physics*, **2003**, 93, 6900-6902	2.5	13
62	Tracking ferroelectric domain formation during epitaxial growth of PbTiO3 films. *Applied Physics Letters*, **2020**, 117, 132901	3.4	13
61	Antireflective nanocoatings for UV-sensation: the case of predatory owlfly insects. *Journal of Nanobiotechnology*, **2017**, 15, 52	9.4	12
60	Alternative moth-eye nanostructures: antireflective properties and composition of dimpled corneal nanocoatings in silk-moth ancestors. *Journal of Nanobiotechnology*, **2017**, 15, 61	9.4	12
59	Functional ferroic heterostructures with tunable integral symmetry. *Nature Communications*, **2014**, 5, 4295	17.4	12
58	Independent ferroelectric contributions and rare-earth-induced polarization reversal in multiferroic TbMn2O5. *Physical Review B*, **2012**, 85,	3.3	12
57	Magnetic phase diagram of CuB2O4. *Journal of Applied Physics*, **2003**, 93, 6960-6962	2.5	12
56	Nonlinear magneto-optical properties of colossal magnetoresistive manganites. *Physical Review Letters*, **2001**, 86, 6002-5	7.4	12
55	Domain-Pattern Transfer across an Artificial Magnetoelectric Interface. *Physical Review Applied*, **2018**, 10,	4.3	12
54	Optical second harmonic imaging as a diagnostic tool for monitoring epitaxial oxide thin-film growth. *Applied Surface Science*, **2015**, 327, 413-417	6.7	11
53	Magnetoelectric Force Microscopy on Antiferromagnetic 180 Domains in Cr□□*Materials*, **2017**, 10,	3.5	11

52	In-situ monitoring of interface proximity effects in ultrathin ferroelectrics. *Nature Communications*, **2020**, 11, 5815	17.4	11
51	Search for the Magnetic Monopole at a Magnetoelectric Surface. *Physical Review X*, **2019**, 9,	9.1	11
50	Ferroelectric domain architecture and poling of BaTiO3 on Si. *Physical Review Materials*, **2020**, 4,	3.2	10
49	Time-resolved collapse and revival of the Kondo state near a quantum phase transition. *Nature Physics*, **2018**, 14, 1103-1107	16.2	9
48	Combinatorial model for the ferroelectric domain-network formation in hexagonal manganites. *Physical Review B*, **2014**, 89,	3.3	9
47	Coexistence of Bloch and Néel walls in a collinear antiferromagnet. *Physical Review B*, **2021**, 103,	3.3	9
46	Fermi Volume Evolution and Crystal-Field Excitations in Heavy-Fermion Compounds Probed by Time-Domain Terahertz Spectroscopy. *Physical Review Letters*, **2019**, 122, 096401	7.4	8
45	Structural invariance upon antiferromagnetic ordering in geometrically frustrated swedenborgite, CaBaCo2Fe2O7. *Journal of Applied Crystallography*, **2014**, 47, 2038-2047	3.8	8
44	Nonlinear spectroscopy of antiferromagnetic Cr2O3. *Journal of Applied Physics*, **1997**, 81, 4875-4877	2.5	8
43	Nonlinear optical spectroscopy of epitaxial magnetic garnet films. *Low Temperature Physics*, **2002**, 28, 523-527	0.7	8
42	Second Harmonic Generation Spectroscopy and Domain Imaging of the High-Temperature Multiferroic CuO. *Journal of the Physical Society of Japan*, **2012**, 81, 124714	1.5	7
41	Visualization and switching of the local insulator–metal transition in Pr0.7Ca0.3MnO3. *Journal of Applied Physics*, **1999**, 85, 5561-5563	2.5	7
40	Current-induced switching of YIG/Pt bilayers with in-plane magnetization due to Oersted fields. *Applied Physics Letters*, **2019**, 114, 172404	3.4	6
39	Piezoresponse force microscopy at sub-room temperatures. *Review of Scientific Instruments*, **2013**, 84, 043703	1.7	6
38	Relation between microscopic interactions and macroscopic properties in ferroics. *Nature Nanotechnology*, **2020**, 15, 896-900	28.7	6
37	Inversion-Symmetry Engineering in Layered Oxide Thin Films. *Nano Letters*, **2021**, 21, 2780-2785	11.5	6
36	Coupling of ferroelectric and antiferromagnetic order parameters in hexagonal RMnO3. *Applied Physics B: Lasers and Optics*, **2002**, 74, 759-764	1.9	5
35	Optical harmonic generation in magnetic garnet epitaxial films near the fundamental absorption edge. *Physics of the Solid State*, **2003**, 45, 662-669	0.8	5

34	Symmetry and coupling of magnetic and electric order parameters in YMnO3. *Journal of Applied Physics*, **2002**, 91, 8251	2.5	5
33	Epitaxial integration of improper ferroelectric hexagonal YMnO3 thin films in heterostructures. *Physical Review Materials*, **2020**, 4,	3.2	5
32	Two-dimensional spectroscopy on a THz quantum cascade structure. *Nanophotonics*, **2020**, 10, 171-180	6.3	5
31	Local control of improper ferroelectric domains in YMnO3. *Physical Review B*, **2020**, 102,	3.3	5
30	Interconversion of multiferroic domains and domain walls. *Nature Communications*, **2021**, 12, 2755	17.4	5
29	Magnetoelectric coupling of domains, domain walls and vortices in a multiferroic with independent magnetic and electric order. *Nature Communications*, **2021**, 12, 3093	17.4	5
28	Magnetically driven second-harmonic generation with phase matching in MnWO□*Optics Express*, **2015**, 23, 27700-6	3.3	4
27	Time-resolved demagnetization in by phase-sensitive second harmonic generation. *Journal of Magnetism and Magnetic Materials*, **2007**, 310, 1604-1606	2.8	4
26	Resonance-enhanced two-photon sum-frequency generation in NiO and KNiF3. *Applied Physics B: Lasers and Optics*, **2004**, 79, 701-706	1.9	4
25	Phase transitions of MnO3 compounds revealed by nonlinear magnetooptics. *Applied Physics B: Lasers and Optics*, **2002**, 74, 749-758	1.9	4
24	Detection of spin and charge states in centrosymmetric materials by nonlinear optics. *Journal of Applied Physics*, **2005**, 97, 10A914	2.5	4
23	Magnetoelectric Phenomena in Nonlinear Optics. *Ferroelectrics*, **2002**, 279, 93-109	0.6	4
22	Microdisplays as a versatile tool for the optical simulation of crystal diffraction in the classroom. *Journal of Applied Crystallography*, **2019**, 52, 457-462	3.8	4
21	Nonreciprocal second harmonic generation in a magnetoelectric material. *Science Advances*, **2021**, 7,	14.3	4
20	Giant conductivity of mobile non-oxide domain walls. *Nature Communications*, **2021**, 12, 3975	17.4	4
19	Local electric-field control of multiferroic spin-spiral domains in TbMnO3. *Npj Quantum Materials*, **2020**, 5,	5	3
18	Origin of Terahertz Soft-Mode Nonlinearities in Ferroelectric Perovskites. *Physical Review X*, **2021**, 11,	9.1	3
17	Symmetry and magnetism allied. *Nature Materials*, **2018**, 17, 567-568	27	2

16	Ultrafast and magnetoelectric phase transitions in antiferromagnets. *Journal of Magnetism and Magnetic Materials*, **2006**, 300, e264-e269	2.8	2
15	Emerging spin-phonon coupling through cross-talk of two magnetic sublattices.. *Nature Communications*, **2022**, 13, 443	17.4	2
14	Efficient spin excitation via ultrafast damping-like torques in antiferromagnets. *Nature Communications*, **2020**, 11, 6142	17.4	2
13	Antiferromagnetic order in Li(Ni1□Fex)PO4 (x = 0.06, 0.20). *Physical Review B*, **2013**, 88,	3.3	1
12	Nonlinear magneto-optical properties of Pr1□CaxMnO3 and Nd1□SrxMnO3. *Journal of Applied Physics*, **2002**, 91, 7505	2.5	1
11	Signatures of enhanced out-of-plane polarization in asymmetric BaTiO superlattices integrated on silicon.. *Nature Communications*, **2022**, 13, 265	17.4	1
10	Terahertz conductivity of heavy-fermion systems from time-resolved spectroscopy. *Physical Review Research*, **2020**, 2,	3.9	1
9	Training the Polarization in Integrated La Bi FeO -Based Devices. *Advanced Materials*, **2021**, e2104688	24	1
8	Birefringence of orthorhombic DyScO3: Toward a terahertz quarter-wave plate. *Applied Physics Letters*, **2021**, 118, 223506	3.4	1
7	Asymmetric Character of the Ferroelectric Phase Transition and Charged Domain Walls in a Hybrid Improper Ferroelectric. *Advanced Electronic Materials*,2100434	6.4	1
6	Writing of strain-controlled multiferroic ribbons into MnWO. *Nature Communications*, **2021**, 12, 6199	17.4	0
5	Stabilization and manipulation of in-plane polarization in a ferroelectric|dielectric superlattice. *Journal of Applied Physics*, **2021**, 129, 174104	2.5	0
4	Optical Second Harmonic Generation as a Tool for In Situ, Real-Time Monitor of Thin Film Epitaxial Growth. *Key Engineering Materials*, **2014**, 605, 223-226	0.4	
3	Magnetische Wirbel in Festkörpern. *Physik in Unserer Zeit*, **2008**, 39, 8-8	0.1	
2	Impact of Ferroelectric Ordering on Optical and Magnetic Properties of Hexagonal Manganites. *Ferroelectrics*, **2004**, 303, 113-118	0.6	
1	Antiferromagnetische Domänen sichtbar gemacht. *Physik Journal*, **1996**, 52, 454-455		