Ekkes BrÃ¼ck

List of Publications by Year
in descending order

Version: 2024-02-01

101 papers	9,630 citations	168829 31 h-index	40945 97 g-index
101 all docs	101 docs citations	101 times ranked	6512 citing authors

#	Article	IF	Citations
1	Enhanced reversibility of the magnetoelastic transition in (Mn,Fe)2(P,Si) alloys via minimizing the transition-induced elastic strain energy. Journal of Materials Science and Technology, 2022, 103, 165-176.	5.6	11
2	Magnetocaloric effect in the (Mn,Fe)2(P,Si) system: From bulk to nano. Acta Materialia, 2022, 224, 117532.	3.8	17
3	Nonlinear influence of excess Mn on the magnetoelastic transition in (Mn,Cr)2Sb. Journal of Alloys and Compounds, 2022, 903, 164011.	2.8	1
4	Magnetic Phase Diagram of the MnxFe2â^'xP1â^'ySiy System. Entropy, 2022, 24, 2.	1.1	4
5	The second-order magnetic phase transition and magnetocaloric effect in all-d-metal NiCoMnTi-based Heusler alloys. Journal of Alloys and Compounds, 2022, 906, 164337.	2.8	24
6	Reduced Hysteresis and Enhanced Giant Magnetocaloric Effect in B-Doped all- d -Metal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Ni</mml:mi></mml:math> - <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Co</mml:mi></mml:math> - <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Mn</	1.5	14
7	Impact of F and S doping on (Mn,Fe)2(P,Si) giant magnetocaloric materials. Acta Materialia, 2022, 234, 118057.	3.8	9
8	Formation of vacancies and metallic-like domains in photochromic rare-earth oxyhydride thin films studied by in-situ illumination positron annihilation spectroscopy. Physical Review Materials, 2022, 6, .	0.9	6
9	Metallic Magnetic Materials. , 2021, , 1-116.		1
10	Ab initio modeling and experimental investigation of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Fe</mml:mi><mml:mn>2</mml:mn></mml:r mathvariant="normal">P</mml:mi></mml:mrow></mml:math> by DFT and spin spectroscopies. Physical Review Materials, 2021, 5, .	0.9	1
11	The antiferromagnetic to ferrimagnetic phase transition in Mn2Sb1-Bi compounds. Journal of Alloys and Compounds, 2021, 866, 158963.	2.8	12
12	Metallic Magnetic Materials. , 2021, , 693-808.		0
13	Tuning the magneto-elastic transition of (Mn,Fe,V)2(P,Si) alloys to low magnetic field applications. Journal of Alloys and Compounds, 2020, 821, 153451.	2.8	17
14	Design of Reversible Low-Field Magnetocaloric Effect at Room Temperature in Hexagonal MnMX Ferromagnets. Physical Review Applied, 2020, 13, .	1.5	13
15	Giant anisotropic magnetocaloric effect by coherent orientation of crystallographic texture and rare-earth ion moments in HoNiSi ploycrystal. Acta Materialia, 2020, 193, 210-220.	3.8	34
16	Switching the magnetostructural coupling in MnCoGe-based magnetocaloric materials. Physical Review Materials, 2020, 4, .	0.9	8
17	Combined effect of annealing temperature and vanadium substitution for mangetocaloric Mn1.2-V Fe0.75P0.5Si0.5 alloys. Journal of Alloys and Compounds, 2019, 803, 671-677.	2.8	27
18	Small hysteresis and giant magnetocaloric effect in Nb-substituted (Mn,Fe)2(P,Si) alloys. Intermetallics, 2019, 114, 106602.	1.8	16

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19	Giant reversible magnetocaloric effect in MnNiGe-based materials: Minimizing thermal hysteresis via crystallographic compatibility modulation. Acta Materialia, 2019, 174, 450-458.	3.8	58
20	Reversible low-field magnetocaloric effect in Ni-Mn-In-based Heusler alloys. Physical Review Materials, 2019, 3, .	0.9	30
21	Magnetic Phase Transition in Spark-Produced Ternary LaFeSi Nanoalloys. ACS Applied Materials & Interfaces, 2018, 10, 6073-6078.	4.0	29
22	New magnetic phase of the chiral skyrmion material Cu ₂ OSeO ₃. Science Advances, 2018, 4, eaat7323.	4.7	66
23	Overview of magnetoelastic coupling in (Mn, Fe)2(P, Si)-type magnetocaloric materials. Rare Metals, 2018, 37, 723-733.	3.6	33
24	Nature of the Positron State in CdSe Quantum Dots. Physical Review Letters, 2018, 121, 057401.	2.9	7
25	Evolution and role of vacancy clusters at grain boundaries of ZnO:Al during accelerated degradation of Cu(In,Ga)Se2 solar cells revealed by positron annihilation. Physical Review Materials, 2018, 2, .	0.9	7
26	Tuneable Giant Magnetocaloric Effect in (Mn,Fe)2(P,Si) Materials by Co-B and Ni-B Co-Doping. Materials, 2017, 10, 14.	1.3	27
27	A universal metric for ferroic energy materials. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150303.	1.6	27
28	Ligand-surface interactions and surface oxidation of colloidal PbSe quantum dots revealed by thin-film positron annihilation methods. Applied Physics Letters, 2016, 108, .	1.5	13
29	Breaking the geometric magnetic frustration in controlled off-stoichiometric LuMn_{1+z}O_{3+Î´} compounds. Physical Chemistry Chemical Physics, 2016, 18, 13519-13523.	1.3	4
30	Thermodynamic Measurement of Angular Anisotropy at the Hidden Order Transition ofURu2Si2. Physical Review Letters, 2016, 117, 157201.	2.9	9
31	Efficient Room-Temperature Cooling with Magnets. Chemistry of Materials, 2016, 28, 4901-4905.	3.2	45
32	Effects of Milling Conditions on Nano-scale MnFe(P,Si) Particles by Surfactant-assisted High-energy Ball Milling. Physics Procedia, 2015, 75, 1104-1111.	1.2	5
33	Self Healing of Creep Damage by Gold Precipitation in Iron Alloys. Advanced Engineering Materials, 2015, 17, 598-603.	1.6	35
34	About the mechanical stability of MnFe(P,Si,B) giant-magnetocaloric materials. Journal of Alloys and Compounds, 2014, 617, 569-574.	2.8	48
35	Proof-of-Concept Static Thermomagnetic Generator Experimental Device. Metallurgical and Materials Transactions E, 2014, 1, 36-40.	0.5	25
36	Positron annihilation study on deformation-induced Au precipitation in Feâ€“Au and Feâ€“Auâ€“Bâ€“N alloys. Journal of Materials Science, 2014, 49, 2509-2518.	1.7	12

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37	Taming the Firstâ€Order Transition in Giant Magnetocaloric Materials. Advanced Materials, 2014, 26, 2671-2675.	11.1	238
38	Preferential Au precipitation at deformation-induced defects in Feâ€“Au and Feâ€“Auâ€“Bâ€“N alloys. Journal of Alloys and Compounds, 2014, 584, 425-429.	2.8	16
39	Position-dependent shear-induced austeniteâ€“martensite transformation in double-notched TRIP and dual-phase steel samples. Journal of Applied Crystallography, 2014, 47, 956-964.	1.9	4
40	High-resolution X-ray diffraction investigation on the evolution of the substructure of individual austenite grains in TRIP steels during tensile deformation. Journal of Applied Crystallography, 2014, 47, 965-973.	1.9	3
41	The mechanical stability of retained austenite in low-alloyed TRIP steel under shear loading. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 594, 125-134.	2.6	30
42	Description of a differential setup for relaxation microcalorimetry. International Journal of Refrigeration, 2014, 37, 314-318.	1.8	1
43	Neutron diffraction study on the magnetic structure of Fe2P-based Mn0.66Fe1.29P1â^'xSix melt-spun ribbons. Journal of Magnetism and Magnetic Materials, 2013, 340, 80-85.	1.0	30
44	Tuning the giant inverse magnetocaloric effect in Mn2â^'xCrxSb compounds. Applied Physics Letters, 2013, 103, .	1.5	68
45	Magnetic and magnetocaloric exploration of Fe rich (Mn,Fe)2(P,Ge). Journal of Magnetism and Magnetic Materials, 2013, 344, 49-54.	1.0	21
46	X-Ray Powder Diffraction Studies on MnFeP0.78Ge0.22 in High Magnetic Fields. Journal of Low Temperature Physics, 2013, 170, 279-284.	0.6	4
47	Defect-induced Au precipitation in Feâ€“Au and Feâ€“Auâ€“Bâ€“N alloys studied by in situ small-angle neutron scattering. Acta Materialia, 2013, 61, 7009-7019.	3.8	37
48	Driving Magnetostructural Transitions in Layered Intermetallic Compounds. Physical Review Letters, 2013, 110, 217211.	2.9	48
49	Multi length scale characterization of austenite in TRIP steels using high-energy X-ray diffraction. Powder Diffraction, 2013, 28, 77-80.	0.4	3
50	Enhanced magnetocaloric effects and tunable thermal hysteresis in transition metal pnictides. Scripta Materialia, 2012, 67, 590-593.	2.6	39
51	High/low-moment phase transition in hexagonal Mn-Fe-P-Si compounds. Physical Review B, 2012, 86, .	1.1	74
52	A new feature of the reductionâ€“diffusion process applied for the synthesis of magnetocaloric LaFe13â^'xSix compounds. Journal of Alloys and Compounds, 2012, 541, 84-87.	2.8	12
53	Magnetostructural study of the (Mn,Fe)3(P,Si) system. Journal of Alloys and Compounds, 2012, 520, 52-58.	2.8	19
54	Magnetoelastic coupling and magnetocaloric effect in hexagonal Mnâ€“Feâ€“Pâ€“Si compounds. Scripta Materialia, 2012, 67, 975-978.	2.6	69

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55	The nanostructural analysis of hydrogenated silicon films based on positron annihilation studies. Journal of Non-Crystalline Solids, 2012, 358, 2015-2018.	1.5	22
56	High-energy X-ray diffraction study on the temperature-dependent mechanical stability of retained austenite in low-alloyed TRIP steels. Acta Materialia, 2012, 60, 565-577.	3.8	175
57	Influence of Co substitution on magnetic properties and thermal expansion of Nd6Fe13Si intermetallic compound. Intermetallics, 2011, 19, 682-687.	1.8	9
58	Magnetic properties of Dy nanoparticles and Al2O3-coated Dy nanocapsules. Journal of Nanoparticle Research, 2011, 13, 1163-1174.	0.8	6
59	Magnetic Materials and Devices for the 21st Century: Stronger, Lighter, and More Energy Efficient. Advanced Materials, 2011, 23, 821-842.	11.1	2,546
60	Mixed Magnetism for Refrigeration and Energy Conversion. Advanced Energy Materials, 2011, 1, 1215-1219.	10.2	227
61	Ferromagnetic glass on the base of aggregates of Ni amorphous nanogranules. Journal of Magnetism and Magnetic Materials, 2011, 323, 1588-1592.	1.0	4
62	Influence of irreversible losses on the performance of a two-stage magnetic Brayton refrigeration cycle. Physica B: Condensed Matter, 2010, 405, 1632-1637.	1.3	9
63	From single- to double-first-order magnetic phase transition in magnetocaloric Mn1â^'xCrxCoGe compounds. Applied Physics Letters, 2010, 96, .	1.5	202
64	Giant magnetocaloric effects by tailoring the phase transitions. Applied Physics Letters, 2010, 96, .	1.5	281
65	Enhanced absorption bandwidth in carbon-coated supermalloy FeNiMo nanocapsules for a thin absorb thickness. Journal of Alloys and Compounds, 2010, 506, 826-830.	2.8	26
66	Magnetocaloric effect in the La 0.8 Ce 0.2 Fe 11.4â^' x Co x Si 1.6 compounds. Journal of Magnetism and Magnetic Materials, 2009, 321, 3548-3552.	1.0	19
67	Magnetic properties of self-assembled nanostructure films on the base of amorphous Ni granules. Journal of Magnetism and Magnetic Materials, 2009, 321, 343-347.	1.0	7
68	On the determination of the magnetic entropy change in materials with first-order transitions. Journal of Magnetism and Magnetic Materials, 2009, 321, 3559-3566.	1.0	452
69	Introduction to special issue on magnetocaloric materials. Journal of Magnetism and Magnetic Materials, 2009, 321, 3533-3534.	1.0	1
70	Chapter Four Magnetocaloric Refrigeration at Ambient Temperature. Handbook of Magnetic Materials, 2007, , 235-291.	0.6	26
71	Parametric optimization of an irreversible magnetic Ericsson refrigerator with finite heat reservoirs. Physica B: Condensed Matter, 2007, 391, 350-356.	1.3	10
72	Pressure effects on the magnetocaloric properties of MnFeP1â^'xAsx. Journal of Magnetism and Magnetic Materials, 2007, 310, e1008-e1009.	1.0	18

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73	Temperature and magnetic field dependence of the soft X-ray magnetic circular dichroism intensity for the Mn-L3 edge of MnFeP0.78Ge0.22. Journal of Magnetism and Magnetic Materials, 2007, 310, e1010-e1011.	1.0	2
74	Magnetocaloric refrigeration near room temperature (invited). Journal of Magnetism and Magnetic Materials, 2007, 310, 2793-2799.	1.0	165
75	Optimization of the performance characteristics in an irreversible magnetic Ericsson refrigeration cycle. Physica B: Condensed Matter, 2006, 381, 246-255.	1.3	24
76	Structural and Magnetic Properties of MnFe$_1 - rm x$Co$_rm x$Ge Compounds. IEEE Transactions on Magnetics, 2006, 42, 3776-3778.	1.2	102
77	Structure and magnetic properties of Cr nanoparticles and Cr2O3 nanoparticles. Physica B: Condensed Matter, 2005, 358, 332-338.	1.3	41
78	Parametric optimum analysis of an irreversible regenerative magnetic Brayton refrigeration cycle. Physica B: Condensed Matter, 2005, 364, 33-42.	1.3	19
79	Anomalous transport and ferromagnetism in the diluted magnetic semiconductor Sb2â˜xCrxTe3. Physica B: Condensed Matter, 2005, 368, 32-41.	1.3	16
80	Magnetic, martensitic transformation, magnetostriction and shape memory effect in Co50Ni20Ga30melt-spun ribbons. Journal Physics D: Applied Physics, 2005, 38, 1361-1364.	1.3	10
81	Half-metallic ferromagnetism in hypothetical wurtzite MBi (M=V, Cr, Mn). Journal of Applied Physics, 2005, 97, 10C306.	1.1	8
82	The structure, magnetism, and electrical-transport properties of the Heusler alloys Co2Cr1â˜xFexAl(x=0.2â€“0.6). Journal of Applied Physics, 2005, 97, 10C301.	1.1	14
83	Developments in magnetocaloric refrigeration. Journal Physics D: Applied Physics, 2005, 38, R381-R391.	1.3	838
84	Half-metallic ferromagnetism in hypothetical semi-Heusler alloys NiVM (M=P, As, Sb, S, Se, and Te). Journal of Applied Physics, 2004, 95, 7219-7221.	1.1	42
85	Half-metallic ferromagnetism in hypothetical wurtzite structure chromium chalcogenides. Journal of Materials Research, 2004, 19, 2738-2741.	1.2	3
86	General performance characteristics of an irreversible ferromagnetic Stirling refrigeration cycle. Physica B: Condensed Matter, 2004, 344, 147-156.	1.3	18
87	Electronic structure, magnetism, and transport properties of the Heusler alloy Fe2CrAl. Journal of Magnetism and Magnetic Materials, 2004, 283, 409-414.	1.0	40
88	Effect of ordering transformation rate on the magnetic properties of Feâ€“Pt-based bulk alloys. Journal of Magnetism and Magnetic Materials, 2004, 280, 381-390.	1.0	6
89	Irreversible chemical-engines and their optimal performance analysis. Applied Energy, 2004, 78, 123-136.	5.1	45
90	Magnetic refrigeration near room temperature with Fe2P-based compounds. Journal of Alloys and Compounds, 2004, 383, 32-36.	2.8	55

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91	The magnetic and transport properties of the Co2FeGa Heusler alloy. Journal Physics D: Applied Physics, 2004, 37, 2049-2053.	1.3	60
92	Phase transformation and magnetic properties of bulk CoPt alloy. Journal of Alloys and Compounds, 2004, 364, 64-71.	2.8	33
93	Ordering transformation and magnetic properties of Fe59.75Pt39.5Nb0.75. Physica B: Condensed Matter, 2003, 339, 228-236.	1.3	4
94	High flip angle imaging of metallic stents: Implications for MR angiography and intraluminal signal interpretation. Magnetic Resonance in Medicine, 2003, 50, 879-883.	1.9	19
95	Magnetic refrigerationâ€"towards room-temperature applications. Physica B: Condensed Matter, 2003, 327, 431-437.	1.3	151
96	Magnetic properties of MnFeP/sub 0_5/As/sub 0_5-x/Ge/sub x/. IEEE Transactions on Magnetics, 2003, 39, 3148-3150.	1.2	15
97	On the first-order phase transition in MnFeP0.5As0.4Si0.1. Journal of Applied Physics, 2003, 93, 7655-7657.	1.1	19
98	Magnetoresistance of MnFeP/sub 0_55/As/sub 0_45/. IEEE Transactions on Magnetics, 2002, 38, 2753-2754.	1.2	7
99	Transition-metal-based magnetic refrigerants for room-temperature applications. Nature, 2002, 415, 150-152.	13.7	2,394
100	Influence of phase transformation on the permanent-magnetic properties of Feâ€"Pt based alloys. Physica B: Condensed Matter, 2001, 300, 215-229.	1.3	25
101	Microstructural Control of the Austenite Stability in Low-Alloyed TRIP Steels. Solid State Phenomena, 0, 172-174, 196-201.	0.3	4