Ladislav Straka

List of Publications by Year
in descending order

95 papers	2,832 citations	172457 29 h-index	197818 49 g-index
96 all docs	96 docs citations	96 times ranked	988 citing authors

#	Article	IF	Citations
1	Highly mobile twinned interface in 10M modulated Niâ€“Mnâ€“Ga martensite: Analysis beyond the tetragonal approximation of lattice. Acta Materialia, 2011, 59, 7450-7463.	7.9	183
2	Magnetic anisotropy in Niâ€“Mnâ€“Ga martensites. Journal of Applied Physics, 2003, 93, 8636-8638.	2.5	144
3	Temperature dependence and temperature limits of magnetic shape memory effect. Journal of Applied Physics, 2003, 94, 7139-7143.	2.5	142
4	Twin microstructure dependent mechanical response in Niâ€“Mnâ€“Ga single crystals. Applied Physics Letters, 2010, 96, .	3.3	98
5	A microstructural model of motion of macro-twin interfaces in Niâ€“Mnâ€“Ga 10M martensite. Journal of the Mechanics and Physics of Solids, 2014, 64, 198-211.	4.8	88
6	Superelastic response of Ni-Mn-Ga martensite in magnetic fields and a simple model. IEEE Transactions on Magnetics, 2003, 39, 3402-3404.	2.1	86
7	Highly mobile type II twin boundary in Ni-Mn-Ga five-layered martensite. Applied Physics Letters, 2011, 99, .	3.3	85
8	Temperature dependence of twinning stress of Type I and Type II twins in 10M modulated Niâ€“Mnâ€“Ga martensite. Scripta Materialia, 2012, 67, 25-28.	5.2	84
9	Temperature dependence of magnetic anisotropy in Niâ€“Mnâ€“Ga alloys exhibiting giant field-induced strain. Journal of Applied Physics, 2002, 91, 8228.	2.5	82
10	Activation of magnetic shape memory effect in Niâ€“Mnâ€“Ga alloys by mechanical and magnetic treatment. Acta Materialia, 2008, 56, 5492-5499.	7.9	81
11	Different microstructures of mobile twin boundaries in 10 M modulated Niâ€“Mnâ€“Ga martensite. Acta Materialia, 2013, 61, 622-631.	7.9	81
12	Characterization of mobile type I and type II twin boundaries in 10M modulated Niâ€“Mnâ€“Ga martensite by electron backscatter diffraction. Acta Materialia, 2013, 61, 1913-1920.	7.9	64
13	Effect of the chemical composition to martensitic transformation in Niâ€“Mnâ€“Gaâ€“Fe alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 378, 384-388.	5.6	63
14	Temperature dependence of single twin boundary motion in Niâ€“Mnâ€“Ga martensite. Applied Physics Letters, 2011, 98, .	3.3	57
15	Relation between structure, magnetization process and magnetic shape memory effect of various martensites occurring in Ni-Mn-Ga alloys. European Physical Journal Special Topics, 2003, 112, 959-962.	0.2	54
16	First-principles study of Co- and Cu-doped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>Ni</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:n the tetragonal deformation path. Physical Review B, 2014, 89, .	3.2	53
17	Tensile/compressive behaviour of non-layered tetragonal Ni52.8Mn25.7Ga21.5 alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 386, 27-33.	5.6	50
18	Twin interaction and large magnetoelasticity in Ni-Mn-Ga single crystals. Journal of Applied Physics, 2011, 109, 063504.	2.5	49

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19	Magnetic properties of various martensitic phases in Ni-Mn-Ga alloy. IEEE Transactions on Magnetics, 2002, 38, 2835-2837.	2.1	48
20	Ni-Mn-Ga single crystals with very low twinning stress. Journal of Physics: Conference Series, 2011, 303, 012079.	0.4	48
21	Magnetic shape memory effect at 1.7â€‰K. Applied Physics Letters, 2013, 103, .	3.3	47
22	Reversible 6% strain of Niâ€“Mnâ€“Ga martensite using opposing external stress in static and variable magnetic fields. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 829-831.	2.3	45
23	Acoustic emission of Niâ€“Mnâ€“Ga magnetic shape memory alloy in different straining modes. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 374, 263-269.	5.6	44
24	Compositional dependence of structure, magnetization and magnetic anisotropy in Niâ€“Mnâ€“Ga magnetic shape memory alloys. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 2045-2046.	2.3	43
25	Effect of intermartensite transformation on twinning stress in Ni-Mn-Ga 10â€‰M martensite. Journal of Applied Physics, 2013, 114, .	2.5	42
26	Detection of structural damage of aluminum alloy 6082 using elastic wave modulation spectroscopy. NDT and E International, 2008, 41, 554-563.	3.7	39
27	Magnetic anisotropy of nonmodulated Niâ€“Mnâ€“Ga martensite revisited. Journal of Applied Physics, 2010, 107, .	2.5	37
28	2019, 171, 107703.	7.0	37
29	Temperature dependence of reversible field-induced strain in Niâ€“Mnâ€“Ga single crystal. Scripta Materialia, 2006, 54, 1497-1500.	5.2	36
30	Temperature dependence of twinning and magnetic stresses in Ni 46 Mn 24 Ga 22 Co 4 Cu 4 alloy with giant 12% magnetic field-induced strain. Scripta Materialia, 2017, 131, 33-36.	5.2	32
31	Photocatalytic Activity of Atomic Layer Deposited TiO[sub 2] Coatings on Austenitic Stainless Steels and Copper Alloys. Journal of the Electrochemical Society, 2008, 155, C62.	2.9	29
32	Investigation of magnetic anisotropy of Niâ€“Mnâ€“Ga seven-layered orthorhombic martensite. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 2049-2050.	2.3	28
33	Ab initio prediction of stable nanotwin double layers and 4O structure in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ni</mml:mi><mml:mn>22</mml:mn></mml:msub></mml:mr Physical Review B, 2016, 94, .	3.2	28
34	Magnetic properties of stress-induced martensite and martensitic transformation in Niâ€“Mnâ€“Ga magnetic shape memory alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 378, 394-398.	5.6	26
35	Magnetization changes in Niâ€“Mnâ€“Ga magnetic shape memory single crystal during compressive stress reorientation. Scripta Materialia, 2006, 54, 1549-1552.	5.2	26
36	Modulation reorientation in 10M Niâ€“Mnâ€“Ga martensite. Scripta Materialia, 2013, 68, 671-674.	5.2	26

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37	Giant magnetic-field-induced strain in Ni-Mn-Ga micropillars. Scripta Materialia, 2018, 150, 173-176.	5.2	26
38	Diffraction study of bending-induced polysynthetic twins in 10M modulated Ni-Mn-Ga martensite. Journal of Applied Physics, 2012, 112, .	2.5	25
39	Ultrafast actuation of Ni-Mn-Ga micropillars by pulsed magnetic field. Scripta Materialia, 2019, 162, 482-485.	5.2	25
40	The relation between lattice parameters and very low twinning stress in Ni₅₀Mn_{25+x}Ga_{25â^'x}magnetic shape memory alloys. Smart Materials and Structures, 2016, 25, 025001.	3.5	23
41	Transformation Paths from Cubic to Low-Symmetry Structures in Heusler Ni2MnGa Compound. Scientific Reports, 2018, 8, 7275.	3.3	23
42	Behaviour of Ni-Mn-Ga alloys under mechanical stress. European Physical Journal Special Topics, 2003, 112, 943-946.	0.2	23
43	Composition and temperature dependence of twinning stress in non-modulated martensite of Ni-Mn-Ga-Co-Cu magnetic shape memory alloys. Scripta Materialia, 2018, 144, 52-55.	5.2	21
44	Differently mobile twin boundaries and magnetic shape memory effect in 10M martensite of Niâ€“Mnâ€“Ga. Materials Research Bulletin, 2013, 48, 5105-5109.	5.2	19
45	Magnetic coercivity control by heat treatment in Heusler Niâ€“Mnâ€“Ga(â€“B) single crystals. Acta Materialia, 2019, 169, 109-121.	7.9	19
46	Highly mobile twin boundaries in seven-layer modulated Niâ€“Mnâ€“Gaâ€“Fe martensite. Scripta Materialia, 2020, 178, 62-66.	5.2	18
47	Magnetic indication of the stress-induced martensitic transformation in ferromagnetic Niâ€“Mnâ€“Ga alloy. Journal of Magnetism and Magnetic Materials, 2006, 302, 387-390.	2.3	17
48	Magnetic properties of Ni-Mn-Ga-Co-Cu tetragonal martensites exhibiting magnetic shape memory effect. Scripta Materialia, 2018, 142, 61-65.	5.2	17
49	Antiphase boundaries, magnetic domains, and magnetic vortices in Niâ€“Mnâ€“Ga single crystals. Acta Materialia, 2020, 184, 179-186.	7.9	17
50	Effect of crystal quality on twinning stress in Niâ€“Mnâ€“Ga magnetic shape memory alloys. Journal of Materials Research and Technology, 2021, 14, 1934-1944.	5.8	17
51	Study of austenite-martensite transformation in Ni-Mn-Ga magnetic shape memory alloy. European Physical Journal Special Topics, 2003, 112, 911-915.	0.2	17
52	Orthorhombic intermediate phase originating from {110} nanotwinning in Ni50.0Mn28.7Ga21.3 modulated martensite. Acta Materialia, 2017, 132, 335-344.	7.9	16
53	Stress dependence of magnetic shape memory effect and its model. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 438-440, 1003-1006.	5.6	14
54	Strain and concurrent magnetization changes in magnetic shape memory Niâ€“Mnâ€“Ga single crystals â€“ experiment and model. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 481-482, 283-287.	5.6	14

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55	Branched needle microstructure in Ni-Mn-Ga 10M martensite: EBSD study. Acta Materialia, 2017, 128, 113-119.	7.9	14
56	Low temperature a/b nanotwins in Ni50Mn25+xGa25â^'x Heusler alloys. Scientific Reports, 2018, 8, 11943.	3.3	14
57	Magnetic shape memory fatigue. , 2005, 5761, 513.		13
58	Magneto-optical spectroscopy of ferromagnetic shape-memory Ni-Mn-Ga alloy. Journal of Applied Physics, 2014, 115, .	2.5	13
59	Mechanically induced demagnetization and remanent magnetization rotation in Niâ€“Mnâ€“Ga (â€“B) magnetic shape memory alloy. Scripta Materialia, 2014, 87, 25-28.	5.2	13
60	Origin of magnetocrystalline anisotropy in Ni-Mn-Ga-Co-Cu tetragonal martensite. Journal of Magnetism and Magnetic Materials, 2020, 503, 166522.	2.3	13
61	Tensile/compressive behaviour of non-layered tetragonal Ni52.8Mn25.7Ga21.5 alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 386, 27-33.	5.6	12
62	Open-circuit potential as an indicator of damage of atomic layer deposited TiO2 on AISI 304 stainless steel. Thin Solid Films, 2008, 517, 641-647.	1.8	12
63	Systematic Trends of Transformation Temperatures and Crystal Structure of Niâ€“Mnâ€“Gaâ€“Feâ€“Cu Alloys. Shape Memory and Superelasticity, 2020, 6, 97-106.	2.2	12
64	Effect of electron localization in theoretical design of Ni-Mn-Ga based magnetic shape memory alloys. Materials and Design, 2021, 209, 109917.	7.0	12
65	Switching the soft shearing mode orientation in Niâ€“Mnâ€“Ga non-modulated martensite by Co and Cu doping. Smart Materials and Structures, 2020, 29, 045022.	3.5	12
66	Magnetic Domains and Twin Microstructure of Single Crystal Niâ€“Mnâ€“Ga Exhibiting Magnetic Shape Memory Effect. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	11
67	Non-conventional twins in five-layer modulated Ni-Mn-Ga martensite. Scripta Materialia, 2019, 162, 497-502.	5.2	11
68	Rapid floating zone growth of Ni2MnGa single crystals exhibiting magnetic shape memory functionality. Journal of Alloys and Compounds, 2019, 775, 533-541.	5.5	11
69	Enhanced magnetic hysteresis in Ni-Mn-Ga single crystal and its influence on magnetic shape memory effect. Journal of Applied Physics, 2015, 117, .	2.5	10
70	Hysteretic structural changes within five-layered modulated 10M martensite of Niâ€“Mnâ€“Ga(â€“Fe). Journal of Physics Condensed Matter, 2021, 33, 265404.	1.8	10
71	Optical and magneto-optical studies of martensitic transformation in Ni-Mn-Ga magnetic shape memory alloys. Journal of Applied Physics, 2015, 117, 17A919.	2.5	9
72	Antiphase boundaries in bulk Ni-Mn-Ga Heusler alloy observed by magnetic force microscopy. Applied Physics Letters, 2018, 113, 172901.	3.3	9

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73	Effect of substrate deformation on functional properties of atomic-layer-deposited TiO2 coatings on stainless steel. Thin Solid Films, 2009, 517, 3797-3805.	1.8	8
74	Ab Initio Study of Properties of Co- and Cu- Doped Ni-Mn-Ga Alloys. Materials Today: Proceedings, 2015, 2, S601-S604.	1.8	8
75	First-principles study of Zn-doping effects on phase stability and magnetic anisotropy of Ni-Mn-Ga alloys. Materials Research Express, 2020, 7, 026101.	1.6	6
76	Giant Magneto-elastic Strain-magnetic Shape Memory Effect. European Physical Journal D, 2004, 54, 611-614.	0.4	5
77	The Effect of Local Arrangement of ExcessÂMn on Phase Stability in Niâ€“Mnâ€“Ga Martensite: An Ab Initio Study. Shape Memory and Superelasticity, 2020, 6, 35-44.	2.2	5
78	Mechanical Stabilization of Martensite: Comparison of Ni-Mn-Ga and Cu-Ni-Al Shape Memory Single Crystals. Acta Physica Polonica A, 2018, 134, 627-630.	0.5	5
79	Experimental Observations versus Firstâ€Principles Calculations for Niâ€“Mnâ€“Ga Ferromagnetic Shape Memory Alloys: A Review. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	2.4	5
80	Equivalence of Mechanical and Magnetic Force in Magnetic Shape Memory Effect. Acta Physica Polonica A, 2015, 128, 754-758.	0.5	4
81	Ab initiostudy of Ni2MnGa under shear deformation. MATEC Web of Conferences, 2015, 33, 05006.	0.2	3
82	Effect of Magnetic Ordering on the Stability of Niâ€“Mnâ€“Ga(â€“Coâ€“Cu) Alloys Along the Tetragonal Deformation Path. IEEE Transactions on Magnetics, 2017, 53, 1-6.	2.1	3
83	Nanotwinned (inter)martensite transformation interfaces in Ni50Mn25Ga20Fe5 magnetic shape memory single crystal foil. Materials Characterization, 2022, 190, 112007.	4.4	3
84	Study of 10M' Nanotwinned Phase in the Vicinity of Martensitic Transformation in Ni-Mn-Ga Magnetic Shape Memory Alloy. Acta Physica Polonica A, 2018, 134, 859-862.	0.5	2
85	Dependence of martensite transformation temperature on magnetic field in Ni2MnGa and Ni2MnGa0.95In0.05 single crystals. Journal of Alloys and Compounds, 2022, 908, 164514.	5.5	2
86	Superelastic response of Ni-Mn-Ga martensite in magnetic field and simple model. , 0, , .		1
87	Temperature dependence of reversible field-induced strain and magnetization changes in Ni-Mn-Ga single crystals. , 2005, , .		1
88	Transitions Between Austenite and Martensite Structures in Ni ₅₀Mn ₂₅Ga ₂₀Fe ₅ Thin Foil. SSRN Electronic Journal, 0, , .	0.4	1
89	Universality of Temperature Dependence of Twinning Stress in Ni-Mn-Ga 10M Martensite and Effect of Crystal Quality. SSRN Electronic Journal, 0, , .	0.4	1
90	Magnetic domain structure across the austeniteâ€“martensite interface in Ni50Mn25Ga20Fe5 single crystalline thin foil. Applied Physics Letters, 2021, 119, 212901.	3.3	1

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91	Magnetic properties of various martensitic phases in Ni-Mn-Ga alloy. , 0, , .		0
92	Relation between magnetic reversal and magnetic shape memory effect. , 0, , .		0
93	Forced torsion pendulum for studies of interactions at solidâ€“liquid interface. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 442, 538-542.	5.6	0
94	Analysis of Twin Boundary in Single Crystal of Ni-Mn-Ga Martensite Using Powder Laboratory Diffractometer. Solid State Phenomena, 0, 203-204, 13-16.	0.3	0
95	Magnetic domains and twin microstructure of single crystal Ni-Mn-Ga exhibiting magnetic shape memory effect. , 2015, , .		0