

Ladislav Straka

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Highly mobile twinned interface in 10M modulated Ni-Mn-Ga martensite: Analysis beyond the tetragonal approximation of lattice. Acta Materialia, 2011, 59, 7450-7463.	3.8	183
2	Magnetic anisotropy in Ni-Mn-Ga martensites. Journal of Applied Physics, 2003, 93, 8636-8638.	1.1	144
3	Temperature dependence and temperature limits of magnetic shape memory effect. Journal of Applied Physics, 2003, 94, 7139-7143.	1.1	142
4	Twin microstructure dependent mechanical response in Ni-Mn-Ga single crystals. Applied Physics Letters, 2010, 96, .	1.5	98
5	A microstructural model of motion of macro-twin interfaces in Ni-Mn-Ga 10M martensite. Journal of the Mechanics and Physics of Solids, 2014, 64, 198-211.	2.3	88
6	Superelastic response of Ni-Mn-Ga martensite in magnetic fields and a simple model. IEEE Transactions on Magnetics, 2003, 39, 3402-3404.	1.2	86
7	Highly mobile type II twin boundary in Ni-Mn-Ga five-layered martensite. Applied Physics Letters, 2011, 99, .	1.5	85
8	Temperature dependence of twinning stress of Type I and Type II twins in 10M modulated Ni-Mn-Ga martensite. Scripta Materialia, 2012, 67, 25-28.	2.6	84
9	Temperature dependence of magnetic anisotropy in Ni-Mn-Ga alloys exhibiting giant field-induced strain. Journal of Applied Physics, 2002, 91, 8228.	1.1	82
10	Activation of magnetic shape memory effect in Ni-Mn-Ga alloys by mechanical and magnetic treatment. Acta Materialia, 2008, 56, 5492-5499.	3.8	81
11	Different microstructures of mobile twin boundaries in 10 M modulated Ni-Mn-Ga martensite. Acta Materialia, 2013, 61, 622-631.	3.8	81
12	Characterization of mobile type I and type II twin boundaries in 10M modulated Ni-Mn-Ga martensite by electron backscatter diffraction. Acta Materialia, 2013, 61, 1913-1920.	3.8	64
13	Effect of the chemical composition to martensitic transformation in Ni-Mn-Ga-Fe alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 378, 384-388.	2.6	63
14	Temperature dependence of single twin boundary motion in Ni-Mn-Ga martensite. Applied Physics Letters, 2011, 98, .	1.5	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 $\langle \text{Ni} \rangle_{1-x} \langle \text{Mn} \rangle_{2-x} \langle \text{Ga} \rangle_x$ martensite: the tetragonal deformation path. Physical Review B, 2014, 89, .	1.1	53
17	Tensile/compressive behaviour of non-layered tetragonal Ni _{52.8} Mn _{25.7} Ga _{21.5} alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 386, 27-33.	2.6	50
18	Twin interaction and large magnetoelasticity in Ni-Mn-Ga single crystals. Journal of Applied Physics, 2011, 109, 063504.	1.1	49

#	ARTICLE	IF	CITATIONS
19	Magnetic properties of various martensitic phases in Ni-Mn-Ga alloy. IEEE Transactions on Magnetics, 2002, 38, 2835-2837.	1.2	48
20	Ni-Mn-Ga single crystals with very low twinning stress. Journal of Physics: Conference Series, 2011, 303, 012079.	0.3	48
21	Magnetic shape memory effect at 1.7â€‰K. Applied Physics Letters, 2013, 103, .	1.5	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.	1.0	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.	2.6	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.	1.0	43
25	Effect of intermartensite transformation on twinning stress in Ni-Mn-Ga 10â€‰M martensite. Journal of Applied Physics, 2013, 114, .	1.1	42
26	Detection of structural damage of aluminum alloy 6082 using elastic wave modulation spectroscopy. NDT and E International, 2008, 41, 554-563.	1.7	39
27	Magnetic anisotropy of nonmodulated Niâ€‰Mnâ€‰Ga martensite revisited. Journal of Applied Physics, 2010, 107, .	1.1	37
28	2019, 171, 107703.	3.3	37
29	Temperature dependence of reversible field-induced strain in Niâ€‰Mnâ€‰Ga single crystal. Scripta Materialia, 2006, 54, 1497-1500.	2.6	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.	2.6	32
31	Photocatalytic Activity of Atomic Layer Deposited TiO ₂ Coatings on Austenitic Stainless Steels and Copper Alloys. Journal of the Electrochemical Society, 2008, 155, C62.	1.3	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.	1.0	28
33	<i>Ab initio</i> prediction of stable nanotwin double layers and 4O structure in $\text{Ni}_{22}\text{Mn}_{12}\text{Ga}_{16}$. Physical Review B, 2016, 94, .		
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.	2.6	26
35	Magnetization changes in Niâ€‰Mnâ€‰Ga magnetic shape memory single crystal during compressive stress reorientation. Scripta Materialia, 2006, 54, 1549-1552.	2.6	26
36	Modulation reorientation in 10M Niâ€‰Mnâ€‰Ga martensite. Scripta Materialia, 2013, 68, 671-674.	2.6	26

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37	Giant magnetic-field-induced strain in Ni-Mn-Ga micropillars. <i>Scripta Materialia</i> , 2018, 150, 173-176.	2.6	26
38	Diffraction study of bending-induced polysynthetic twins in 10M modulated Ni-Mn-Ga martensite. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	25
39	Ultrafast actuation of Ni-Mn-Ga micropillars by pulsed magnetic field. <i>Scripta Materialia</i> , 2019, 162, 482-485.	2.6	25
40	The relation between lattice parameters and very low twinning stress in Ni ₅₀ Mn ₂₅ Ga ₂₅ magnetic shape memory alloys. <i>Smart Materials and Structures</i> , 2016, 25, 025001.	1.8	23
41	Transformation Paths from Cubic to Low-Symmetry Structures in Heusler Ni ₂ MnGa Compound. <i>Scientific Reports</i> , 2018, 8, 7275.	1.6	23
42	Behaviour of Ni-Mn-Ga alloys under mechanical stress. <i>European Physical Journal Special Topics</i> , 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. <i>Scripta Materialia</i> , 2018, 144, 52-55.	2.6	21
44	Differently mobile twin boundaries and magnetic shape memory effect in 10M martensite of Ni-Mn-Ga. <i>Materials Research Bulletin</i> , 2013, 48, 5105-5109.	2.7	19
45	Magnetic coercivity control by heat treatment in Heusler Ni-Mn-Ga(B) single crystals. <i>Acta Materialia</i> , 2019, 169, 109-121.	3.8	19
46	Highly mobile twin boundaries in seven-layer modulated Ni-Mn-Ga-Fe martensite. <i>Scripta Materialia</i> , 2020, 178, 62-66.	2.6	18
47	Magnetic indication of the stress-induced martensitic transformation in ferromagnetic Ni-Mn-Ga alloy. <i>Journal of Magnetism and Magnetic Materials</i> , 2006, 302, 387-390.	1.0	17
48	Magnetic properties of Ni-Mn-Ga-Co-Cu tetragonal martensites exhibiting magnetic shape memory effect. <i>Scripta Materialia</i> , 2018, 142, 61-65.	2.6	17
49	Antiphase boundaries, magnetic domains, and magnetic vortices in Ni-Mn-Ga single crystals. <i>Acta Materialia</i> , 2020, 184, 179-186.	3.8	17
50	Effect of crystal quality on twinning stress in Ni-Mn-Ga magnetic shape memory alloys. <i>Journal of Materials Research and Technology</i> , 2021, 14, 1934-1944.	2.6	17
51	Study of austenite-martensite transformation in Ni-Mn-Ga magnetic shape memory alloy. <i>European Physical Journal Special Topics</i> , 2003, 112, 911-915.	0.2	17
52	Orthorhombic intermediate phase originating from {110} nanotwinning in Ni _{50.0} Mn _{28.7} Ga _{21.3} modulated martensite. <i>Acta Materialia</i> , 2017, 132, 335-344.	3.8	16
53	Stress dependence of magnetic shape memory effect and its model. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 438-440, 1003-1006.	2.6	14
54	Strain and concurrent magnetization changes in magnetic shape memory Ni-Mn-Ga single crystals – experiment and model. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 481-482, 283-287.	2.6	14

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55	Branched needle microstructure in Ni-Mn-Ga 10M martensite: EBSD study. Acta Materialia, 2017, 128, 113-119.	3.8	14
56	Low temperature a/b nanotwins in Ni ₅₀ Mn _{25+x} Ga _{25-²x} Heusler alloys. Scientific Reports, 2018, 8, 11943.	1.6	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, .	1.1	13
59	Mechanically induced demagnetization and remanent magnetization rotation in Ni ¹⁰⁰ Mn ¹⁰⁰ Ga (¹⁰⁰ B) magnetic shape memory alloy. Scripta Materialia, 2014, 87, 25-28.	2.6	13
60	Origin of magnetocrystalline anisotropy in Ni-Mn-Ga-Co-Cu tetragonal martensite. Journal of Magnetism and Magnetic Materials, 2020, 503, 166522.	1.0	13
61	Tensile/compressive behaviour of non-layered tetragonal Ni _{52.8} Mn _{25.7} Ga _{21.5} alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 386, 27-33.	2.6	12
62	Open-circuit potential as an indicator of damage of atomic layer deposited TiO ₂ on AISI 304 stainless steel. Thin Solid Films, 2008, 517, 641-647.	0.8	12
63	Systematic Trends of Transformation Temperatures and Crystal Structure of Ni ¹⁰⁰ Mn ¹⁰⁰ Ga ¹⁰⁰ Fe ¹⁰⁰ Cu Alloys. Shape Memory and Superelasticity, 2020, 6, 97-106.	1.1	12
64	Effect of electron localization in theoretical design of Ni-Mn-Ga based magnetic shape memory alloys. Materials and Design, 2021, 209, 109917.	3.3	12
65	Switching the soft shearing mode orientation in Ni ¹⁰⁰ Mn ¹⁰⁰ Ga non-modulated martensite by Co and Cu doping. Smart Materials and Structures, 2020, 29, 045022.	1.8	12
66	Magnetic Domains and Twin Microstructure of Single Crystal Ni ¹⁰⁰ Mn ¹⁰⁰ Ga Exhibiting Magnetic Shape Memory Effect. IEEE Transactions on Magnetics, 2015, 51, 1-4.	1.2	11
67	Non-conventional twins in five-layer modulated Ni-Mn-Ga martensite. Scripta Materialia, 2019, 162, 497-502.	2.6	11
68	Rapid floating zone growth of Ni ₂ MnGa single crystals exhibiting magnetic shape memory functionality. Journal of Alloys and Compounds, 2019, 775, 533-541.	2.8	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, .	1.1	10
70	Hysteretic structural changes within five-layered modulated 10M martensite of Ni ¹⁰⁰ Mn ¹⁰⁰ Ga(¹⁰⁰ Fe). Journal of Physics Condensed Matter, 2021, 33, 265404.	0.7	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.	1.1	9
72	Antiphase boundaries in bulk Ni-Mn-Ga Heusler alloy observed by magnetic force microscopy. Applied Physics Letters, 2018, 113, 172901.	1.5	9

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73	Effect of substrate deformation on functional properties of atomic-layer-deposited TiO ₂ coatings on stainless steel. <i>Thin Solid Films</i> , 2009, 517, 3797-3805.	0.8	8
74	Ab Initio Study of Properties of Co- and Cu- Doped Ni-Mn-Ga Alloys. <i>Materials Today: Proceedings</i> , 2015, 2, S601-S604.	0.9	8
75	First-principles study of Zn-doping effects on phase stability and magnetic anisotropy of Ni-Mn-Ga alloys. <i>Materials Research Express</i> , 2020, 7, 026101.	0.8	6
76	Giant Magneto-elastic Strain-magnetic Shape Memory Effect. <i>European Physical Journal D</i> , 2004, 54, 611-614.	0.4	5
77	The Effect of Local Arrangement of Excess Mn on Phase Stability in Ni-Mn-Ga Martensite: An Ab Initio Study. <i>Shape Memory and Superelasticity</i> , 2020, 6, 35-44.	1.1	5
78	Mechanical Stabilization of Martensite: Comparison of Ni-Mn-Ga and Cu-Ni-Al Shape Memory Single Crystals. <i>Acta Physica Polonica A</i> , 2018, 134, 627-630.	0.2	5
79	Experimental Observations versus First-Principles Calculations for Ni-Mn-Ga Ferromagnetic Shape Memory Alloys: A Review. <i>Physica Status Solidi - Rapid Research Letters</i> , 2022, 16, .	1.2	5
80	Equivalence of Mechanical and Magnetic Force in Magnetic Shape Memory Effect. <i>Acta Physica Polonica A</i> , 2015, 128, 754-758.	0.2	4
81	Ab initio study of Ni ₂ MnGa under shear deformation. <i>MATEC Web of Conferences</i> , 2015, 33, 05006.	0.1	3
82	Effect of Magnetic Ordering on the Stability of Ni-Mn-Ga (Co-Cu) Alloys Along the Tetragonal Deformation Path. <i>IEEE Transactions on Magnetics</i> , 2017, 53, 1-6.	1.2	3
83	Nanotwinned (inter)martensite transformation interfaces in Ni ₅₀ Mn ₂₅ Ga ₂₀ Fe ₅ magnetic shape memory single crystal foil. <i>Materials Characterization</i> , 2022, 190, 112007.	1.9	3
84	Study of 10M' Nanotwinned Phase in the Vicinity of Martensitic Transformation in Ni-Mn-Ga Magnetic Shape Memory Alloy. <i>Acta Physica Polonica A</i> , 2018, 134, 859-862.	0.2	2
85	Dependence of martensite transformation temperature on magnetic field in Ni ₂ MnGa and Ni ₂ MnGa _{0.95} In _{0.05} single crystals. <i>Journal of Alloys and Compounds</i> , 2022, 908, 164514.	2.8	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 ₅₀ Mn ₂₅ Ga ₂₀ Fe ₅ Thin Foil. <i>SSRN Electronic Journal</i> , 0, , .	0.4	1
89	Universality of Temperature Dependence of Twinning Stress in Ni-Mn-Ga 10M Martensite and Effect of Crystal Quality. <i>SSRN Electronic Journal</i> , 0, , .	0.4	1
90	Magnetic domain structure across the austenite-martensite interface in Ni ₅₀ Mn ₂₅ Ga ₂₀ Fe ₅ single crystalline thin foil. <i>Applied Physics Letters</i> , 2021, 119, 212901.	1.5	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.	2.6	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