Ludek Heller

List of Publications by Year
in descending order

65 papers	1,691 citations	331670 21 h-index	302126 39 g-index
67 all docs	67 docs citations	67 times ranked	1199 citing authors

#	Article	IF	Citations
1	Magnetostatic interactions and forces between cylindrical permanent magnets. Journal of Magnetism and Magnetic Materials, 2009, 321, 3758-3763.	2.3	171
2	Grain-resolved analysis of localized deformation in nickel-titanium wire under tensile load. Science, 2016, 353, 559-562.	12.6	154
3	On the coupling between martensitic transformation and plasticity in NiTi: Experiments and continuum based modelling. Progress in Materials Science, 2018, 98, 249-298.	32.8	125
4	Youngâ€™s Modulus of Austenite and Martensite Phases in Superelastic NiTi Wires. Journal of Materials Engineering and Performance, 2014, 23, 2303-2314.	2.5	119
5	Beyond the strain recoverability of martensitic transformation in NiTi. International Journal of Plasticity, 2019, 116, 232-264.	8.8	89
6	Recoverability of large strains and deformation twinning in martensite during tensile deformation of NiTi shape memory alloy polycrystals. Acta Materialia, 2019, 180, 243-259.	7.9	82
7	On the plastic deformation accompanying cyclic martensitic transformation in thermomechanically loaded NiTi. International Journal of Plasticity, 2018, 111, 53-71.	8.8	75
8	Fatigue performance of superelastic NiTi near stress-induced martensitic transformation. International Journal of Fatigue, 2017, 95, 76-89.	5.7	58
9	Modal resonant ultrasound spectroscopy for ferroelastics. Applied Physics A: Materials Science and Processing, 2009, 96, 557-567.	2.3	55
10	Tensile Deformation of Superelastic NiTi Wires in Wide Temperature and Microstructure Ranges. Shape Memory and Superelasticity, 2019, 5, 42-62.	2.2	54
11	Temperature and microstructure dependence of localized tensile deformation of superelastic NiTi wires. Materials and Design, 2019, 174, 107797.	7.0	51
12	Effect of temperature on fatigue of superelastic NiTi wires. International Journal of Fatigue, 2020, 134, 105470.	5.7	43
13	Evolution of martensitic microstructures in nanocrystalline NiTi wires deformed in tension. Acta Materialia, 2021, 218, 117166.	7.9	42
14	Deformation twinning in martensite affecting functional behavior of NiTi shape memory alloys. Materialia, 2020, 9, 100506.	2.7	39
15	Experimental identification of nonlinear dynamic properties of built-up structures. Journal of Sound and Vibration, 2009, 327, 183-196.	3.9	32
16	3D flexible NiTi-braided elastomer composites for smart structure applications. Smart Materials and Structures, 2012, 21, 045016.	3.5	31
17	Factors Controlling Superelastic Damping Capacity of SMAs. Journal of Materials Engineering and Performance, 2009, 18, 603-611.	2.5	30
18	Simulations of Mechanical Response of Superelastic NiTi Helical Spring and its Relation to Fatigue Resistance. Journal of Materials Engineering and Performance, 2014, 23, 2591-2598.	2.5	27

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19	Exploiting NiTi shape memory alloy films in design of tunable high frequency microcantilever resonators. Applied Physics Letters, 2017, 111, .	3.3	24
20	Monitoring Tensile Fatigue of Superelastic NiTi Wire in Liquids by Electrochemical Potential. Shape Memory and Superelasticity, 2015, 1, 204-230.	2.2	22
21	Modeling of IPMC Cantileverâ€™s Displacements and Blocking Forces. Journal of Bionic Engineering, 2015, 12, 142-151.	5.0	22
22	Fabrication of Thermal Plasma Sprayed NiTi Coatings Possessing Functional Properties. Coatings, 2021, 11, 610.	2.6	22
23	An original architectured NiTi silicone rubber structure for biomedical applications. Materials Science and Engineering C, 2014, 45, 184-190.	7.3	21
24	Study of Interfacial Adhesion between Nickel-Titanium Shape Memory Alloy and a Polymer Matrix by Laser Surface Pattern. Applied Sciences (Switzerland), 2020, 10, 2172.	2.5	21
25	Net-Shape NiTi Shape Memory Alloy by Spark Plasma Sintering Method. Applied Sciences (Switzerland), 2021, 11, 1802.	2.5	21
26	Modeling of mechanical response of NiTi shape memory alloy subjected to combined thermal and non-proportional mechanical loading: a case study on helical spring actuator. Journal of Intelligent Material Systems and Structures, 2016, 27, 1927-1938.	2.5	20
27	Lattice Defects Generated by Cyclic Thermomechanical Loading of Superelastic NiTi Wire. Shape Memory and Superelasticity, 2021, 7, 65-88.	2.2	16
28	Final thermomechanical treatment of thin NiTi filaments for textile applications by electric current. , 2009, , .		16
29	Magneto-elastic attenuation in austenitic phase of Niâ€“Mnâ€“Ga alloy investigated by ultrasonic methods. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 521-522, 205-208.	5.6	15
30	B2â€‰â€™â€‰B19â€²â€‰â€™â€‰B2T Martensitic Transformation as a Mechanism of Plastic Deformation of NiTi. Shape Memory and Superelasticity, 2019, 5, 383-396.	2.2	14
31	Corrosion of NiTi Wires with Cracked Oxide Layer. Journal of Materials Engineering and Performance, 2014, 23, 2659-2668.	2.5	12
32	In-situ synchrotron X-ray diffraction texture analysis of tensile deformation of nanocrystalline NiTi wire in martensite state. Applied Materials Today, 2022, 26, 101378.	4.3	11
33	Reconstruction of Grains in Polycrystalline Materials From Incomplete Data Using Laguerre Tessellations. Microscopy and Microanalysis, 2019, 25, 743-752.	0.4	10
34	On the evaluation of temperature dependence of elastic constants of martensitic phases in shape memory alloys from resonant ultrasound spectroscopy studies. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 481-482, 567-573.	5.6	9
35	Quasistatic and dynamic functional properties of thin superelastic NiTi wires. European Physical Journal: Special Topics, 2008, 158, 7-14.	2.6	9
36	Physical Simulation of the Random Failure of Implanted Braided NiTi Stents. Journal of Materials Engineering and Performance, 2014, 23, 2650-2658.	2.5	9

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37	SMA Constitutive Modeling Backed Up by 3D-XRD Experiments: Transformation Front in Stretched NiTi Wire. Shape Memory and Superelasticity, 2018, 4, 411-416.	2.2	9
38	Experimental and computational study on phase transformations in superelastic NiTi snake-like spring. Smart Materials and Structures, 2018, 27, 095005.	3.5	9
39	A multiscale study of hot-extruded CoNiGa ferromagnetic shape-memory alloys. Materials and Design, 2020, 196, 109118.	7.0	9
40	Deformation infrared calorimetry for materials characterization applied to study cyclic superelasticity in NiTi wires. Materials and Design, 2021, 199, 109406.	7.0	9
41	Reconstruction of Heat Sources Induced in Superelastically Loaded Ni-Ti Wire By Localized Deformation Processes. Experimental Mechanics, 2021, 61, 349-366.	2.0	9
42	Magnetic guns with cylindrical permanent magnets. Journal of Magnetism and Magnetic Materials, 2012, 324, 1715-1719.	2.3	8
43	Numerical analysis of NiTi actuators with stress risers: The role of bias load and actuation temperature. Engineering Fracture Mechanics, 2021, 244, 107551.	4.3	8
44	Peculiarities of high electric field conduction in p-type diamond. Applied Physics Letters, 2016, 108, .	3.3	7
45	Electrochemistry of NiTi Wires/Springs Subjected to Static/Cyclic Loadings. Materials Today: Proceedings, 2015, 2, S965-S969.	1.8	6
46	Functional textiles driven by transforming NiTi wires. MATEC Web of Conferences, 2015, 33, 03010.	0.2	6
47	NiTi-Polyimide Composites Prepared Using Thermal Imidization Process. Journal of Materials Engineering and Performance, 2016, 25, 1993-1999.	2.5	5
48	Numerical microstructure model of NiTi wire reconstructed from 3D-XRD data. Modelling and Simulation in Materials Science and Engineering, 2020, 28, 055007.	2.0	5
49	Thermomechanical Characterization of Shape Memory Alloy Tubular Composite Structures. Advances in Science and Technology, 0, , .	0.2	4
50	Functional warp-knitted fabrics with integrated superelastic niti filaments. Autex Research Journal, 2012, 12, 34-39.	1.1	4
51	Thermomechanically transforming Notched NiTi Thin ribbon: Effect of Martensitic Transformation on Stress Gradients. Procedia Structural Integrity, 2019, 23, 620-625.	0.8	4
52	Laser Annealing on the Surface Treatment of Thin Super Elastic NiTi Wire. IOP Conference Series: Materials Science and Engineering, 2018, 362, 012007.	0.6	3
53	Experimental and numerical investigation of thermomechanical cycling of notched NiTi shape memory ribbon using SMA model accounting for plastic deformation. Journal of Materials Research and Technology, 2021, 15, 1759-1776.	5.8	3
54	Phase Transformations and Fatigue of NiTi. MATEC Web of Conferences, 2015, 33, 03011.	0.2	2

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55	Finite element analysis on the effect of martensitic transformation and plastic deformation on the stress concentration factor in a thin notched superelastic NiTi ribbon. Functional Materials Letters, 2020, 13, 2051028.	1.2	2
56	Impact of Heat Effects on Superelasticity. , 0, , 445-452.		2
57	<i>In Situ </i>Experimental Methods for Characterization of Deformation Processes in SMAs. Advances in Science and Technology, 0, , .	0.2	1
58	Simulation of Mechanical Behavior of NiTi Shape Memory Alloys Under Complex Loading: Model Formulation and its Performance in Applications. , 2014, , .		1
59	Thermomechanical Properties of Polypropylene-Based Lightweight Composites Modeled on the Mesoscale. Journal of Materials Engineering and Performance, 2017, 26, 5166-5172.	2.5	1
60	Inflation-Extension Test of Silicon Rubber-Nitinol Composite Tube. IFMBE Proceedings, 2011, , 1027-1030.	0.3	1
61	Random tessellations marked with crystallographic orientations. Spatial Statistics, 2020, 39, 100469.	1.9	1
62	Statistical assessment of stress redistribution in loaded polycrystals. Image Analysis and Stereology, 2022, 41, .	0.9	1
63	Nonlinear dynamic behavior of a shape memory alloy. , 2004, , .		0
64	Identification de l'amortissement dans les structures assemblÃ©es. Mecanique Et Industries, 2006, 7, 351-363.	0.2	0
65	Editorial: SMST 2013. Journal of Materials Engineering and Performance, 2014, 23, 2301-2302.	2.5	0