Doron Shilo

List of Publications by Year
in descending order

78 papers	1,540 citations	279798 23 h-index	345221 36 g-index
78 all docs	78 docs citations	78 times ranked	1227 citing authors

#	Article	IF	Citations
1	Measured and calculated radiative lifetime and optical absorption ofInxGa1â^'xN/GaNquantum structures. Physical Review B, 2000, 61, 10994-11008.	3.2	137
2	Investigation of twin-wall structure at the nanometre scale using atomic force microscopy. Nature Materials, 2004, 3, 453-457.	27.5	109
3	The kinetic relation for twin wall motion in NiMnGa. Journal of the Mechanics and Physics of Solids, 2011, 59, 975-987.	4.8	69
4	The kinetic relation for twin wall motion in NiMnGaâ€"part 2. Journal of the Mechanics and Physics of Solids, 2013, 61, 726-741.	4.8	65
5	Nanometerâ€Scale Mapping of Elastic Modules in Biogenic Composites: The Nacre of Mollusk Shells. Advanced Functional Materials, 2010, 20, 2723-2728.	14.9	61
6	Visualization of 10 Î¼m surface acoustic waves by stroboscopic x-ray topography. Applied Physics Letters, 1998, 73, 2278-2280.	3.3	60
7	The relationships between sputter deposition conditions, grain size, and phase transformation temperatures in NiTi thin films. Acta Materialia, 2014, 70, 79-91.	7.9	50
8	Implications of twinning kinetics on the frequency response in NiMnGa actuators. Applied Physics Letters, 2012, 100, .	3.3	48
9	Stroboscopic x-ray topography in crystals under 10-Î¼m-surface acoustic wave excitation. Review of Scientific Instruments, 1999, 70, 3341-3345.	1.3	43
10	Youngâ€™s moduli of sputter-deposited NiTi films determined by resonant ultrasound spectroscopy: Austenite, R-phase, and martensite. Scripta Materialia, 2015, 101, 24-27.	5.2	41
11	The Mechanical Response of Shape Memory Alloys Under a Rapid Heating Pulse. Experimental Mechanics, 2010, 50, 803-811.	2.0	37
12	Twin Motion Faster Than the Speed of Sound. Physical Review Letters, 2010, 104, 155501.	7.8	37
13	Dynamics of twin boundaries in ferromagnetic shape memory alloys. Materials Science and Technology, 2014, 30, 1545-1558.	1.6	33
14	Application of a bi-stable chain model for the analysis of jerky twin boundary motion in NiMnGa. Applied Physics Letters, 2013, 102, .	3.3	31
15	In situ elastic modulus measurements of ultrathin protein-rich organic layers in biosilica: towards deeper understanding of superior resistance to fracture of biocomposites. RSC Advances, 2013, 3, 5798.	3.6	30
16	Breaching the work output limitation of ferromagnetic shape memory alloys. Applied Physics Letters, 2008, 93, .	3.3	29
17	Ferromagnetic shape memory flapper. Sensors and Actuators A: Physical, 2009, 150, 277-279.	4.1	29
18	Stroboscopic X-Ray Imaging of Vibrating Dislocations Excited by 0.58 GHz Phonons. Physical Review Letters, 2003, 91, 115506.	7.8	26

#	Article	IF	Citations
19	Ferromagnetic shape memory flapper for remotely actuated propulsion systems. Smart Materials and Structures, 2013, 22, 085030.	3.5	25
20	The exploration of the effect of microstructure on crackling noise systems. Applied Physics Letters, 2015, 107, .	3.3	24
21	Mechanical Response of Shape Memory Alloys Under a Rapid Heating Pulse - Part II. Experimental Mechanics, 2016, 56, 1465-1475.	2.0	24
22	Analysis of austenite-martensite phase boundary and twinned microstructure in shape memory alloys: The role of twinning disconnections. Acta Materialia, 2019, 164, 520-529.	7.9	24
23	A model for large electrostrictive actuation in ferroelectric single crystals. International Journal of Solids and Structures, 2007, 44, 2053-2065.	2.7	23
24	Investigation of Interface Properties by Nanoscale Elastic Modulus Mapping. Physical Review Letters, 2008, 100, 035505.	7.8	23
25	Investigation of twin boundary thickness and energy in CuAlNi shape memory alloy. Applied Physics Letters, 2007, 90, 193113.	3.3	20
26	Wireless thin layer force sensor based on a magnetostrictive composite material. Smart Materials and Structures, 2017, 26, 065013.	3.5	18
27	Use the Force: Review of High-Rate Actuation of Shape Memory Alloys. Actuators, 2021, 10, 140.	2.3	18
28	<i>In situ</i> characterization of local elastic properties of thin shape memory films by surface acoustic waves. Smart Materials and Structures, 2016, 25, 127002.	3.5	17
29	A discrete twin-boundary approach for simulating the magneto-mechanical response of Niâ€"Mnâ€"Ga. Smart Materials and Structures, 2016, 25, 095020.	3.5	17
30	The effect of loading rate on characteristics of type II twin boundary motion in Ni-Mn-Ga. Scripta Materialia, 2018, 144, 44-47.	5.2	17
31	Twin boundary structure and mobility. Acta Materialia, 2021, 220, 117316.	7.9	17
32	Large Local Deflections of a Dynamic Crack Front Induced by Intrinsic Dislocations in Brittle Single Crystals. Physical Review Letters, 2002, 89, 235504.	7.8	15
33	The magneto-mechanical response of magnetostrictive composites for stress sensing applications. Smart Materials and Structures, 2017, 26, 065007.	3.5	15
34	Discerning interface atomistic structure by phase contrast in STEM: The equilibrated Ni-YSZ interface. Acta Materialia, 2018, 154, 71-78.	7.9	15
35	A New Methodology for Uniaxial Tensile Testing of Free-Standing Thin Films at High Strain-Rates. Experimental Mechanics, 2014, 54, 1687-1696.	2.0	14
36	Equilibrium stress during the response of shape memory alloys to an abrupt heat pulse. Scripta Materialia, 2017, 141, 50-53.	5.2	14

#	Article	IF	Citations
37	Visualization of surface acoustic wave scattering by dislocations. Ultrasonics, 2002, 40, 921-925.	3.9	13
38	Modulus mapping of nanoscale closure variants in Niâ€"Mnâ€"Ga. Applied Physics Letters, 2008, 93, .	3.3	13
39	Mechanical Characterization of Released Thin Films by Contact Loading. Journal of Applied Mechanics, Transactions ASME, 2006, 73, 730.	2.2	12
40	High sensitivity nanoscale mapping of elastic moduli. Applied Physics Letters, 2006, 88, 233122.	3.3	12
41	The effects of magnetic and mechanical microstructures on the twinning stress in Ni-Mn-Ga. Journal of Applied Physics, 2015, 118, .	2.5	12
42	Multi-Scale Dynamics of Twinning in SMA. Shape Memory and Superelasticity, 2015, 1, 180-190.	2.2	12
43	Nanoindentation, Modeling, and Toughening Effects of Zirconia/Organic Nanolaminates. Advanced Engineering Materials, 2010, 12, 935-941.	3.5	11
44	The effects of microstructure on crackling noise during martensitic transformation in Cu-Al-Ni. Applied Physics Letters, 2015, 107, 171601.	3.3	11
45	A physically based model for stress sensing using magnetostrictive composites. Journal of the Mechanics and Physics of Solids, 2015, 85, 203-218.	4.8	11
46	A fast and powerful release mechanism based on pulse heating of shape memory wires. Smart Materials and Structures, 2017, 26, 095061.	3.5	11
47	Relations between stress drops and acoustic emission measured during mechanical loading. Physical Review Materials, 2019, 3, .	2.4	11
48	Measurement of depth-dependent atomic concentration profiles in CdTe/Hg1â^'xCdxTe structures. Journal of Applied Physics, 1997, 82, 2869-2876.	2.5	10
49	The effects of temperature on the lattice barrier for twin wall motion. Applied Physics Letters, 2015, 107, 041605.	3.3	10
50	Visualization of short surface acoustic waves by stroboscopic x-ray topography: analysis of contrast. Journal Physics D: Applied Physics, 2003, 36, A122-A127.	2.8	9
51	Kinetics of the reverse martensitic transformation in shape memory alloys under an abrupt heating pulse. Scripta Materialia, 2017, 135, 76-79.	5.2	9
52	Inertia-Controlled Twinning in Niâ€"Mnâ€"Ga Actuators: A Discrete Twin-Boundary Dynamics Study. Shape Memory and Superelasticity, 2017, 3, 206-217.	2.2	9
53	Coexistence of a well-determined kinetic law and a scale-invariant power law during the same physical process. Physical Review B, 2018, 97, .	3.2	7
54	Tracking Twin Boundary Jerky Motion at Nanometer and Microsecond Scales. Advanced Functional Materials, 2021, 31, 2106573.	14.9	7

#	Article	IF	Citations
55	Measurement of subtle strain modifications in heterostructures by using X-ray mapping in reciprocal space. Journal of Applied Crystallography, 2001, 34, 715-721.	4.5	6
56	The effect of grain and pore sizes on the mechanical behavior of thin Al films deposited under different conditions. Acta Materialia, 2015, 87, 321-331.	7.9	6
57	A simple method to characterize high rate twin boundary kinetics in Ni-Mn-Ga. Review of Scientific Instruments, 2019, 90, .	1.3	6
58	The evolution of the martensitic transformation at the high-driving-force regime: A microsecond-scale time-resolved X-ray diffraction study. Journal of Alloys and Compounds, 2021, 856, 157968.	5.5	6
59	Characterization of NiTi superelastic properties by nano-dynamic modulus analysis and nanoindentation. Functional Materials Letters, 2017, 10, 1650071.	1.2	5
60	Self-propagating miniature device based on shape memory alloy. Journal of Physics Communications, 2018, 2, 015015.	1.2	5
61	New wine in old flasks: a new solution of the Clapeyron equation. European Journal of Physics, 2008, 29, 25-32.	0.6	4
62	A New Method for Measuring Displacements of Micro Devices by an Optical Encoding System. Experimental Mechanics, 2009, 49, 823-827.	2.0	4
63	The temperature effect on the magneto-mechanical response of magnetostrictive composites for stress sensing applications. Functional Materials Letters, 2017, 10, 1750060.	1.2	4
64	Microstructure evolution and kinetic laws for the motion of multiple twin boundaries in Niâ€“Mnâ€“Ga. Functional Materials Letters, 2019, 12, 1850102.	1.2	4
65	Under-microscope Mechanical Pulse System for Studying Deformation Processes at High Strain Rates. Experimental Mechanics, 2020, 60, 191-204.	2.0	4
66	Variability of Twin Boundary Velocities in 10M Niâ€“Mnâ€“Ga Measured Under $$upmu{ext{s}}$$-Scale Force Pulses. Shape Memory and Superelasticity, 2020, 6, 45-53.	2.2	4
67	X-ray imaging of surface acoustic waves generated in semiconductor crystals by an external transducer. Applied Physics Letters, 2003, 82, 1374-1376.	3.3	3
68	Characterization of irreversible physio-mechanical processes in stretched fetal membranes. Acta Biomaterialia, 2016, 30, 299-310.	8.3	3
69	A new experimental method for measuring stress-temperature phase diagram in shape memory alloys. Scripta Materialia, 2018, 154, 145-148.	5.2	3
70	Dynamics of Phase Fronts During High-Driving-Force Transformation of Shape Memory Alloy Wires. Shape Memory and Superelasticity, 2021, 7, 333-343.	2.2	3
71	Characterization of CdTe/Hg1â^'xCdxTe heterostructures by high-resolution x-ray diffraction. Journal of Electronic Materials, 1997, 26, 606-609.	2.2	2
72	Control of static strains in crystals by the dynamic pressure of phonon flow. Ultrasonics, 1998, 36, 403-408.	3.9	1

#	Article	IF	Citations
73	Mapping Nanomechanical Properties near Internal Interfaces in Biological Materials. Materials Research Society Symposia Proceedings, 2012, 1345, 1.	0.1	1
74	Microstructural Effects During Crackling Noise Phenomena. Understanding Complex Systems, 2017, , 167-198.	0.6	1
75	Chapter 80 X-Ray Imaging of Phonon Interaction with Dislocations. Dislocations in Solids, 2007, , 603-639.	1.6	0
76	Relations between material properties and barriers for twin boundary motion in ferroic materials. Acta Materialia, 2019, 180, 24-34.	7.9	0
77	Investigation of Twin-Wall Structure at the Nanometer Scale Using Atomic Force Microscopy. , 2007, , 385-386.		0
78	A New Method for Investigating the Mechanical Properties of Twin Walls. , 2007, , 537-538.		0