Carl P Frick

List of Publications by Year
in descending order

62 papers	2,577 citations	218592 26 h-index	189801 50 g-index
63 all docs	63 docs citations	63 times ranked	2272 citing authors

#	Article	IF	Citations
1	Size effect on strength and strain hardening of small-scale [111] nickel compression pillars. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 489, 319-329.	2.6	345
2	Correlation between Critical Temperature and Strength of Small-Scale bcc Pillars. Physical Review Letters, 2009, 103, 105501.	2.9	207
3	Thermal processing of polycrystalline NiTi shape memory alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 405, 34-49.	2.6	194
4	Loss of pseudoelasticity in nickelâ€“titanium sub-micron compression pillars. Acta Materialia, 2007, 55, 3845-3855.	3.8	144
5	Effect of orientation and loading rate on compression behavior of small-scale Mo pillars. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 508, 241-246.	2.6	125
6	Stress-induced martensitic transformations and shape memory at nanometer scales. Acta Materialia, 2006, 54, 2223-2234.	3.8	123
7	Modeling the glass transition of amorphous networks for shape-memory behavior. Journal of the Mechanics and Physics of Solids, 2013, 61, 1612-1635.	2.3	106
8	Multiscale structure and properties of cast and deformation processed polycrystalline NiTi shape-memory alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 2013-2025.	1.1	95
9	Influence of orientation on the size effect in bcc pillars with different critical temperatures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 1540-1547.	2.6	76
10	Strength Effects in Micropillars of a Dispersion Strengthened Superalloy. Advanced Engineering Materials, 2010, 12, 385-388.	1.6	66
11	Stereolithography of SiOC Polymerâ€Derived Ceramics Filled with SiC Micronwhiskers. Advanced Engineering Materials, 2018, 20, 1800593.	1.6	63
12	Influence of bulk pre-straining on the size effect in nickel compression pillars. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 559, 147-158.	2.6	59
13	Temperatureâ€Induced Switchable Adhesion using Nickelâ€“Titaniumâ€“Polydimethylsiloxane Hybrid Surfaces. Advanced Functional Materials, 2015, 25, 3013-3021.	7.8	58
14	Orientation-independent pseudoelasticity in small-scale NiTi compression pillars. Scripta Materialia, 2008, 59, 7-10.	2.6	56
15	Thermomechanical properties of monodomain nematic main-chain liquid crystal elastomers. Soft Matter, 2018, 14, 6024-6036.	1.2	53
16	Tensile deformation of NiTi wires. Journal of Biomedical Materials Research - Part A, 2005, 75A, 810-823.	2.1	51
17	Mechanical energy dissipation in polydomain nematic liquid crystal elastomers in response to oscillating loading. Polymer, 2019, 166, 148-154.	1.8	49
18	Size Independent Shape Memory Behavior of Nickelâ€“Titanium. Advanced Engineering Materials, 2010, 12, 808-815.	1.6	46

#	Article	IF	Citations
19	Partially constrained recovery of (meth)acrylate shapeâ€memory polymer networks. Journal of Applied Polymer Science, 2012, 126, 72-82.	1.3	45
20	Biocompatible liquid-crystal elastomers mimic the intervertebral disc. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 107, 103757.	1.5	44
21	Influence of test temperature on the size effect in molybdenum small-scale compression pillars. Philosophical Magazine Letters, 2013, 93, 331-338.	0.5	43
22	On the plasticity of small-scale nickelâ€“titanium shape memory alloys. Scripta Materialia, 2010, 62, 492-495.	2.6	37
23	Cast NiTi Shape-Memory Alloys. Advanced Engineering Materials, 2005, 7, 492-507.	1.6	32
24	A predictive parameter for the shape memory behavior of thermoplastic polymers. Journal of Polymer Science, Part B: Polymer Physics, 2016, 54, 1405-1414.	2.4	31
25	Unique Recovery Behavior in Amorphous Shapeâ€Memory Polymer Networks. Macromolecular Materials and Engineering, 2012, 297, 1160-1166.	1.7	30
26	<scp>Bodyâ€temperature</scp> s<scp>hapeâ€shifting</scp> liquid crystal elastomers. Journal of Applied Polymer Science, 2021, 138, 50136.	1.3	30
27	Biodegradable thermoset shapeâ€memory polymer developed from poly(Î²â€amino ester) networks. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 777-789.	2.4	25
28	Detachment Behavior of Mushroom-Shaped Fibrillar Adhesive Surfaces in Peel Testing. Langmuir, 2013, 29, 15394-15404.	1.6	25
29	Effect of viscoelasticity on the spherical and flat adhesion characteristics of photopolymerizable acrylate polymer networks. International Journal of Adhesion and Adhesives, 2013, 44, 184-194.	1.4	23
30	Thermo-mechanical behavior and structure of melt blown shape-memory polyurethane nonwovens. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 62, 545-555.	1.5	23
31	Shapeâ€memory behavior of highâ€strength amorphous thermoplastic poly(paraâ€phenylene). Journal of Applied Polymer Science, 2016, 133, .	1.3	22
32	Porous poly(para-phenylene) scaffolds for load-bearing orthopedic applications. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 30, 347-357.	1.5	20
33	Copperâ€Coated Liquidâ€Crystalline Elastomer via Bioinspired Polydopamine Adhesion and Electroless Deposition. Macromolecular Rapid Communications, 2016, 37, 1912-1917.	2.0	20
34	Biological evaluation and finite-element modeling of porous poly(para-phenylene) for orthopaedic implants. Acta Biomaterialia, 2018, 72, 352-361.	4.1	19
35	Effect of pre-straining on the size effect in molybdenum pillars. Philosophical Magazine Letters, 2010, 90, 841-849.	0.5	18
36	Highâ€strength poly(paraâ€phenylene) as an orthopedic biomaterial. Journal of Biomedical Materials Research - Part A, 2014, 102, 3122-3129.	2.1	18

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37	Monotonic and cyclic loading behavior of porous scaffolds made from poly(para-phenylene) for orthopedic applications. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 41, 136-148.	1.5	18
38	Amorphous-to-crystalline transition of Polyetheretherketoneâ€“carbon nanotube composites via resistive heating. Composites Science and Technology, 2013, 89, 110-119.	3.8	15
39	Evaluation and Prediction of Human Lumbar Vertebrae Endplate Mechanical Properties Using Indentation and Computed Tomography. Journal of Biomechanical Engineering, 2018, 140, .	0.6	15
40	Composite Hydrogels With Controlled Degradation in 3D Printed Scaffolds. IEEE Transactions on Nanobioscience, 2019, 18, 261-264.	2.2	15
41	Characterization and mechanical testing of polydopamine-adhered electroless copper films. Surface and Coatings Technology, 2017, 331, 211-220.	2.2	12
42	Cell-Laden Particulate-Composite Hydrogels with Tunable Mechanical Properties Constructed with Gradient-Interface Hydrogel Particles. ACS Applied Polymer Materials, 2019, 1, 2571-2576.	2.0	11
43	Vickers Indentation Induced Oneâ€<scp>W</scp>ay and Twoâ€<scp>W</scp>ay Shape Memory Effect in Austenitic Ni<scp>T</scp>i. Advanced Engineering Materials, 2014, 16, 72-79.	1.6	10
44	Mechanical characterization of polydopamine-assisted silver deposition on thiol-ene polymer substrates. Surface and Coatings Technology, 2019, 358, 136-143.	2.2	10
45	Effect of indentation temperature on nickel-titanium indentation-induced two-way shape-memory surfaces. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 675, 253-261.	2.6	9
46	Untersuchung von besonders geformten titan- und schwefelhaltigen EinschlÃ¼ssen in Roheisenschmelzen mit hohen Kohlenstoffgehalten. Archiv FÃ¼r Das EisenhÃ¼ttenwesen, 1960, 31, 419-422.	0.1	7
47	Influence of Ti3Ni4 precipitates on the indentation-induced two-way shape-memory effect in Nickel-Titanium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 792, 139373.	2.6	6
48	Adhesion behavior of polymer networks with tailored mechanical properties using spherical and flat contacts. MRS Communications, 2013, 3, 73-77.	0.8	5
49	Indentation-induced two-way shape-memory effect in aged Tiâ^'50.9 at.% Ni. MRS Communications, 2015, 5, 77-82.	0.8	5
50	A methodology for fabrication of thermomechanically activated switchable surface wettability. Journal of Applied Polymer Science, 2016, 133, .	1.3	5
51	Cell Printing in Complex Hydrogel Scaffolds. IEEE Transactions on Nanobioscience, 2019, 18, 265-268.	2.2	3
52	Bench scale glass-to-glass bonding for microfluidic prototyping. Microsystem Technologies, 2020, 26, 3581-3589.	1.2	3
53	Systematic tailoring of water absorption in photopolymerizable (meth)acrylate networks and its effect on mechanical properties. Journal of Applied Polymer Science, 2013, 128, 1913-1921.	1.3	2
54	Extended Cyclic Deformation Recovery of the Indentationâ€Induced Twoâ€Way Shapeâ€Memory Effect in Nickelâ€“Titanium. Advanced Engineering Materials, 2019, 21, 1801020.	1.6	2

#	Article	IF	Citations
55	Cast NiTi Shape-Memory Alloys. Materials Research Society Symposia Proceedings, 2004, 855, 19.	0.1	1
56	Thermo-mechanical Behavior of (Meth)Acrylate Shape-Memory Polymer Networks. Materials Research Society Symposia Proceedings, 2011, 1312, 1.	0.1	1
57	Thermally switchable adhesion of photopolymerizable acrylate polymer networks - biomed 2013. Biomedical Sciences Instrumentation, 2013, 49, 141-8.	0.2	1
58	Thermal Processing of Polycrystalline NiTi Shape Memory Alloys. Materials Research Society Symposia Proceedings, 2004, 855, 25.	0.1	0
59	Indentation-induced two-way shape-memory effect in NiTi. , 2013, , .		0
60	Active Materials. Handbook Series for Mechanical Engineering, 2013, , 393-432.	0.0	0
61	Characterization of poly(para-phenylene)-MWCNT solvent-cast composites. AIMS Materials Science, 2018, 5, 301-319.	0.7	0
62	Tensile behavior of porous scaffolds made from poly(para phenylene) - biomed 2013. Biomedical Sciences Instrumentation, 2013, 49, 157-64.	0.2	0