

Kaveh Edalati

List of Publications by Citations

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177
papers

6,136
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48
h-index

70
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184
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7,531
ext. citations

5.1
avg, IF

6.48
L-index

#	Paper	IF	Citations
177	A review on high-pressure torsion (HPT) from 1935 to 1988. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016 , 652, 325-352	5.3	315
176	High-pressure torsion of pure magnesium: Evolution of mechanical properties, microstructures and hydrogen storage capacity with equivalent strain. <i>Scripta Materialia</i> , 2011 , 64, 880-883	5.6	196
175	Microstructure and mechanical properties of pure Cu processed by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008 , 497, 168-173	5.3	179
174	High-pressure torsion of pure metals: Influence of atomic bond parameters and stacking fault energy on grain size and correlation with hardness. <i>Acta Materialia</i> , 2011 , 59, 6831-6836	8.4	161
173	Influence of dislocation solute atom interactions and stacking fault energy on grain size of single-phase alloys after severe plastic deformation using high-pressure torsion. <i>Acta Materialia</i> , 2014 , 69, 68-77	8.4	138
172	Significance of homologous temperature in softening behavior and grain size of pure metals processed by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011 , 528, 7514-7523	5.3	137
171	High-pressure torsion for enhanced atomic diffusion and promoting solid-state reactions in the aluminum-copper system. <i>Acta Materialia</i> , 2013 , 61, 3482-3489	8.4	132
170	Processing Pure Ti by High-Pressure Torsion in Wide Ranges of Pressures and Strain. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2009 , 40, 2079-2086	2.3	121
169	Evolution of Mechanical Properties and Microstructures with Equivalent Strain in Pure Fe Processed by High Pressure Torsion. <i>Materials Transactions</i> , 2009 , 50, 44-50	1.3	103
168	Design and synthesis of a magnesium alloy for room temperature hydrogen storage. <i>Acta Materialia</i> , 2018 , 149, 88-96	8.4	101
167	Significance of temperature increase in processing by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011 , 528, 7301-7305	5.3	101
166	Allotropic phase transformation of pure zirconium by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009 , 523, 277-281	5.3	95
165	High-pressure torsion of TiFe intermetallics for activation of hydrogen storage at room temperature with heterogeneous nanostructure. <i>International Journal of Hydrogen Energy</i> , 2013 , 38, 4622-4627	6.7	92
164	The significance of slippage in processing by high-pressure torsion. <i>Scripta Materialia</i> , 2009 , 60, 9-12	5.6	91
163	Significance of grain boundaries and stacking faults on hydrogen storage properties of Mg 2 Ni intermetallics processed by high-pressure torsion. <i>Acta Materialia</i> , 2015 , 92, 46-54	8.4	88
162	Hydrogen storage performance of TiFe after processing by ball milling. <i>Acta Materialia</i> , 2015 , 88, 190-198	8.4	88
161	Ultrahigh strength and high plasticity in TiAl intermetallics with bimodal grain structure and nanotwins. <i>Scripta Materialia</i> , 2012 , 67, 814-817	5.6	83

160	Continuous high-pressure torsion. <i>Journal of Materials Science</i> , 2010 , 45, 4578-4582	4.3	80
159	Activation of TiFe for hydrogen storage by plastic deformation using groove rolling and high-pressure torsion: Similarities and differences. <i>International Journal of Hydrogen Energy</i> , 2014 , 39, 15589-15594	6.7	78
158	Plastic deformation and allotropic phase transformations in zirconia ceramics during high-pressure torsion. <i>Scripta Materialia</i> , 2011 , 65, 974-977	5.6	78
157	High-pressure zinc oxide phase as visible-light-active photocatalyst with narrow band gap. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 20298-20303	13	76
156	Influence of severe plastic deformation at cryogenic temperature on grain refinement and softening of pure metals: Investigation using high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014 , 613, 103-110	5.3	74
155	Universal Plot for Hardness Variation in Pure Metals Processed by High-Pressure Torsion. <i>Materials Transactions</i> , 2010 , 51, 1051-1054	1.3	73
154	Softening of high purity aluminum and copper processed by high pressure torsion. <i>International Journal of Materials Research</i> , 2009 , 100, 1668-1673	0.5	69
153	Room-Temperature Superplasticity in an Ultrafine-Grained Magnesium Alloy. <i>Scientific Reports</i> , 2017 , 7, 2662	4.9	68
152	Ultrafine-grained magnesium-lithium alloy processed by high-pressure torsion: Low-temperature superplasticity and potential for hydroforming. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 640, 443-448	5.3	66
151	Equal-Channel Angular Pressing and High-Pressure Torsion of Pure Copper: Evolution of Electrical Conductivity and Hardness with Strain. <i>Materials Transactions</i> , 2012 , 53, 123-127	1.3	65
150	Wear resistance and tribological features of pure aluminum and Al/Al ₂ O ₃ composites consolidated by high-pressure torsion. <i>Wear</i> , 2014 , 310, 83-89	3.5	64
149	High-pressure torsion of titanium at cryogenic and room temperatures: Grain size effect on allotropic phase transformations. <i>Acta Materialia</i> , 2014 , 68, 207-213	8.4	62
148	Application of high-pressure torsion for consolidation of ceramic powders. <i>Scripta Materialia</i> , 2010 , 63, 174-177	5.6	62
147	Age hardening and thermal stability of AlCu alloy processed by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 627, 111-118	5.3	60
146	Using ring samples to evaluate the processing characteristics in high-pressure torsion. <i>Acta Materialia</i> , 2009 , 57, 1147-1153	8.4	59
145	Formation of FeNi with L10-ordered structure using high-pressure torsion. <i>Philosophical Magazine Letters</i> , 2014 , 94, 639-646	1	58
144	Visible-Light-Driven Photocatalytic Hydrogen Generation on Nanosized TiO ₂ -II Stabilized by High-Pressure Torsion. <i>ACS Catalysis</i> , 2016 , 6, 5103-5107	13.1	56
143	In situ production of bulk intermetallic-based nanocomposites and nanostructured intermetallics by high-pressure torsion. <i>Scripta Materialia</i> , 2012 , 66, 386-389	5.6	56

142	Reversible room temperature hydrogen storage in high-entropy alloy TiZrCrMnFeNi. <i>Scripta Materialia</i> , 2020 , 178, 387-390	5.6	56
141	New nanostructured phases with reversible hydrogen storage capability in immiscible magnesium-zirconium system produced by high-pressure torsion. <i>Acta Materialia</i> , 2016 , 108, 293-303	8.4	54
140	Cold Consolidation of Ball-Milled Titanium Powders Using High-Pressure Torsion. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2010 , 41, 3308-3317	2.3	54
139	Mechanism of activation of TiFe intermetallics for hydrogen storage by severe plastic deformation using high-pressure torsion. <i>Applied Physics Letters</i> , 2013 , 103, 143902	3.4	53
138	Correlations between hardness and atomic bond parameters of pure metals and semi-metals after processing by high-pressure torsion. <i>Scripta Materialia</i> , 2011 , 64, 161-164	5.6	53
137	Plastic Deformation of BaTiO ₃ Ceramics by High-pressure Torsion and Changes in Phase Transformations, Optical and Dielectric Properties. <i>Materials Research Letters</i> , 2015 , 3, 216-221	7.4	52
136	Formation of metastable phases in magnesium-titanium system by high-pressure torsion and their hydrogen storage performance. <i>Acta Materialia</i> , 2015 , 99, 150-156	8.4	52
135	High-pressure torsion of pure cobalt: hcp-fcc phase transformations and twinning during severe plastic deformation. <i>Applied Physics Letters</i> , 2013 , 102, 181902	3.4	52
134	High-pressure torsion of aluminum with ultrahigh purity (99.9999%) and occurrence of inverse Hall-Petch relationship. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017 , 679, 428-434	5.3	51
133	High-pressure torsion of hafnium. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010 , 527, 2136-2141	5.3	51
132	The use of radiography for thickness measurement and corrosion monitoring in pipes. <i>International Journal of Pressure Vessels and Piping</i> , 2006 , 83, 736-741	2.4	51
131	Effect of temperature rise on microstructural evolution during high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018 , 714, 167-171	5.3	50
130	Phase transformation and nanograin refinement of silicon by processing through high-pressure torsion. <i>Applied Physics Letters</i> , 2012 , 101, 121908	3.4	50
129	Photocatalytic hydrogen evolution on a high-entropy oxide. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 3814-3821	13	48
128	Microstructures and Mechanical Properties of Pure V and Mo Processed by High-Pressure Torsion. <i>Materials Transactions</i> , 2010 , 51, 1072-1079	1.3	47
127	High-Pressure Torsion of Machining Chips and Bulk Discs of Amorphous Zr ₅₀ Cu ₃₀ Al ₁₀ Ni ₁₀ . <i>Materials Transactions</i> , 2010 , 51, 23-26	1.3	46
126	Ultra-severe plastic deformation: Evolution of microstructure, phase transformation and hardness in immiscible magnesium-based systems. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017 , 701, 158-166	5.3	45
125	Scaling-Up of High Pressure Torsion Using Ring Shape. <i>Materials Transactions</i> , 2009 , 50, 92-95	1.3	45

124	Mechanochemistry of Metal Hydrides: Recent Advances. <i>Materials</i> , 2019 , 12,	3.5	41
123	Effect of high-pressure torsion on grain refinement, strength enhancement and uniform ductility of EZ magnesium alloy. <i>Materials Letters</i> , 2018 , 212, 323-326	3.3	41
122	Plastic strain and grain size effect on high-pressure phase transformations in nanostructured TiO ₂ ceramics. <i>Scripta Materialia</i> , 2016 , 124, 59-62	5.6	40
121	Influence of hydrogen on dislocation self-organization in Ni. <i>Acta Materialia</i> , 2017 , 135, 96-102	8.4	38
120	Transition from poor ductility to room-temperature superplasticity in a nanostructured aluminum alloy. <i>Scientific Reports</i> , 2018 , 8, 6740	4.9	37
119	Softening by severe plastic deformation and hardening by annealing of aluminum-zinc alloy: Significance of elemental and spinodal decompositions. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014 , 610, 17-27	5.3	35
118	Continuous high-pressure torsion using wires. <i>Journal of Materials Science</i> , 2012 , 47, 473-478	4.3	35
117	Optical Properties of Nanocrystalline Monoclinic YO Stabilized by Grain Size and Plastic Strain Effects via High-Pressure Torsion. <i>Inorganic Chemistry</i> , 2017 , 56, 2576-2580	5.1	34
116	Review on Recent Advancements in Severe Plastic Deformation of Oxides by High-Pressure Torsion (HPT). <i>Advanced Engineering Materials</i> , 2019 , 21, 1800272	3.5	34
115	Activation of titanium-vanadium alloy for hydrogen storage by introduction of nanograins and edge dislocations using high-pressure torsion. <i>International Journal of Hydrogen Energy</i> , 2016 , 41, 8917-8924	6.7	34
114	Structure and mechanical behavior of ultrafine-grained aluminum-iron alloy stabilized by nanoscaled intermetallic particles. <i>Acta Materialia</i> , 2019 , 167, 89-102	8.4	32
113	High-pressure torsion for new hydrogen storage materials. <i>Science and Technology of Advanced Materials</i> , 2018 , 19, 185-193	7.1	32
112	High-entropy ceramics: Review of principles, production and applications. <i>Materials Science and Engineering Reports</i> , 2021 , 146, 100644	30.9	32
111	Photocatalytic hydrogen generation on low-bandgap black zirconia (ZrO ₂) produced by high-pressure torsion. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 3643-3650	13	31
110	Long-time stability of metals after severe plastic deformation: Softening and hardening by self-annealing versus thermal stability. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018 , 729, 340-348	5.3	31
109	Metallurgical Alchemy by Ultra-Severe Plastic Deformation via High-Pressure Torsion Process. <i>Materials Transactions</i> , 2019 , 60, 1221-1229	1.3	30
108	Ultrahigh hardness and biocompatibility of high-entropy alloy TiAlFeCoNi processed by high-pressure torsion. <i>Materials Science and Engineering C</i> , 2020 , 112, 110908	8.3	29
107	Impact of severe plastic deformation on microstructure and hydrogen storage of titanium-iron-manganese intermetallics. <i>Scripta Materialia</i> , 2016 , 124, 108-111	5.6	29

106	Microstructural characteristics of tungsten-base nanocomposites produced from micropowders by high-pressure torsion. <i>Acta Materialia</i> , 2012 , 60, 3885-3893	8.4	29
105	Dynamic recrystallization and recovery during high-pressure torsion: Experimental evidence by torque measurement using ring specimens. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013 , 559, 506-509	5.3	29
104	Real Hydrostatic Pressure in High-Pressure Torsion Measured by Bismuth Phase Transformations and FEM Simulations. <i>Materials Transactions</i> , 2016 , 57, 533-538	1.3	29
103	Phase transformations, vacancy formation and variations of optical and photocatalytic properties in TiO ₂ -ZnO composites by high-pressure torsion. <i>International Journal of Plasticity</i> , 2020 , 124, 170-185	7.6	28
102	Enhanced photocatalytic hydrogen production on GaN _{0.5} O oxynitride by introduction of strain-induced nitrogen vacancy complexes. <i>Acta Materialia</i> , 2020 , 185, 149-156	8.4	28
101	Strengthening of A2024 alloy by high-pressure torsion and subsequent aging. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017 , 704, 112-118	5.3	27
100	High-pressure torsion of iron with various purity levels and validation of Hall-Petch strengthening mechanism. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 743, 597-605	5.3	27
99	Nanocrystalline steel obtained by mechanical alloying of iron and graphite subsequently compacted by high-pressure torsion. <i>Acta Materialia</i> , 2015 , 97, 207-215	8.4	26
98	Fabrication of nanograined silicon by high-pressure torsion. <i>Journal of Materials Science</i> , 2014 , 49, 6565-6569	4.5	26
97	Fast hydrolysis and hydrogen generation on Al-Bi alloys and Al-Bi-C composites synthesized by high-pressure torsion. <i>International Journal of Hydrogen Energy</i> , 2017 , 42, 29121-29130	6.7	26
96	Mechanical Synthesis and Hydrogen Storage Characterization of MgVCr and MgVTiCrFe High-Entropy Alloy. <i>Advanced Engineering Materials</i> , 2020 , 22, 1901079	3.5	26
95	Nanomaterials by severe plastic deformation: review of historical developments and recent advances. <i>Materials Research Letters</i> , 2022 , 10, 163-256	7.4	26
94	High Strength and High Uniform Ductility in a Severely Deformed Iron Alloy by Lattice Softening and Multimodal-structure Formation. <i>Materials Research Letters</i> , 2015 , 3, 197-202	7.4	24
93	Influence of SiC and FeSi addition on the characteristics of gray cast iron melts poured at different temperatures. <i>Journal of Materials Processing Technology</i> , 2005 , 160, 183-187	5.3	24
92	Improved Photocatalytic Hydrogen Evolution on Tantalate Perovskites CsTaO ₃ and LiTaO ₃ by Strain-Induced Vacancies. <i>ACS Applied Energy Materials</i> , 2020 , 3, 1710-1718	6.1	23
91	Development of ultrahigh strength and high ductility in nanostructured iron alloys with lattice softening and nanotwins. <i>Scripta Materialia</i> , 2012 , 67, 511-514	5.6	23
90	Aging Behavior of Al 6061 Alloy Processed by High-Pressure Torsion and Subsequent Aging. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015 , 46, 2664-2673	2.3	22
89	High strength and superconductivity in nanostructured niobium-titanium alloy by high-pressure torsion and annealing: Significance of elemental decomposition and supersaturation. <i>Acta Materialia</i> , 2014 , 80, 149-158	8.4	22

88	Developing age-hardenable Al-Zr alloy by ultra-severe plastic deformation: Significance of supersaturation, segregation and precipitation on hardening and electrical conductivity. <i>Acta Materialia</i> , 2021 , 203, 116503	8.4	22
87	Effect of gradient-structure versus uniform nanostructure on hydrogen storage of Ti-V-Cr alloys: Investigation using ultrasonic SMAT and HPT processes. <i>Journal of Alloys and Compounds</i> , 2018 , 737, 337-346	5.7	21
86	Unusual hardening in Ti/Al ₂ O ₃ nanocomposites produced by high-pressure torsion followed by annealing. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011 , 529, 435-441	5.3	20
85	Superior hydrogenation properties in a Mg ₆₅ Ce ₁₀ Ni ₂₀ Cu ₅ nanoglass processed by melt-spinning followed by high-pressure torsion. <i>Scripta Materialia</i> , 2018 , 152, 137-140	5.6	19
84	Bulk nanocrystalline gamma magnesium hydride with low dehydrogenation temperature stabilized by plastic straining via high-pressure torsion. <i>Scripta Materialia</i> , 2018 , 157, 54-57	5.6	19
83	Phase Transformations in MgH ₂ /TiH ₂ Hydrogen Storage System by High-Pressure Torsion Process. <i>Advanced Engineering Materials</i> , 2020 , 22, 1900027	3.5	19
82	Evolution of lattice defects, disordered/ordered phase transformations and mechanical properties in Ni ₄ AlTi intermetallics by high-pressure torsion. <i>Journal of Alloys and Compounds</i> , 2013 , 563, 221-228	5.7	18
81	High-resolution transmission electron microscopy analysis of bulk nanograined silicon processed by high-pressure torsion. <i>Materials Characterization</i> , 2017 , 129, 163-168	3.9	17
80	Phase transformation of germanium by processing through high-pressure torsion: strain and temperature effects. <i>Philosophical Magazine Letters</i> , 2017 , 97, 27-34	1	17
79	High-pressure torsion of palladium: Hydrogen-induced softening and plasticity in ultrafine grains and hydrogen-induced hardening and embrittlement in coarse grains. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014 , 618, 1-8	5.3	17
78	Graphite to diamond-like carbon phase transformation by high-pressure torsion. <i>Applied Physics Letters</i> , 2013 , 103, 034108	3.4	17
77	Low-temperature anatase-to-rutile phase transformation and unusual grain coarsening in titanium oxide nanopowders by high-pressure torsion straining. <i>Scripta Materialia</i> , 2019 , 162, 341-344	5.6	17
76	Grain growth in nanograined aluminum oxide by high-pressure torsion: Phase transformation and plastic strain effects. <i>Scripta Materialia</i> , 2018 , 152, 11-14	5.6	16
75	High-resolution transmission electron microscopy analysis of nanograined germanium produced by high-pressure torsion. <i>Materials Characterization</i> , 2017 , 132, 132-138	3.9	16
74	Hydrogen storage in TiZrNbFeNi high entropy alloys, designed by thermodynamic calculations. <i>International Journal of Hydrogen Energy</i> , 2020 , 45, 33759-33770	6.7	16
73	High-entropy oxynitride as a low-bandgap and stable photocatalyst for hydrogen production. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 15076-15086	13	16
72	Photocatalytic activity of aluminum oxide by oxygen vacancy generation using high-pressure torsion straining. <i>Scripta Materialia</i> , 2019 , 173, 120-124	5.6	15
71	Solid-state reactions and hydrogen storage in magnesium mixed with various elements by high-pressure torsion: experiments and first-principles calculations. <i>RSC Advances</i> , 2016 , 6, 11665-11674	3.7	15

70	Impact of TiO ₂ -II phase stabilized in anatase matrix by high-pressure torsion on electrocatalytic hydrogen production. <i>Materials Research Letters</i> , 2019 , 7, 334-339	7.4	15
69	Application of High-Pressure Torsion to WC–Co Ceramic-Based Composites for Improvement of Consolidation, Microstructure and Hardness. <i>Materials Transactions</i> , 2013 , 54, 1540-1548	1.3	14
68	Microstructure and phase transformations of silica glass and vanadium oxide by severe plastic deformation via high-pressure torsion straining. <i>Journal of Alloys and Compounds</i> , 2019 , 779, 394-398	5.7	14
67	Examination of inverse Hall-Petch relation in nanostructured aluminum alloys by ultra-severe plastic deformation. <i>Journal of Materials Science and Technology</i> , 2021 , 91, 78-89	9.1	14
66	Novel black bismuth oxide (Bi ₂ O ₃) with enhanced photocurrent generation, produced by high-pressure torsion straining. <i>Scripta Materialia</i> , 2020 , 187, 366-370	5.6	13
65	Microstructural details of hydrogen diffusion and storage in TiVCr alloys activated through surface and bulk severe plastic deformation. <i>International Journal of Hydrogen Energy</i> , 2020 , 45, 5326-5336	6.7	13
64	Effect of temperature on solid-state formation of bulk nanograined intermetallic Al ₃ Ni during high-pressure torsion. <i>Philosophical Magazine</i> , 2014 , 94, 876-887	1.6	12
63	Production of nanograined intermetallics using high-pressure torsion. <i>Materials Research</i> , 2013 , 16, 672-678	6.5	12
62	New MgVCr BCC Alloys Synthesized by High-Pressure Torsion and Ball Milling. <i>Materials Transactions</i> , 2018 , 59, 741-746	1.3	12
61	Hydrolytic Hydrogen Production on Al ₃ Sn ₂ Zn Alloys Processed by High-Pressure Torsion. <i>Materials</i> , 2018 , 11,	3.5	11
60	Electrical resistivity mapping of titanium and zirconium discs processed by high-pressure torsion for homogeneity and phase transformation evaluation. <i>Journal of Materials Science</i> , 2017 , 52, 6778-6788	4.3	10
59	Use of Ring Sample for High-Pressure Torsion and Microstructural Evolution with Equivalent Strain. <i>Materials Science Forum</i> , 2008 , 584-586, 191-196	0.4	10
58	Hydrostatic Compression Effects on Fifth-Group Element Superconductors V, Nb, and Ta Subjected to High-Pressure Torsion. <i>Materials Transactions</i> , 2019 , 60, 1472-1483	1.3	10
57	Understanding the role of Ca segregation on thermal stability, electrical resistivity and mechanical strength of nanostructured aluminum. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 798, 140108	5.3	9
56	Critical Temperature in Bulk Ultrafine-Grained Superconductors of Nb, V, and Ta Processed by High-Pressure Torsion. <i>Materials Transactions</i> , 2019 , 60, 1367-1376	1.3	9
55	Visible-Light Photocurrent in Nanostructured High-Pressure TiO ₂ -II (Columbite) Phase. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 13930-13935	3.8	8
54	Novel Fe-based nanoglass as efficient noble-metal-free electrocatalyst for alkaline hydrogen evolution reaction. <i>Scripta Materialia</i> , 2020 , 188, 135-139	5.6	8
53	Cathodic corrosion activated Fe-based nanoglass as a highly active and stable oxygen evolution catalyst for water splitting. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 12152-12160	13	8

52	Phase transformation and microstructure evolution in ultrahard carbon-doped AlTiFeCoNi high-entropy alloy by high-pressure torsion. <i>Materials Letters</i> , 2021 , 302, 130368	3.3	8
51	Ultrahigh hardness in nanostructured dual-phase high-entropy alloy AlCrFeCoNiNb developed by high-pressure torsion. <i>Journal of Alloys and Compounds</i> , 2021 , 884, 161101	5.7	8
50	High-pressure torsion to induce oxygen vacancies in nanocrystals of magnesium oxide: Enhanced light absorbance, photocatalysis and significance in geology. <i>Materialia</i> , 2020 , 11, 100670	3.2	7
49	FCC phase formation in immiscible MgBf (magnesiumBafnium) system by high-pressure torsion. <i>AIP Advances</i> , 2020 , 10, 055222	1.5	7
48	Historical Studies by Polish Scientist on Ultrafine-Grained Materials by Severe Plastic Deformation. <i>Materials Transactions</i> , 2019 , 60, 1553-1560	1.3	7
47	Defect detection in thin plates by ultrasonic lamb wave techniques. <i>International Journal of Materials and Product Technology</i> , 2006 , 27, 156	1	7
46	Severe Plastic Deformation for Nanostructure Controls. <i>Materials Transactions</i> , 2020 , 61, 2241-2247	1.3	7
45	Hydrogen storage properties of new A3B2-type TiZrNbCrFe high-entropy alloy. <i>International Journal of Hydrogen Energy</i> , 2021 ,	6.7	7
44	High-Pressure Torsion for Synthesis of High-Entropy Alloys. <i>Metals</i> , 2021 , 11, 1263	2.3	7
43	Synthesis of biocompatible high-entropy alloy TiNbZrTaHf by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 825, 141869	5.3	7
42	High-pressure TiO ₂ -II polymorph as an active photocatalyst for CO ₂ to CO conversion. <i>Applied Catalysis B: Environmental</i> , 2021 , 298, 120566	21.8	7
41	Recent advances in metastable alloys for hydrogen storage: a review. <i>Rare Metals</i> , 1	5.5	7
40	Hydrostatic pressure effects on superconducting transition of nanostructured niobium highly strained by high-pressure torsion. <i>Journal of Applied Physics</i> , 2019 , 125, 125901	2.5	6
39	Synthesis of Nanostructured TiFe Hydrogen Storage Material by Mechanical Alloying via High-Pressure Torsion. <i>Advanced Engineering Materials</i> , 2020 , 22, 2000011	3.5	6
38	Flaw detection improvement of digitised radiographs by morphological transformations. <i>Insight: Non-Destructive Testing and Condition Monitoring</i> , 2005 , 47, 625-630	1.3	6
37	Defective high-entropy oxide photocatalyst with high activity for CO ₂ conversion. <i>Applied Catalysis B: Environmental</i> , 2021 , 120896	21.8	6
36	High-pressure torsion of SiO ₂ quartz sand: Phase transformation, optical properties, and significance in geology. <i>Journal of the American Ceramic Society</i> , 2020 , 103, 6594-6602	3.8	6
35	Correlation of Physical Parameters with Steady-State Hardness of Pure Metals Processed by High-Pressure Torsion. <i>Materials Science Forum</i> , 2010 , 667-669, 683-688	0.4	5

34	Parameters Influencing Steady-State Grain Size of Pure Metals Processed by High-Pressure Torsion. <i>Materials Science Forum</i> , 2012 , 706-709, 3034-3039	0.4	5
33	Microstructure and microhardness of dual-phase high-entropy alloy by high-pressure torsion: Twins and stacking faults in FCC and dislocations in BCC. <i>Journal of Alloys and Compounds</i> , 2022 , 894, 162413	5.7	5
32	Synthesis of nanostructured biomaterials by high-pressure torsion: Effect of niobium content on microstructure and mechanical properties of Ti-Nb alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 795, 139972	5.3	5
31	Influence of nanotwins on hydrogen embrittlement of TWIP (twinning-induced plasticity) steel processed by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 783, 139273	5.3	4
30	In-service corrosion evaluation in pipelines using gamma radiography by numerical approach. <i>Insight: Non-Destructive Testing and Condition Monitoring</i> , 2004 , 46, 396-398	1.3	4
29	Corrosion Behavior of Ultrafine-Grained CoCrFeMnNi High-Entropy Alloys Fabricated by High-Pressure Torsion.. <i>Materials</i> , 2022 , 15,	3.5	4
28	High-entropy alloys as anode materials of nickel - metal hydride batteries. <i>Scripta Materialia</i> , 2022 , 209, 114387	5.6	4
27	Phase transformations during high-pressure torsion (HPT) in titanium, cobalt and graphite. <i>IOP Conference Series: Materials Science and Engineering</i> , 2014 , 63, 012099	0.4	3
26	Scattering and image contrast simulation for double wall radiography of pipes. <i>International Journal of Pressure Vessels and Piping</i> , 2007 , 84, 441-450	2.4	3
25	A radiographic calibration method for eddy current testing of heat exchanger tubes. <i>Insight: Non-Destructive Testing and Condition Monitoring</i> , 2004 , 46, 594-597	1.3	3
24	Effect of high-pressure torsion on the hydrogen evolution performances of a melt-spun amorphous Fe _{73.5} Si _{13.5} B ₉ Cu ₁ Nb ₃ alloy. <i>International Journal of Hydrogen Energy</i> , 2021 , 46, 25029-25038	6.7	3
23	Grain refinement and superplasticity of Inconel 718 processed by Multi-Pass High-Pressure sliding. <i>Materials Letters</i> , 2021 , 300, 130144	3.3	3
22	Severe plastic deformed Pd-based metallic glass for superior hydrogen evolution in both acidic and alkaline media. <i>Scripta Materialia</i> , 2021 , 204, 114145	5.6	3
21	Phase transformations in Al-Ti-Mg powders consolidated by high-pressure torsion: Experiments and first-principles calculations. <i>Journal of Alloys and Compounds</i> , 2022 , 889, 161815	5.7	3
20	Magnetic measurements of hydrogen desorption from palladium hydride PdH _{0.64} prepared by severe plastic deformation. <i>Journal of Applied Physics</i> , 2020 , 127, 215109	2.5	2
19	High Strength and High Ductility in Nanostructured Aluminium-Based Intermetallics Produced by High-Pressure Torsion. <i>Materials Science Forum</i> , 2013 , 765, 558-562	0.4	2
18	Contactless measurement of electrical conductivity for bulk nanostructured silver prepared by high-pressure torsion: A study of the dissipation process of giant strain. <i>Journal of Applied Physics</i> , 2017 , 122, 125105	2.5	2
17	High Pressure Torsion of Pure Ti: Effect of Pressure and Strain on Allotropy. <i>Advanced Materials Research</i> , 2010 , 89-91, 171-176	0.5	2

16	Influence of inoculant and/or SiC addition on characteristics of grey cast iron. <i>International Journal of Cast Metals Research</i> , 2004 , 17, 147-151	1	2
15	Effect of creep parameters on the steady-state flow stress of pure metals processed by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022 , 835, 142666	5.3	2
14	Gradient-structured high-entropy alloy with improved combination of strength and hydrogen embrittlement resistance. <i>Corrosion Science</i> , 2022 , 200, 110253	6.8	2
13	Enhanced CO ₂ conversion on highly-strained and oxygen-deficient BiVO ₄ photocatalyst. <i>Chemical Engineering Journal</i> , 2022 , 442, 136209	14.7	2
12	Microstructure Formation of High Pressure Torsion Processed (HPT) Two Phase Stainless Steel. <i>Materials Science Forum</i> , 2016 , 879, 1365-1368	0.4	1
11	Superplasticity of nanostructured Ti-6Al-7Nb alloy with equiaxed and lamellar initial microstructures processed by High-Pressure Torsion. <i>IOP Conference Series: Materials Science and Engineering</i> , 2017 , 194, 012041	0.4	1
10	Formation of Bulk Nanostructured Al ₃ Ni from Elemental Micropowders Using High-Pressure Torsion. <i>Materials Science Forum</i> , 2013 , 765, 378-382	0.4	1
9	Three-dimensional mapping of non-complex specimens by image processing and optical density evaluation of digitised radiographs. <i>Insight: Non-Destructive Testing and Condition Monitoring</i> , 2009 , 51, 315-320	1.3	1
8	High Strength and Ductility in Ball-Milled Titanium Powders Consolidated by High-Pressure Torsion. <i>Materials Science Forum</i> , 2010 , 654-656, 1239-1242	0.4	1
7	Effect of Homogenization on Microstructure and Hardness of Arc-Melted FeCoNiMn High Entropy Alloy During High-Pressure Torsion (HPT). <i>Journal of Materials Engineering and Performance</i> , 1	1.6	1
6	Microstructure and defect effects on strength and hydrogen embrittlement of high-entropy alloy CrMnFeCoNi processed by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022 , 844, 143179	5.3	0
5	High Resolution TEM Observation of Nanocrystalline Silicon Fabricated by High Pressure Torsion (HPT). <i>Microscopy and Microanalysis</i> , 2015 , 21, 1783-1784	0.5	
4	Production of Al-Based Nano-Intermetallics by High-Pressure Torsion 2012 , 985-991		
3	Production of Aluminum-Based Nano-Intermetallics by High-Pressure Torsion 985-991		
2	Influence of Cu doping and high-pressure torsion on electrochemical performance of lithium-rich cathode material. <i>Journal of Physics: Conference Series</i> , 2021 , 1750, 012077	0.3	
1	Glycine amino acid transformation under impacts by small solar system bodies, simulated via high-pressure torsion method.. <i>Scientific Reports</i> , 2022 , 12, 5677	4.9	