Marc A Meyers

List of Publications by Year
in descending order

426 papers	36,642 citations	3721 89 h-index	4203 174 g-index
452 all docs	452 docs citations	452 times ranked	21770 citing authors

#	Article	IF	Citations
1	Mechanical properties of nanocrystalline materials. Progress in Materials Science, 2006, 51, 427-556.	16.0	3,843
2	Biological materials: Structure and mechanical properties. Progress in Materials Science, 2008, 53, 1-206.	16.0	2,042
3	The onset of twinning in metals: a constitutive description. Acta Materialia, 2001, 49, 4025-4039.	3.8	1,390
4	Structural Biological Materials: Critical Mechanics-Materials Connections. Science, 2013, 339, 773-779.	6.0	878
5	Biomedical applications of titanium and its alloys. Jom, 2008, 60, 46-49.	0.9	661
6	Mechanical properties of high-entropy alloys with emphasis on face-centered cubic alloys. Progress in Materials Science, 2019, 102, 296-345.	16.0	634
7	Biological materials: Functional adaptations and bioinspired designs. Progress in Materials Science, 2012, 57, 1492-1704.	16.0	582
8	Keratin: Structure, mechanical properties, occurrence in biological organisms, and efforts at bioinspiration. Progress in Materials Science, 2016, 76, 229-318.	16.0	571
9	Functional gradients and heterogeneities in biological materials: Design principles, functions, and bioinspired applications. Progress in Materials Science, 2017, 88, 467-498.	16.0	554
10	Structural Design Elements in Biological Materials: Application to Bioinspiration. Advanced Materials, 2015, 27, 5455-5476.	11.1	472
11	Microstructural evolution in adiabatic shear localization in stainless steel. Acta Materialia, 2003, 51, 1307-1325.	3.8	421
12	Microstructural evolution in copper subjected to severe plastic deformation: Experiments and analysis. Acta Materialia, 2007, 55, 13-28.	3.8	408
13	Structure and mechanical properties of crab exoskeletons. Acta Biomaterialia, 2008, 4, 587-596.	4.1	386
14	Dynamic recrystallization in high-strain, high-strain-rate plastic deformation of copper. Acta Metallurgica Et Materialia, 1994, 42, 3183-3195.	1.9	362
15	Mechanical strength of abalone nacre: Role of the soft organic layer. Journal of the Mechanical Behavior of Biomedical Materials, 2008, 1, 76-85.	1.5	341
16	Quasi-static and dynamic mechanical response of Haliotis rufescens (abalone) shells. Acta Materialia, 2000, 48, 2383-2398.	3.8	337
17	Structure and mechanical properties of selected biological materials. Journal of the Mechanical Behavior of Biomedical Materials, 2008, 1, 208-226.	1.5	332
18	Natural Flexible Dermal Armor. Advanced Materials, 2013, 25, 31-48.	11.1	327

#	Article	IF	Citations
19	Dynamic fracture (spalling) of metals. Progress in Materials Science, 1983, 28, 1-96.	16.0	315
20	Void growth by dislocation emission. Acta Materialia, 2004, 52, 1397-1408.	3.8	306
21	Shear localization in dynamic deformation of materials: microstructural evolution and self-organization. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 317, 204-225.	2.6	303
22	On the tear resistance of skin. Nature Communications, 2015, 6, 6649.	5.8	297
23	Mechanical adaptability of the Bouligand-type structure in natural dermal armour. Nature Communications, 2013, 4, 2634.	5.8	277
24	Direct Observation of theÎ±âˆ’ÎµTransition in Shock-Compressed Iron via Nanosecond X-Ray Diffraction. Physical Review Letters, 2005, 95, 075502.	2.9	270
25	The Structure, Functions, and Mechanical Properties of Keratin. Jom, 2012, 64, 449-468.	0.9	266
26	Analytical and computational description of effect of grain size on yield stress of metals. Acta Materialia, 2001, 49, 2567-2582.	3.8	265
27	The effect of grain size on the high-strain, high-strain-rate behavior of copper. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1995, 26, 2881-2893.	1.1	260
28	A model for the effect of grain size on the yield stress of metals. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1982, 46, 737-759.	0.8	258
29	Evolution of microstructure and shear-band formation in Î±-hcp titanium. Mechanics of Materials, 1994, 17, 175-193.	1.7	249
30	Self-organization of shear bands in titanium and Tiâ€“6Alâ€“4V alloy. Acta Materialia, 2002, 50, 575-596.	3.8	248
31	Laser-induced shock compression of monocrystalline copper: characterization and analysis. Acta Materialia, 2003, 51, 1211-1228.	3.8	230
32	Void growth in metals: Atomistic calculations. Acta Materialia, 2008, 56, 3874-3886.	3.8	230
33	Shear Localization in Dynamic Deformation: Microstructural Evolution. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 811-843.	1.1	227
34	The materials science of collagen. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 52, 22-50.	1.5	227
35	Growth and structure in abalone shell. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 390, 27-41.	2.6	223
36	A model for the formation of annealing twins in F.C.C. metals and alloys. Acta Metallurgica, 1978, 26, 951-962.	2.1	214

#	Article	IF	Citations
37	Shear localization and recrystallization in dynamic deformation of 8090 Alâ€“Li alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 299, 287-295.	2.6	179
38	Energy absorbent natural materials and bioinspired design strategies: A review. Materials Science and Engineering C, 2010, 30, 331-342.	3.8	178
39	Anomalous Elastic Response of Silicon to Uniaxial Shock Compression on Nanosecond Time Scales. Physical Review Letters, 2001, 86, 2349-2352.	2.9	177
40	Observation of an adiabatic shear band in titanium by high-voltage transmission electron microscopy. Acta Metallurgica, 1986, 34, 2493-2499.	2.1	173
41	Grain-size dependent mechanical behavior of nanocrystalline metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 646, 101-134.	2.6	172
42	High-strain-rate response of ultra-fine-grained copper. Acta Materialia, 2008, 56, 2770-2783.	3.8	165
43	Adiabatic shear localization in the CrMnFeCoNi high-entropy alloy. Acta Materialia, 2018, 151, 424-431.	3.8	164
44	Constitutive description of dynamic deformation: physically-based mechanisms. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 322, 194-216.	2.6	162
45	Protective role of Arapaima gigas fish scales: Structure and mechanical behavior. Acta Biomaterialia, 2014, 10, 3599-3614.	4.1	161
46	Additive Manufacturing as a Method to Design and Optimize Bioinspired Structures. Advanced Materials, 2018, 30, e1800940.	11.1	158
47	Shear localization and recrystallization in high-strain, high-strain-rate deformation of tantalum. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1997, 229, 23-41.	2.6	155
48	Quasi-static and dynamic mechanical response of Strombus gigas (conch) shells. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 297, 203-211.	2.6	155
49	Mechanical properties and the laminate structure of Arapaima gigas scales. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 1145-1156.	1.5	155
50	Void initiation in fcc metals: Effect of loading orientation and nanocrystalline effects. Acta Materialia, 2010, 58, 4458-4477.	3.8	154
51	Biological materials: A materials science approach. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 626-657.	1.5	151
52	Shock-induced deformation twinning in tantalum. Acta Materialia, 1997, 45, 157-175.	3.8	147
53	A mechanism for dislocation generation in shock-wave deformation. Scripta Metallurgica, 1978, 12, 21-26.	1.2	141
54	Amorphization in extreme deformation of the CrMnFeCoNi high-entropy alloy. Science Advances, 2021, 7, .	4.7	140

#	ARTICLE	IF	CITATIONS
55	Titanium alloy mini-implants for orthodontic anchorage: Immediate loading and metal ion releaseâ˜†. Acta Biomaterialia, 2007, 3, 331-339.	4.1	138
56	Armadillo armor: Mechanical testing and micro-structural evaluation. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 713-722.	1.5	138
57	Adiabatic shear localization in titanium and Ti-6 pct Al-4 pct V alloy. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1985, 16, 761-775.	1.4	137
58	Plastic deformation in nanoindentation of tantalum: A new mechanism for prismatic loop formation. Acta Materialia, 2014, 78, 378-393.	3.8	137
59	Explosive welding of aluminum to aluminum: analysis, computations and experiments. International Journal of Impact Engineering, 2004, 30, 1333-1351.	2.4	136
60	Mechanical properties and structure of Strombus gigas, Tridacna gigas, and Haliotis rufescens sea shells: A comparative study. Materials Science and Engineering C, 2006, 26, 1380-1389.	3.8	129
61	Magnetic freeze casting inspired by nature. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 556, 741-750.	2.6	121
62	Ultrafine grained titanium for biomedical applications: An overview of performance. Journal of Materials Research and Technology, 2013, 2, 340-350.	2.6	121
63	High-strain, high-strain-rate behavior of tantalum. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1995, 26, 2493-2501.	1.1	116
64	Structure and fracture resistance of alligator gar (Atractosteus spatula) armored fish scales. Acta Biomaterialia, 2013, 9, 5876-5889.	4.1	116
65	High-velocity deformation of Al0.3CoCrFeNi high-entropy alloy: Remarkable resistance to shear failure. Scientific Reports, 2017, 7, 42742.	1.6	116
66	Molecular dynamics simulations of shock compression of nickel: From monocrystals to nanocrystals. Acta Materialia, 2008, 56, 5584-5604.	3.8	115
67	Damage evolution in dynamic deformation of silicon carbide. Acta Materialia, 2000, 48, 2399-2420.	3.8	114
68	Observation of an adiabatic shear band in AISI 4340 steel by high-voltage transmission electron microscopy. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1990, 21, 707-716.	1.4	113
69	Material dynamics under extreme conditions of pressure and strain rate. Materials Science and Technology, 2006, 22, 474-488.	0.8	112
70	Structure and mechanical behavior of human hair. Materials Science and Engineering C, 2017, 73, 152-163.	3.8	112
71	Structure and mechanical behavior of a toucan beak. Acta Materialia, 2005, 53, 5281-5296.	3.8	110
72	Self-organization in the initiation of adiabatic shear bands. Acta Materialia, 1998, 46, 327-340.	3.8	109

#	Article	IF	Citations
73	Spark plasma sintering of tantalum carbide. Scripta Materialia, 2010, 63, 577-580.	2.6	109
74	Bioinspired Scaffolds with Varying Pore Architectures and Mechanical Properties. Advanced Functional Materials, 2014, 24, 1978-1987.	7.8	109
75	Pangolin armor: Overlapping, structure, and mechanical properties of the keratinous scales. Acta Biomaterialia, 2016, 41, 60-74.	4.1	109
76	The growth of nacre in the abalone shell. Acta Biomaterialia, 2008, 4, 131-138.	4.1	108
77	Amorphization and nanocrystallization of silicon under shock compression. Acta Materialia, 2016, 103, 519-533.	3.8	108
78	An improved method for shock consolidation of powders. Acta Metallurgica, 1988, 36, 925-936.	2.1	106
79	Interfacial shear strength in abalone nacre. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 607-612.	1.5	106
80	Atomistic modeling of shock-induced void collapse in copper. Applied Physics Letters, 2005, 86, 161902.	1.5	104
81	Extreme lightweight structures: avian feathers and bones. Materials Today, 2017, 20, 377-391.	8.3	104
82	Structural biological composites: An overview. Jom, 2006, 58, 35-41.	0.9	103
83	Ultrafine-grain-sized zirconium by dynamic deformation. Acta Materialia, 2006, 54, 4111-4127.	3.8	102
84	Spall strength dependence on grain size and strain rate in tantalum. Acta Materialia, 2018, 158, 313-329.	3.8	100
85	Atomistic simulation of tantalum nanoindentation: Effects of indenter diameter, penetration velocity, and interatomic potentials on defect mechanisms and evolution. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 613, 390-403.	2.6	98
86	Microstructural evolution in copper processed by severe plastic deformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 410-411, 290-298.	2.6	96
87	A review of impact resistant biological and bioinspired materials and structures. Journal of Materials Research and Technology, 2020, 9, 15705-15738.	2.6	96
88	Directional amorphization of boron carbide subjected to laser shock compression. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12088-12093.	3.3	94
89	Computational description of nanocrystalline deformation based on crystal plasticity. Acta Materialia, 2004, 52, 4413-4425.	3.8	92
90	Inverse Hallâ€"Petch relationship in nanocrystalline tantalum. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 580, 414-426.	2.6	92

#	Article	IF	Citations
91	High-strain, high-strain-rate flow and failure in PTFE/Al/W granular composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 472, 308-315.	2.6	91
92	Battle in the Amazon: Arapaima versus Piranha. Advanced Engineering Materials, 2012, 14, B279.	1.6	90
93	On the ultimate tensile strength of tantalum. Acta Materialia, 2017, 126, 313-328.	3.8	90
94	Effect of strain rate on plastic flow and failure in polycrystalline tungsten. Acta Materialia, 1998, 46, 6267-6290.	3.8	89
95	Growth and collapse of nanovoids in tantalum monocrystals. Acta Materialia, 2011, 59, 1354-1372.	3.8	85
96	Leatherback sea turtle shell: A tough and flexible biological design. Acta Biomaterialia, 2015, 28, 2-12.	4.1	84
97	Predation versus protection: Fish teeth and scales evaluated by nanoindentation. Journal of Materials Research, 2012, 27, 100-112.	1.2	83
98	Structure and mechanical properties of selected protective systems in marine organisms. Materials Science and Engineering C, 2016, 59, 1143-1167.	3.8	83
99	Materials science under extreme conditions of pressure and strain rate. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 2587-2607.	1.1	82
100	Why the seahorse tail is square. Science, 2015, 349, aaa6683.	6.0	82
101	Dynamic deformation and failure of ultrafine-grained titanium. Acta Materialia, 2017, 125, 210-218.	3.8	82
102	Shear localization in metallic materials at high strain rates. Progress in Materials Science, 2021, 119, 100755.	16.0	80
103	Shock consolidation: microstructurally-based analysis and computational modeling. Acta Materialia, 1999, 47, 2089-2108.	3.8	78
104	Ductile tensile failure in metals through initiation and growth of nanosized voids. Acta Materialia, 2012, 60, 4856-4865.	3.8	78
105	Structural architectures with toughening mechanisms in Nature: A review of the materials science of Type-I collagenous materials. Progress in Materials Science, 2019, 103, 425-483.	16.0	78
106	Self organization of shear bands in stainless steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 384, 35-46.	2.6	76
107	Effect of metallurgical parameters on shear band formation in low-carbon (â^¼0.20 Wt Pct) steels. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1990, 21, 3153-3164.	1.4	75
108	On the effect of grain size on yield stress: extension into nanocrystalline domain. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 319-321, 854-861.	2.6	74

#	Article	IF	Citations
109	The deformation physics of nanocrystalline metals: Experiments, analysis, and computations. Jom, 2006, 58, 41-48.	0.9	74
110	Shock-induced amorphization in silicon carbide. Acta Materialia, 2018, 158, 206-213.	3.8	73
111	Quasistatic and dynamic regimes of granular material deformation under impulse loading. Journal of the Mechanics and Physics of Solids, 1997, 45, 1955-1999.	2.3	71
112	Modeling the elastic properties and damage evolution in Tiâ€“Al3Ti metalâ€“intermetallic laminate (MIL) composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 374, 10-26.	2.6	70
113	The strength of single crystal copper under uniaxial shock compression at 100 GPa. Journal of Physics Condensed Matter, 2010, 22, 065404.	0.7	70
114	The prospects for superplasticity at high strain rates: Preliminary considerations and an example. Scripta Metallurgica Et Materialia, 1990, 24, 605-610.	1.0	68
115	Laser shock compression of copper and copperâ€“aluminum alloys. International Journal of Impact Engineering, 2005, 32, 473-507.	2.4	66
116	Toucan and hornbill beaks: A comparative study. Acta Biomaterialia, 2010, 6, 331-343.	4.1	66
117	Deforming nanocrystalline nickel at ultrahigh strain rates. Applied Physics Letters, 2006, 88, 061917.	1.5	65
118	Combustion synthesis/densification of an Al2O3â€“TiB2 composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 311, 83-99.	2.6	64
119	The role of organic intertile layer in abalone nacre. Materials Science and Engineering C, 2009, 29, 2398-2410.	3.8	64
120	Structural characterization and mechanical behavior of a bivalve shell (Saxidomus purpuratus). Materials Science and Engineering C, 2011, 31, 724-729.	3.8	64
121	Highly deformable bones: Unusual deformation mechanisms of seahorse armor. Acta Biomaterialia, 2013, 9, 6763-6770.	4.1	64
122	Tensile behavior and structural characterization of pig dermis. Acta Biomaterialia, 2019, 86, 77-95.	4.1	64
123	The armored carapace of the boxfish. Acta Biomaterialia, 2015, 23, 1-10.	4.1	63
124	Controlled highâ€rate localized shear in porous reactive media. Applied Physics Letters, 1994, 65, 3069-3071.	1.5	62
125	Solid-state experiments at high pressure and strain rate. Physics of Plasmas, 2000, 7, 1999-2006.	0.7	62
126	Laser compression of monocrystalline tantalum. Acta Materialia, 2012, 60, 6601-6620.	3.8	62

#	Article	IF	Citations
127	Kinetics of isothermal martensitic transformation. Progress in Materials Science, 1986, 30, 1-37.	16.0	61
128	High-strain-rate deformation and comminution of silicon carbide. Journal of Applied Physics, 1998, 83, 4660-4671.	1.1	61
129	Structure and mechanical properties of Saxidomus purpuratus biological shells. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 1514-1530.	1.5	61
130	Novel Defense Mechanisms in the Armor of the Scales of the â€œLiving Fossilâ€•Coelacanth Fish. Advanced Functional Materials, 2018, 28, 1804237.	7.8	61
131	The toucan beak: Structure and mechanical response. Materials Science and Engineering C, 2006, 26, 1412-1420.	3.8	60
132	Transmission Electron Microscopy Study of Strain-Induced Low- and High-Angle Boundary Development in Equal-Channel Angular-Pressed Commercially Pure Aluminum. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 181-189.	1.1	60
133	Laser shock-induced spalling and fragmentation in vanadium. Acta Materialia, 2010, 58, 4604-4628.	3.8	60
134	Biomimetic Materials by Freeze Casting. Jom, 2013, 65, 720-727.	0.9	60
135	Systemic levels of metallic ions released from orthodontic mini-implants. American Journal of Orthodontics and Dentofacial Orthopedics, 2009, 135, 522-529.	0.8	59
136	Organic interlamellar layers, mesolayers and mineral nanobridges: Contribution to strength in abalone (Haliotis rufescence) nacre. Acta Biomaterialia, 2014, 10, 2056-2064.	4.1	59
137	Dynamic nanoindentation of articular porcine cartilage. Materials Science and Engineering C, 2011, 31, 789-795.	3.8	58
138	The materials science of skin: Analysis, characterization, and modeling. Progress in Materials Science, 2020, 110, 100634.	16.0	58
139	Hydration-induced reversible deformation of biological materials. Nature Reviews Materials, 2021, 6, 264-283.	23.3	58
140	Shock synthesis of silicidesâ€"II. Thermodynamics and kinetics. Acta Metallurgica Et Materialia, 1994, 42, 715-729.	1.9	57
141	Damage evolution in Ti6Al4Vâ€"Al3Ti metal-intermetallic laminate composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 443, 1-15.	2.6	57
142	The role of dislocations in the growth of nanosized voids in ductile failure of metals. Jom, 2009, 61, 35-41.	0.9	57
143	Potential Bone Replacement Materials Prepared by Two Methods. Materials Research Society Symposia Proceedings, 2012, 1418, 177.	0.1	57
144	High-strain-rate deformation of granular silicon carbide. Acta Materialia, 1998, 46, 4037-4065.	3.8	55

#	Article	IF	Citations
145	Spontaneous and forced shear localization in high-strain-rate deformation of tantalum. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 268, 70-82.	2.6	55
146	Revealing the Mechanics of Helicoidal Composites through Additive Manufacturing and Beetle Developmental Stage Analysis. Advanced Functional Materials, 2018, 28, 1803073.	7.8	55
147	Quasi-static and dynamic response of explosively consolidated metalâ€"aluminum powder mixtures. Acta Materialia, 2012, 60, 1418-1432.	3.8	54
148	Reproducibility of ZrO2-based freeze casting for biomaterials. Materials Science and Engineering C, 2016, 61, 105-112.	3.8	54
149	Shock Compression of Monocrystalline Copper: Atomistic Simulations. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 2681-2688.	1.1	53
150	A lightweight, biological structure with tailored stiffness: The feather vane. Acta Biomaterialia, 2016, 41, 27-39.	4.1	53
151	Effect of Mo on microstructure and mechanical properties of TiCâ€"Ni-based cermets produced by combustion synthesisâ€"impact forging technique. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1996, 206, 71-80.	2.6	52
152	A comparative study of piscine defense: The scales of Arapaima gigas, Latimeria chalumnae and Atractosteus spatula. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 73, 1-16.	1.5	52
153	Shock synthesis of silicidesâ€"I. experimentation and microstructural evolution. Acta Metallurgica Et Materialia, 1994, 42, 701-714.	1.9	51
154	Engineering with keratin: A functional material and a source of bioinspiration. IScience, 2021, 24, 102798.	1.9	51
155	Strain-rate effects in rheological models of inelastic response. International Journal of Plasticity, 2003, 19, 1097-1118.	4.1	50
156	Deformation and failure in extreme regimes by high-energy pulsed lasers: A review. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 688, 429-458.	2.6	50
157	Hyperelastic phase-field fracture mechanics modeling of the toughening induced by Bouligand structures in natural materials. Journal of the Mechanics and Physics of Solids, 2019, 131, 204-220.	2.3	50
158	Effect of stress state and microstructural parameters on impact damage of alumina-based ceramics. Journal of Materials Science, 1989, 24, 2516-2532.	1.7	49
159	Magnetic enhancement of thermal conductivity in copperâ€"carbon nanotube composites produced by electroless plating, freeze drying, and spark plasma sintering. Materials Letters, 2012, 79, 256-258.	1.3	49
160	Shear localization in high-strain-rate deformation of granular alumina. Acta Materialia, 1996, 44, 2017-2026.	3.8	48
161	Effect of shock compression method on the defect substructure in monocrystalline copper. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 409, 270-281.	2.6	48
162	Structure and mechanical properties of naturally occurring lightweight foam-filled cylinder â€" The peacockâ€™s tail coverts shaft and its components. Acta Biomaterialia, 2015, 17, 137-151.	4.1	48

#	Article	IF	Citations
163	Torsional properties of helix-reinforced composites fabricated by magnetic freeze casting. Composite Structures, 2015, 119, 174-184.	3.1	48
164	Generating gradient germanium nanostructures by shock-induced amorphization and crystallization. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9791-9796.	3.3	48
165	Strain-induced structural changes and chemical reactionsâ€"I. Thermomechanical and kinetic models. Acta Materialia, 1998, 46, 5929-5945.	3.8	47
166	Sequential bone healing of immediately loaded mini-implants: histomorphometric and fluorescence analysis. American Journal of Orthodontics and Dentofacial Orthopedics, 2010, 137, 80-90.	0.8	47
167	Plastic deformation of a porous bcc metal containing nanometer sized voids. Computational Materials Science, 2014, 88, 92-102.	1.4	47
168	Structure and Mechanical Adaptability of a Modern Elasmoid Fish Scale from the Common Carp. Matter, 2020, 3, 842-863.	5.0	47
169	The effect of grain size on the shock-loading response of 304-type stainless steel. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1976, 7, 1943-1950.	1.4	46
170	Reaction synthesis/dynamic compaction of titanium diboride. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1992, 23, 77-86.	1.4	46
171	Combustion Synthesis/Dynamic Densification of a TiB2-SiC Composite. Journal of the American Ceramic Society, 1996, 79, 177-182.	1.9	46
172	Laser compression of nanocrystalline tantalum. Acta Materialia, 2013, 61, 7767-7780.	3.8	46
173	The cutting edge: Sharp biological materials. Jom, 2008, 60, 19-24.	0.9	45
174	The development of residual stresses in Ti6Al4V-Al3Ti metal-intermetallic laminate (MIL) composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 473, 49-57.	2.6	45
175	Combustion synthesis in the Ti-C-Ni-Mo system: Part I. Micromechanisms. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1995, 26, 3001-3009.	1.1	44
176	Evaluation of the collapsing thick-walled cylinder technique for shear-band spacing. International Journal of Impact Engineering, 2003, 28, 257-280.	2.4	44
177	Structural characterization and viscoelastic constitutive modeling of skin. Acta Biomaterialia, 2017, 53, 460-469.	4.1	44
178	Cantor-derived medium-entropy alloys: bridging the gap between traditional metallic and high-entropy alloys. Journal of Materials Research and Technology, 2022, 17, 1868-1895.	2.6	44
179	Underwater adhesion of abalone: The role of van der Waals and capillary forces. Acta Materialia, 2009, 57, 4178-4185.	3.8	43
180	A model for elastic precursor waves in the shock loading of polycrystalline metals. Materials Science and Engineering, 1977, 30, 99-111.	0.1	42

#	Article	IF	Citations
181	Shock synthesis and synthesis-assisted shock consolidation of suicides. Journal of Materials Science, 1991, 26, 601-611.	1.7	42
182	Pressure and shear-induced amorphization of silicon. Extreme Mechanics Letters, 2015, 5, 74-80.	2.0	42
183	Dynamic compaction of titanium aluminides by explosively generated shock waves: Experimental and materials systems. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1991, 22, 685-695.	1.4	41
184	Densification of Reaction-Synthesized Titanium Carbide by High-Velocity Forging. Journal of the American Ceramic Society, 1992, 75, 592-602.	1.9	41
185	The structure of controlled shear bands in dynamically deformed reactive mixtures. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1995, 26, 2511-2519.	1.1	41
186	High-pressure, high-strain-rate lattice response of shocked materials. Physics of Plasmas, 2003, 10, 1569-1576.	0.7	41
187	Sequential bone healing of immediately loaded mini-implants. American Journal of Orthodontics and Dentofacial Orthopedics, 2008, 134, 44-52.	0.8	41
188	Chapter 89 Dislocations in Shock Compression and Release. Dislocations in Solids, 2009, 15, 91-197.	1.6	41
189	Flexible Dermal Armor in Nature. Jom, 2012, 64, 475-485.	0.9	41
190	Additive manufacturing of structural ceramics: a historical perspective. Journal of Materials Research and Technology, 2021, 15, 670-695.	2.6	41
191	Dynamic response of single crystalline copper subjected to quasi-isentropic, gas-gun driven loading. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 463, 249-262.	2.6	40
192	Correlation of the mechanical and structural properties of cortical rachis keratin of rectrices of the Toco Toucan (Ramphastos toco). Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 723-732.	1.5	40
193	Mechanical properties and corrosion resistance of hot extruded Mgâ€“2.5Znâ€“1Ca alloy. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2015, 195, 50-58.	1.7	40
194	Arapaima Fish Scale: One of the Toughest Flexible Biological Materials. Matter, 2019, 1, 1557-1566.	5.0	40
195	Lessons from the Ocean: Whale Baleen Fracture Resistance. Advanced Materials, 2019, 31, e1804574.	11.1	40
196	Consolidation of Combustion-Synthesized Titanium Diboride-Based Materials. Journal of the American Ceramic Society, 1995, 78, 275-284.	1.9	39
197	Laser-induced shock compression of copper: Orientation and pressure decay effects. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 2633-2646.	1.1	39
198	Alligator osteoderms: Mechanical behavior and hierarchical structure. Materials Science and Engineering C, 2014, 35, 441-448.	3.8	39

#	Article	IF	Citations
199	Symmetric tilt boundaries in body-centered cubic tantalum. Scripta Materialia, 2016, 116, 108-111.	2.6	39
200	Towards the ultimate strength of iron: spalling through laser shock. Acta Materialia, 2021, 215, 117072.	3.8	39
201	Shock-front irregularities in polycrystalline metals. Materials Science and Engineering, 1976, 24, 131-135.	0.1	37
202	Warm shock consolidation of IN 718 powder. Journal of Materials Science, 1988, 23, 1786-1804.	1.7	37
203	Atomistic simulation of the mechanical response of a nanoporous body-centered cubic metal. Scripta Materialia, 2013, 68, 817-820.	2.6	37
204	Combustion synthesis and quasi-isostatic densification of powder cermets. Journal of Materials Processing Technology, 2002, 121, 157-166.	3.1	36
205	Multiple film plane diagnostic for shocked lattice measurements (invited). Review of Scientific Instruments, 2003, 74, 1929-1934.	0.6	36
206	Shear localization and chemical reaction in high-strain, high-strain-rate deformation of Tiâ€"Si powder mixtures. Acta Materialia, 1998, 46, 3033-3046.	3.8	35
207	Microstructural characterization of self-propagating high-temperature synthesis/ dynamically compacted and hot-pressed titanium carbides. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1992, 23, 87-97.	1.4	34
208	Constitutive response of welded HSLA 100 steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 354, 166-179.	2.6	34
209	External Field Assisted Freeze Casting. Ceramics, 2019, 2, 208-234.	1.0	34
210	Defect Generation in Shock-Wave Deformation. , 1981, , 487-530.		33
211	Combustion synthesis in the Ti-C-Ni-Mo system: Part II. Analysis. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1995, 26, 3011-3019.	1.1	33
212	Fabrication of Net-Shape Functionally Graded Composites by Electrophoretic Deposition and Sintering: Modeling and Experimentation. Journal of the American Ceramic Society, 2007, 90, 3047-3056.	1.9	33
213	Constitutive description of work- and shock-hardened copper. Scripta Metallurgica Et Materialia, 1994, 30, 933-938.	1.0	32
214	High temperature shock consolidation of hard ceramic powders. Physica B: Condensed Matter, 1997, 239, 1-5.	1.3	32
215	Deformation Substructures and Their Transitions in Laser Shockâ€"Compressed Copper-Aluminum Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 304-321.	1.1	32
216	Dynamic recrystallization in the shear bands of Feâ€"Crâ€"Ni monocrystal: Electron backscatter diffraction characterization. Scripta Materialia, 2008, 58, 691-694.	2.6	32

#	Article	IF	Citations
217	Probing the character of ultra-fast dislocations. Scientific Reports, 2015, 5, 16892.	1.6	32
218	Scaling of bird wings and feathers for efficient flight. Science Advances, 2019, 5, eaat4269.	4.7	32
219	Reaction in Niâ€“Al laminates by laser-shock compression and spalling. Acta Materialia, 2011, 59, 5276-5287.	3.8	31
220	Phase Transformation in Tantalum under Extreme Laser Deformation. Scientific Reports, 2015, 5, 15064.	1.6	31
221	Seagull feather shaft: Correlation between structure and mechanical response. Acta Biomaterialia, 2017, 48, 270-288.	4.1	31
222	Hot dynamic consolidation of hard ceramics. Journal of Materials Science, 1992, 27, 5470-5476.	1.7	30
223	Response of Ni/Al laminates to laser-driven compression. Acta Materialia, 2012, 60, 3929-3942.	3.8	30
224	Bioinspired composite segmented armour: Numerical simulations. Journal of Materials Research and Technology, 2019, 8, 1274-1287.	2.6	30
225	Bioinspired composites from freeze casting with clathrate hydrates. Materials & Design, 2015, 71, 62-67.	5.1	29
226	The effects of ultra-fine-grained structure and cryogenic temperature on adiabatic shear localization in titanium. Acta Materialia, 2019, 181, 408-422.	3.8	29
227	Design of Uniaxial Strain Shock Recovery Experiments. , 1981, , 341-373.		29
228	Nature's technical ceramic: the avian eggshell. Journal of the Royal Society Interface, 2017, 14, 20160804.	1.5	28
229	Viscoelastic properties of Î±-keratin fibers in hair. Acta Biomaterialia, 2017, 64, 15-28.	4.1	28
230	Effect of shock pressure and plastic strain on chemical reactions in Nbî—¸Si and Moî—¸Si systems. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1995, 201, 150-158.	2.6	27
231	Transient x-ray diffraction used to diagnose shock compressed Si crystals on the Nova laser. Review of Scientific Instruments, 1999, 70, 629-632.	0.6	27
232	On the negative poisson ratio in monocrystalline zinc. Scripta Materialia, 1999, 40, 975-977.	2.6	27
233	Light Like a Feather: A Fibrous Natural Composite with a Shape Changing from Round to Square. Advanced Science, 2017, 4, 1600360.	5.6	27
234	Exceptionally high spallation strength for a high-entropy alloy demonstrated by experiments and simulations. Journal of Alloys and Compounds, 2022, 895, 162567.	2.8	26

#	Article	IF	Citations
235	Synthesis of nanocrystalline titanium carbide by spark erosion. Scripta Metallurgica Et Materialia, 1995, 32, 805-808.	1.0	25
236	Growth of nacre in abalone: Seasonal and feeding effects. Materials Science and Engineering C, 2011, 31, 238-245.	3.8	25
237	Strain-induced structural changes and chemical reactionsâ€"II. Modelling of reactions in shear band. Acta Materialia, 1998, 46, 5947-5963.	3.8	24
238	Shear localization-martensitic transformation interactions in Fe-Cr-Ni monocrystal. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 2575-2586.	1.1	24
239	Bioinspired intrinsic control of freeze cast composites: Harnessing hydrophobic hydration and clathrate hydrates. Acta Materialia, 2016, 114, 67-79.	3.8	24
240	On the Nature of the Transparent Teeth of the Deep-Sea Dragonfish, Aristostomias scintillans. Matter, 2019, 1, 235-249.	5.0	24
241	Hydration-induced reversible deformation of the pine cone. Acta Biomaterialia, 2021, 128, 370-383.	4.1	24
242	Comments on â€œflow stress-grain size relationship in aluminumâ€• Scripta Metallurgica, 1976, 10, 159-160.	1.2	23
243	Kinetics of martensitic transformation induced by a tensile stress pulse. Acta Metallurgica, 1986, 34, 1625-1641.	2.1	23
244	Structural biological materials: Overview of current research. Jom, 2008, 60, 23-32.	0.9	22
245	Shock compression of monocrystalline copper: Experiments, characterization, and analysis. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 424-434.	2.6	22
246	Structure and micro-computed tomography-based finite element modeling of Toucan beak. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 9, 1-8.	1.5	22
247	The organic interlamellar layer in abalone nacre: Formation and mechanical response. Materials Science and Engineering C, 2016, 58, 7-13.	3.8	21
248	The attenuation of shock waves in nickel: Second report. Materials Science and Engineering, 1983, 59, 235-249.	0.1	20
249	Effects of geometry and intermetallic bonding on the mechanical response, spalling and fragmentation of Niâ€"Al laminates. Acta Materialia, 2011, 59, 5869-5880.	3.8	20
250	Comparative study of carp otolith hardness: Lapillus and asteriscus. Materials Science and Engineering C, 2013, 33, 1876-1881.	3.8	20
251	Mechanical behavior of prosthesis in Toucan beak (Ramphastos toco). Materials Science and Engineering C, 2010, 30, 460-464.	3.8	19
252	Reinforcements in avian wing bones: Experiments, analysis, and modeling. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 76, 85-96.	1.5	19

#	Article	IF	Citations
253	The role of pre-existing heterogeneities in materials under shock and spall. Applied Physics Reviews, 2022, 9, .	5.5	19
254	Thermomechcmical processing of Inconel 718 by shock-wave deformation. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1976, 7, 179-190.	1.4	18
255	The effect of grain size on the shock-loading response of 304-type stainless steel. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1976, 7, 1943-1950.	1.4	18
256	An estimate of the nucleation time in the martensitic transformation. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1979, 10, 1723-1727.	1.4	18
257	Mechanical and thermal response of shock-consolidated Mar-M 200 rapidly-solidified powder. Journal of Materials Science, 1985, 20, 2133-2140.	1.7	18
258	Effect of low-temperature shock compression on the microstructure and strength of copper. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 2729-2739.	1.1	18
259	Effect of strain rate on the compressive mechanical properties of aluminum alloy matrix composite filled with discontinuous carbon fibers. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 485, 681-689.	2.6	18
260	Response to â€œShear Impossibilityâ€"Comments on â€˜Void Growth by Dislocation Emissionâ€™ and â€˜Void Growth in Metalsâ€™â€: Scripta Materialia, 2010, 63, 148-150.	2.6	18
261	Supersonic Dislocation Bursts in Silicon. Scientific Reports, 2016, 6, 26977.	1.6	18
262	Reversible Attachment with Tailored Permeability: The Feather Vane and Bioinspired Designs. Advanced Functional Materials, 2017, 27, 1702954.	7.8	18
263	On the Strength of Hair across Species. Matter, 2020, 2, 136-149.	5.0	18
264	Molecular dynamics simulations of ejecta formation in helium-implanted copper. Scripta Materialia, 2020, 178, 114-118.	2.6	18
265	Work softening in shock-loaded nickel. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1977, 8, 1581-1583.	1.4	17
266	On the growth of lenticular martensite. Acta Metallurgica, 1980, 28, 757-770.	2.1	17
267	Martensitic transformation induced by a tensile stress pulse in Fe-22.5 wt% Ni-4wt% Mn alloy. Acta Metallurgica, 1988, 36, 1085-1098.	2.1	17
268	Densification of porous bodies in a granular pressure-transmitting medium. Acta Materialia, 2007, 55, 1351-1366.	3.8	17
269	Combustion synthesis/quasi-isostatic pressing of TiCâ€"NiTi cermets: processing and mechanical response. Journal of Materials Science, 2008, 43, 6513-6526.	1.7	17
270	On stress-relaxation experiments and their significance under strain-aging conditions. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1979, 10, 33-40.	1.4	16

#	Article	IF	Citations
271	Correlation between texture and substructure of conventionally and shock-wave-deformed aluminum. Materials Science and Engineering, 1982, 54, 113-120.	0.1	16
272	Identification of stress-induced nucleation sites for martensite in Fe-31.8 wt% Ni-0.02 wt% C alloy. Acta Metallurgica Et Materialia, 1992, 40, 413-417.	1.9	16
273	Observation and modeling of dynamic recrystallization in high-strain, high-strain rate deformation of metals. European Physical Journal Special Topics, 2000, 10, Pr9-51-Pr9-56.	0.2	16
274	Microstructural Aspects of Dynamic Failure. , 1996, , 25-70.		16
275	Numerical modeling of the propagation of an adiabatic shear band. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1986, 17, 443-450.	1.4	15
276	Mossbauer study of shock-induced effects in the ordered alloy Fe50Ni50in meteorites. Journal of Physics F: Metal Physics, 1987, 17, 1993-1997.	1.6	15
277	Shear localization and chemical reaction in Tiâ€“Si and Nbâ€“Si powder mixtures: Thermochemical analysis. Journal of Applied Physics, 1998, 84, 3098-3106.	1.1	14
278	The toughness of porcine skin: Quantitative measurements and microstructural characterization. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 109, 103848.	1.5	14
279	Reaction-assisted shock consolidation of RSR Tiâ€“Al alloys. Journal of Materials Research, 1990, 5, 302-312.	1.2	13
280	Instrumented anvil-on-rod tests for constitutive model validation and determination of strain-rate sensitivity of ultrafine-grained copper. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 464, 202-209.	2.6	13
281	Analysis and characterization by electron backscatter diffraction of microstructural evolution in the adiabatic shear bands in Feâ€“Crâ€“Ni alloys. Journal of Materials Research, 2009, 24, 2617-2627.	1.2	13
282	Simulation of tantalum nanocrystals under shock-wave loading: Dislocations and twinning. AIP Conference Proceedings, 2017, , .	0.3	13
283	Hydrationâ€Induced Shape and Strength Recovery of the Feather. Advanced Functional Materials, 2018, 28, 1801250.	7.8	13
284	Laser shocking of materials: Toward the national ignition facility. Jom, 2010, 62, 24-30.	0.9	12
285	Microchannelled hydroxyapatite components by sequential freeze drying and free pressureless spark plasma sintering. Advances in Applied Ceramics, 2012, 111, 269-274.	0.6	12
286	A Sustainable Substitute for Ivory: the Jarina Seed from the Amazon. Scientific Reports, 2015, 5, 14387.	1.6	12
287	Non-equilibrium molecular dynamics simulations of spall in single crystal tantalum. AIP Conference Proceedings, 2017, , .	0.3	12
288	Lamellae spatial distribution modulates fracture behavior and toughness of african pangolin scales. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 76, 30-37.	1.5	12

#	Article	IF	Citations
289	A comparative analysis of the avian skull: Woodpeckers and chickens. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 84, 273-280.	1.5	12
290	Bioinspired avian feather designs. Materials Science and Engineering C, 2019, 105, 110066.	3.8	12
291	Constitutive description of skin dermis: Through analytical continuum and coarse-grained approaches for multi-scale understanding. Acta Biomaterialia, 2020, 106, 208-224.	4.1	12
292	Shock-induced martensite formation in a Fe-31% Ni-0.1% C alloy. Materials Science and Engineering, 1976, 24, 289-292.	0.1	11
293	The effects of temperature and pulse duration on the shock-loading response of nickel. Materials Science and Engineering, 1980, 45, 143-152.	0.1	11
294	The effects of shock-loading temperature and pulse duration on the tensile response of AISI 304 stainless steel. Materials Science and Engineering, 1981, 51, 261-263.	0.1	11
295	The effect of polycrystallinity on the shock wave response of Fe-34.5wt.%Ni and Fe-15wt.%Cr-15wt.%Ni. Materials Science and Engineering, 1983, 57, 113-126.	0.1	11
296	Dynamic consolidation/hot isostatic pressing of SiC. Journal of Materials Science, 1996, 31, 252-261.	1.7	11
297	Fragmentation and constitutive response of tailored mesostructured aluminum compacts. Journal of Applied Physics, 2016, 119, .	1.1	11
298	Multi-material additive manufacturing of functionally graded carbide ceramics via active, in-line mixing. Additive Manufacturing, 2021, 37, 101647.	1.7	11
299	Tooth structure, mechanical properties, and diet specialization of Piranha and Pacu (Serrasalmidae): A comparative study. Acta Biomaterialia, 2021, 134, 531-545.	4.1	11
300	Shock densification/hot isostatic pressing of titanium aluminide. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1991, 22, 2667-2676.	1.4	10
301	In situ diffraction measurements of lattice response due to shock loading, including direct observation of the Î±â€“Îµ phase transition in iron. International Journal of Impact Engineering, 2006, 33, 343-352.	2.4	10
302	Biological materials science and engineering: Biological materials, biomaterials, and biomimetics. Jom, 2008, 60, 21-22.	0.9	10
303	Uniaxial Freezing, Freezeâ€Drying, and Anodization for Aligned Pore Structure in Dyeâ€Sensitized Solar Cells. Journal of the American Ceramic Society, 2009, 92, 1487-1491.	1.9	10
304	Microstructural and geometric influences in the protective scales of <i>Atractosteus spatula</i>. Journal of the Royal Society Interface, 2016, 13, 20160595.	1.5	10
305	Shock-Wave Consolidation of Rapidly Solidified Superalloy Powders. Journal of Metals, 1981, 33, 21-26.	0.2	9
306	Shock consolidation of Alî—¸Li alloy powders. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1991, 132, 257-265.	2.6	9

#	Article	IF	Citations
307	Combustion synthesis/quasi-isostatic pressing of TiC0.7â€"NiTi cermets: microstructure and transformation characteristics. Journal of Materials Science, 2008, 43, 5905-5923.	1.7	9
308	Observations on the ferromagnetic Î² phase of the Cuâ€"Mnâ€"Sn system. Journal of Applied Crystallography, 1973, 6, 39-41.	1.9	8
309	Dynamic consolidation of rapidly solidified titanium alloy powders by explosives. Journal of Materials Science, 1991, 26, 1277-1286.	1.7	8
310	Characterization by indentation of combustion synthesized cermets. Scripta Materialia, 2001, 44, 1139-1146.	2.6	8
311	Reprint of: Growth of nacre in abalone: Seasonal and feeding effects. Materials Science and Engineering C, 2011, 31, 716-723.	3.8	8
312	Isentropic/shock compression and recovery methodology for materials using high-amplitude laser pulses. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 578, 354-361.	2.6	8
313	Room Temperature Dynamic Strain Aging in Ultrafine-Grained Titanium. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 4468-4477.	1.1	8
314	Active defense mechanisms of thorny catfish. Materials Today, 2020, 38, 35-48.	8.3	8
315	Cholla cactus frames as lightweight and torsionally tough biological materials. Acta Biomaterialia, 2020, 112, 213-224.	4.1	8
316	Developing Solidâ€State Experiments on the Nova Laser. Astrophysical Journal, Supplement Series, 2000, 127, 357-363.	3.0	7
317	EXPLOSIVE COMPATIONS OF INTERMETALLIC-FORMING POWDER MIXTURES FOR FABRICATING STRUCTURAL ENERGETIC MATERIALS. AIP Conference Proceedings, 2009, , .	0.3	7
318	The dynamic behavior of materials: An introduction. Jom, 2010, 62, 14-15.	0.9	7
319	Porous Hydroxyapatite-Polyhydroxybutyrate Composites Fabricated by a Novel Method Via Centrifugation. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 63-71.	0.3	7
320	Microstructural and micromechanical aspects of ceramic/long-rod projectile interactions. , 2001, , 437-446.		7
321	Digital healthcare technologies: Modern tools to transform prosthetic care. Expert Review of Medical Devices, 2021, 18, 129-144.	1.4	7
322	Concerning stress relaxation experiments in commercial purity titanium. Scripta Metallurgica, 1977, 11, 193-195.	1.2	6
323	Stresses induced in iron-ore pellets by hydrogen reduction. Metallurgical and Materials Transactions B - Process Metallurgy and Materials Processing Science, 1986, 17, 217-227.	0.5	6
324	A continuous indentation test for metals. Acta Metallurgica, 1986, 34, 313-324.	2.1	6

#	Article	IF	Citations
325	Dynamic compaction of titanium aluminides by explosively generated shock waves: Microstructure and mechanical properties. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1992, 23, 3251-3261.	1.4	6
326	The one-step synthesis of dense titanium-carbide tiles. Jom, 1995, 47, 23-25.	0.9	6
327	h-BN â†•w-BN phase transition under dynamic-static compression. Journal of Materials Science Letters, 1997, 16, 1625-1627.	0.5	6
328	Laser shock compression of copper monocrystals: Mechanisms for dislocation and void generation. European Physical Journal Special Topics, 2003, 110, 851-856.	0.2	6
329	MECHANICAL AND MICROSTRUCTURAL PROPERTIES OF PTFEâˆ•Alâˆ•W SYSTEM. AIP Conference Proceedings, 2008, , .	0.3	6
330	The Role of Thermal Energy in Shock Consolidation. , 1993, , 145-176.		6
331	A technique for obtaining shock-wave parameters using wave superposition in low-carbon steel. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1980, 11, 1737-1745.	1.4	5
332	Synthesis of Novel Aluminide-Based Materials. Jom, 1988, 40, 18-20.	0.9	5
333	MARTENSITIC TRANSFORMATION INDUCED BY TENSILE STRESS PULSES. Journal De Physique Colloque, 1988, 49, C3-355-C3-362.	0.2	5
334	HIGH STRAIN, HIGH STRAIN-RATE DEFORMATION OF COPPER. European Physical Journal Special Topics, 1991, 01, C3-11-C3-17.	0.2	5
335	An equation describing the consolidation of combustion synthesized titanium diboride. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1996, 39, 107-110.	1.7	5
336	High pressure solid state experiments on the nova laser. International Journal of Impact Engineering, 1999, 23, 409-419.	2.4	5
337	LiberaÃ§Ã£o in vivo de Ãons metÃ¡licos por mini-implantes ortodÃ´nticos de Ti-6Al-4V. Revista Materia, 2007, 12, 290-297.	0.1	5
338	Shock-induced Amorphization in Covalently Bonded Solids. EPJ Web of Conferences, 2018, 183, 03027.	0.1	5
339	Shear localization of fcc high-entropy alloys. EPJ Web of Conferences, 2018, 183, 03028.	0.1	5
340	Metallurgical Effects of Shock and Pressure Waves in Metals. , 1983, , 83-121.		5
341	The effect of surface condition on shock hardening. Scripta Metallurgica, 1975, 9, 667-669.	1.2	4
342	Discussion of â€œresidual strength of shock loaded RMI 38644â€. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1977, 8, 1641-1644.	1.4	4

#	Article	IF	Citations
343	Discussion of pressure-shear impact and the dynamic viscoplastic response of metals. Mechanics of Materials, 1985, 4, 387-393.	1.7	4
344	Dynamic compaction of titanium Aluminides by Explosively Generated Shock Waves: Microstructure and Mechanical Properties. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1992, 23, 3251-3261.	1.4	4
345	Self-organization of adiabatic shear bands in Ti, Ti-6Al-4V and stainless steel. AIP Conference Proceedings, 2000, , .	0.3	4
346	Self-organization of shear bands in Ti, Ti-6%Al-4%V, and 304 stainless steel. European Physical Journal Special Topics, 2000, 10, Pr9-269-Pr9-274.	0.2	4
347	Laser-Induced Shock Compression of Copper and Copper Aluminum Alloys. AIP Conference Proceedings, 2004, , .	0.3	4
348	Picosecond X-Ray Diffraction from Laser-Shocked Copper and Iron. AIP Conference Proceedings, 2006, , .	0.3	4
349	Failure mechanisms in cobalt welded with a silverâ€"copper filler. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 645, 369-382.	2.6	4
350	Braze welding of cobalt with a silverâ€"copper filler. Journal of Materials Research and Technology, 2015, 4, 44-59.	2.6	4
351	Shock compression of [001] single crystal silicon. European Physical Journal: Special Topics, 2016, 225, 335-341.	1.2	4
352	Fragmentation and mechanical performance of tailored nickel-aluminum laminate compacts. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 727, 123-132.	2.6	4
353	Micro-mechanical response of ultrafine grain and nanocrystalline tantalum. Journal of Materials Research and Technology, 2021, 12, 1804-1815.	2.6	4
354	Inhomogeneities of shockâ€wave deformation in Feâ€32 wt.â€‰% Niâ€0.035 wt.â€‰% C alloy. Journal of Applied Physics, 1985, 58, 2791-2794.	1.1	3
355	Laser Induced Shock Defects in Copper Aluminum Alloys: Stacking Fault Energy Effects on the Slip-Twinning Transition. Materials Science Forum, 2004, 465-466, 27-34.	0.3	3
356	Fourth TMS Symposium on the Dynamic Behavior of Materials: Part II (Part I was published in November) Tj ETQq0 0 0 rgBT /Overlock 10 38, 2859-2860.	1.1	3
357	LASER COMPRESSION OF NANOCRYSTALLINE METALS. , 2009, , .		3
358	On the gular sac tissue of the brown pelican: Structural characterization and mechanical properties. Acta Biomaterialia, 2020, 118, 161-181.	4.1	3
359	Bite force mechanics and allometry of piranha (Serrasalmidae). Journal of the Mechanical Behavior of Biomedical Materials, 2021, 115, 104296.	1.5	3
360	Reprint of:The materials science of skin: Analysis, characterization, and modeling. Progress in Materials Science, 2021, 120, 100816.	16.0	3

#	Article	IF	Citations
361	The role of pre-existing defects in shock-generated ejecta in copper. Journal of Applied Physics, 2021, 130, .	1.1	3
362	Shear-Induced Exothermic Chemical Reactions. European Physical Journal Special Topics, 1997, 07, C3-27-C3-32.	0.2	3
363	High-Strain, High-Strain Rate Deformation, Shear Localization and Recrystallization in Tantalum. European Physical Journal Special Topics, 1997, 07, C3-435-C3-440.	0.2	3
364	Fractography of a metastable austenite. Metallography, 1977, 10, 201-208.	0.4	2
365	SHOCK SYNTHESIS OF SILICIDES. , 1992, , 629-632.		2
366	Shock synthesis of nickel-aluminides. AIP Conference Proceedings, 1994, , .	0.3	2
367	Creep and Superplasticity. , 2008, , 653-712.		2
368	Fracture: Microscopic Aspects. , 0, , 466-524.		2
369	Growth and collapse of nanovoids in tantalum monocrystals loaded at high strain rate. , 2012, , .		2
370	Laser compression of nanocrystalline tantalum. AIP Conference Proceedings, 2012, , .	0.3	2
371	Shock Consolidation of In-100 Nickel-Base Superalloy Powder. , 1986, , 731-736.		2
372	Propagation of Stress Waves in Metals. , 1983, , 17-82.		2
373	Microstructurally-based analysis and computational modeling of shock consolidation. European Physical Journal Special Topics, 1994, 04, C8-521-C8-526.	0.2	2
374	STRESS-WAVE-INDUCED DAMAGE IN ALUMINA. Journal De Physique Colloque, 1988, 49, C3-333-C3-338.	0.2	2
375	REACTION SYNTHESIS/DYNAMIC COMPACTION OF TITANIUM CARBIDE AND TITANIUM DIBORIDE. European Physical Journal Special Topics, 1991, 01, C3-123-C3-130.	0.2	2
376	Arapaima Fish Scale: One of the Toughest Flexible Biological Materials. SSRN Electronic Journal, 0, , .	0.4	2
377	The enthalpies of formation of ferromagnetic Cu-Mn-Sn alloys. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1972, 3, 2544-2544.	1.4	1
378	Inhomogeneities of transformation in shock-loaded type 304 stainless steel. Scripta Metallurgica, 1976, 10, 255-256.	1.2	1

#	Article	IF	Citations
379	The Effects of Shock Loading and Grain Refining on the Kinetics of Deformation Induced Martensite in Fe-31% Ni-0.1%C. Transactions of the Japan Institute of Metals, 1977, 18, 803-806.	0.5	1
380	Comments on â€œthe electroplastic effect in aluminumâ€ Scripta Metallurgica, 1980, 14, 1033-1034.	1.2	1
381	Numerical Analysis of Adiabatic Shear Band in an Early Stage of Its Propagation. , 1987, , 203-212.		1
382	Shock synthesis of niobium silicides. AIP Conference Proceedings, 1994, , .	0.3	1
383	Dynamic failure : mechanical and microstructural aspects. European Physical Journal Special Topics, 1994, 04, C8-597-C8-621.	0.2	1
384	Chemical reactions in controlled high-strain-rate shear bands. AIP Conference Proceedings, 1996, , .	0.3	1
385	Plastic Deformation in Laser-Induced Shock Compression of Monocrystalline Copper. AIP Conference Proceedings, 2002, , .	0.3	1
386	Evolution in the Patterning of Adiabatic Shear Bands. AIP Conference Proceedings, 2002, , .	0.3	1
387	Computational Modeling of the Shock Compression of Powders. AIP Conference Proceedings, 2002, , .	0.3	1
388	Microstructural evolution and grain refinement in HCP-Zr shear bands. European Physical Journal Special Topics, 2006, 134, 1137-1144.	0.2	1
389	Dynamic Response of Copper Subjected to Quasi-Isentropic, Gas-Gun Driven Loading. AIP Conference Proceedings, 2006, , .	0.3	1
390	Elasticity and Viscoelasticity. , 0, , 71-160.		1
391	Solid Solution, Precipitation, and Dispersion Strengthening. , 0, , 558-593.		1
392	Materials: Structure, Properties, and Performance. , 0, , 1-70.		1
393	LASER SHOCK COMPRESSION AND SPALLING OF REACTIVE NI-AL LAMINATE COMPOSITES. , 2009, , .		1
394	Laser compression of monocrystalline tantalum. , 2012, , .		1
395	Nanostructural and Microstructural Aspects of Shear Localization at High-Strain Rates for Materials. , 2012, , 111-171.		1
396	MARTENSITIC TRANSFORMATION INDUCED BY TENSILE STRESS WAVES. , 1984, , 411-414.		1

#	Article	IF	Citations
397	THE ONSET OF TWINNING IN PLASTIC DEFORMATION AND MARTENSITIC TRANSFORMATIONS. , 2003, , 221-231.		1
398	Laser compression and fragmentation of metals. , 2009, , .		1
399	Shear Localization and Comminution of Granular and Fragmented Silicon Carbide. European Physical Journal Special Topics, 1997, 07, C3-577-C3-582.	0.2	1
400	Dynamic response of single crystalline copper subjected to quasi-isentropic laser and gas-gun driven loading. European Physical Journal Special Topics, 2006, 134, 37-42.	0.2	1
401	Self-organization of shear bands in stainless steel. , 2001, , 549-559.		1
402	The Attenuation of Shock Waves in Nickel. , 1981, , 433-452.		1
403	Design of high-pressure iron Rayleighâ€"Taylor strength experiments for the National Ignition Facility. Journal of Applied Physics, 2022, 131, 145902.	1.1	1
404	A geometrical method for the determination and indexing of electron diffraction patterns. Metallography, 1974, 7, 231-240.	0.4	0
405	Reply to comments on â€œA model for the effect of grain size on the yield stress of metalsâ€. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1983, 48, L59-L61.	0.8	0
406	Energy expenditure and limitations in shock consolidation. AIP Conference Proceedings, 1994, , .	0.3	0
407	Shear localization in granular and comminuted alumina. AIP Conference Proceedings, 1996, , .	0.3	0
408	Laser Driven High Pressure, High Strain-Rate Materials Experiments. AIP Conference Proceedings, 2002, , .	0.3	0
409	Large Deformation Simulations of Nanocrystalline Materials. AIP Conference Proceedings, 2004, , .	0.3	0
410	Symposium on dynamic deformation: Constitutive modeling, grain size, and other effects-in honor of prof. Ronald W. Armstrong foreword. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 2545-2546.	1.1	0
411	Picosecond x-ray diffraction studies of shocked single crystals. , 2006, , .		0
412	First TMS symposium on biological materials science. Materials Science and Engineering C, 2006, 26, 1229-1231.	3.8	0
413	Biological materials science in the TMS world. Jom, 2006, 58, 20-22.	0.9	0
414	Direct Observation of the Î±-Îµ Transition in Shocked Single Crystal Iron. AIP Conference Proceedings, 2006, , .	0.3	0

#	Article	IF	Citations
415	Reverse Taylor Tests on Ultrafine Grained Copper. AIP Conference Proceedings, 2006, , .	0.3	0
416	Defect Substructures in Plate Impacted and Laser Shocked Monocrystalline Copper. AIP Conference Proceedings, 2006, , .	0.3	0
417	Fourth TMS Symposium on the Dynamic Behavior of Materials: Part I (Part II will be Published in a) Tj ETQq1 1 0.784314 rgBT /Overlock Science, 2007, 38, 2603-2604.	1.1	0
418	Advances in biological materials and biomaterials science. Jom, 2008, 60, 18-18.	0.9	0
419	VOID GROWTH IN SINGLE AND BICRYSTALLINE METALS: ATOMISTIC CALCULATIONS. , 2008, , .		0
420	MODELING OF THE SLIP-TWINNING TRANSITION IN NANOCRYSTALLINE NICKEL AND NICKEL-TUNGSTEN UNDER SHOCK COMPRESSION. , 2008, , .		0
421	News of MRS Members/Materials Researches. MRS Bulletin, 2010, 35, 343-343.	1.7	0
422	Porous Scaffolds: Bioinspired Scaffolds with Varying Pore Architectures and Mechanical Properties (Adv. Funct. Mater. 14/2014). Advanced Functional Materials, 2014, 24, 2108-2108.	7.8	0
423	Offering Toughness and Protection, Arapaima Scales Provide Effective Defense against Predation. Matter, 2020, 3, 1979-1980.	5.0	0
424	Dynamic behavior of silicon carbide. , 2001, , 209-217.		0
425	Thermomechanical Processing by Shock Waves: An Overview. , 1981, , 805-826.		0
426	Dynamic recrystallization and grain size effects in shock hardened copper. European Physical Journal Special Topics, 1994, 04, C8-361-C8-366.	0.2	0