

Enrique J Lavernia

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588 papers	25,235 citations	77 h-index	130 g-index
600 ext. papers	28,194 ext. citations	4.3 avg, IF	6.99 L-index

#	Paper	IF	Citations
588	Particulate reinforced metal matrix composites: A review. <i>Journal of Materials Science</i> , 1991 , 26, 1137-1156	4.5	1326
587	Mechanical behavior and strengthening mechanisms in ultrafine grain precipitation-strengthened aluminum alloy. <i>Acta Materialia</i> , 2014 , 62, 141-155	8.4	658
586	Synthesis and mechanical behavior of nanostructured materials via cryomilling. <i>Progress in Materials Science</i> , 2006 , 51, 1-60	42.2	465
585	Nanostructural hierarchy increases the strength of aluminium alloys. <i>Nature Communications</i> , 2010 , 1, 63	17.4	452
584	Deformation mechanism in nanocrystalline Al: Partial dislocation slip. <i>Applied Physics Letters</i> , 2003 , 83, 632-634	3.4	335
583	Deformation twins in nanocrystalline Al. <i>Applied Physics Letters</i> , 2003 , 83, 5062-5064	3.4	288
582	Mechanical behavior and microstructure of a thermally stable bulk nanostructured Al alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2001 , 32, 2335-2343	2.3	281
581	Strengthening mechanisms in a high-strength bulk nanostructured Cu ₇₀ Zn ₃₀ Al alloy processed via cryomilling and spark plasma sintering. <i>Acta Materialia</i> , 2013 , 61, 2769-2782	8.4	279
580	Microstructure and strengthening mechanisms in an FCC structured single-phase nanocrystalline Co ₂₅ Ni ₂₅ Fe ₂₅ Al _{7.5} Cu _{17.5} high-entropy alloy. <i>Acta Materialia</i> , 2016 , 107, 59-71	8.4	269
579	High Tensile Ductility and Strength in Bulk Nanostructured Nickel. <i>Advanced Materials</i> , 2008 , 20, 3028-3033	2.3	267
578	On the applicability of the x-ray diffraction line profile analysis in extracting grain size and microstrain in nanocrystalline materials. <i>Journal of Materials Research</i> , 1999 , 14, 549-559	2.5	230
577	Rapid solidification processing with specific application to aluminium alloys. <i>International Materials Reviews</i> , 1992 , 37, 1-44	16.1	229
576	Creep behavior of discontinuous SiC/Al composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1992 , 150, 21-35	5.3	222
575	Deformation behavior of bimodal nanostructured 5083 Al alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2005 , 36, 957-965	2.3	201
574	Influence of specimen dimensions on the tensile behavior of ultrafine-grained Cu. <i>Scripta Materialia</i> , 2008 , 59, 627-630	5.6	199
573	Microstructural evolution during recovery and recrystallization of a nanocrystalline Al-Mg alloy prepared by cryogenic ball milling. <i>Acta Materialia</i> , 2003 , 51, 2777-2791	8.4	198
572	On the analysis of grain size in bulk nanocrystalline materials via x-ray diffraction. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2003 , 34, 1349-1355	2.3	188

571	Plastic deformation and fracture of ultrafine-grained AlMg alloys with a bimodal grain size distribution. <i>Acta Materialia</i> , 2006 , 54, 1759-1766	8.4	186
570	A discussion on the absence of plasma in spark plasma sintering. <i>Scripta Materialia</i> , 2009 , 60, 835-838	5.6	179
569	High temperature creep of silicon carbide particulate reinforced aluminum. <i>Acta Metallurgica Et Materialia</i> , 1990 , 38, 2149-2159		178
568	Enhanced Hydrogen Storage on Li-Dispersed Carbon Nanotubes. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 2028-2033	3.8	175
567	Nucleation and growth of deformation twins in nanocrystalline aluminum. <i>Applied Physics Letters</i> , 2004 , 85, 5049-5051	3.4	174
566	Strength, deformation, fracture behaviour and ductility of aluminium-lithium alloys. <i>Journal of Materials Science</i> , 1990 , 25, 1137-1158	4.3	172
565	The rapid solidification processing of materials: science, principles, technology, advances, and applications. <i>Journal of Materials Science</i> , 2010 , 45, 287-325	4.3	170
564	Documentation of damping capacity of metallic, ceramic and metal-matrix composite materials. <i>Journal of Materials Science</i> , 1993 , 28, 2395-2404	4.3	168
563	Influence of specimen dimensions and strain measurement methods on tensile stress-strain curves. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009 , 525, 68-77	5.3	167
562	Processing of molybdenum disilicide. <i>Journal of Materials Science</i> , 1994 , 29, 2557-2571	4.3	167
561	Cryomilled nanostructured materials: Processing and properties. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008 , 493, 207-214	5.3	164
560	Precipitation phenomena in an ultrafine-grained Al alloy. <i>Acta Materialia</i> , 2013 , 61, 2163-2178	8.4	160
559	Thermal Behavior and Microstructural Evolution during Laser Deposition with Laser-Engineered Net Shaping: Part I. Numerical Calculations. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008 , 39, 2228-2236	2.3	154
558	Mechanical behavior of ultrafine-grained Al composites reinforced with B4C nanoparticles. <i>Scripta Materialia</i> , 2011 , 65, 652-655	5.6	152
557	Formation mechanism of wide stacking faults in nanocrystalline Al. <i>Applied Physics Letters</i> , 2004 , 84, 3564-3566	3.5	152
556	Investigation of aluminum-based nanocomposites with ultra-high strength. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009 , 527, 305-316	5.3	146
555	Deformation and activation volumes of cryomilled ultrafine-grained aluminum. <i>Acta Materialia</i> , 2004 , 52, 4259-4271	8.4	146
554	New deformation twinning mechanism generates zero macroscopic strain in nanocrystalline metals. <i>Physical Review Letters</i> , 2008 , 100, 095701	7.4	142

553	A high-entropy alloy with hierarchical nanoprecipitates and ultrahigh strength. <i>Science Advances</i> , 2018 , 4, eaat8712	14.3	142
552	Effect of SiC and graphite particulates on the damping behavior of metal matrix composites. <i>Acta Metallurgica Et Materialia</i> , 1994 , 42, 395-409		141
551	Processing of discontinuously-reinforced metal matrix composites by rapid solidification. <i>Progress in Materials Science</i> , 1995 , 39, 317-409	42.2	140
550	Processing techniques for particulate-reinforced metal aluminium matrix composites. <i>Journal of Materials Science</i> , 1991 , 26, 5965-5978	4.3	139
549	Additive manufacturing of functionally graded materials: A review. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 764, 138209	5.3	137
548	Toughening of aluminum matrix nanocomposites via spatial arrays of boron carbide spherical nanoparticles. <i>Acta Materialia</i> , 2016 , 103, 128-140	8.4	136
547	Aluminium-lithium alloys. <i>Journal of Materials Science</i> , 1987 , 22, 1521-1529	4.3	136
546	Tougher ultrafine grain Cu via high-angle grain boundaries and low dislocation density. <i>Applied Physics Letters</i> , 2008 , 92, 081903	3.4	135
545	Nanostructures and deformation mechanisms in a cryogenically ball-milled Al-Mg alloy. <i>Philosophical Magazine</i> , 2003 , 83, 3065-3075	1.6	134
544	Thermal Behavior and Microstructure Evolution during Laser Deposition with Laser-Engineered Net Shaping: Part II. Experimental Investigation and Discussion. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2008 , 39, 2237-2245	2.3	131
543	Coupling of dislocations and precipitates: Impact on the mechanical behavior of ultrafine grained Al ₇₅ Zn ₂₅ Mg alloys. <i>Acta Materialia</i> , 2016 , 103, 153-164	8.4	130
542	Strategies for Improving Tensile Ductility of Bulk Nanostructured Materials. <i>Advanced Engineering Materials</i> , 2010 , 12, 769-778	3.5	128
541	Effects of secondary phases on the damping behaviour of metals, alloys and metal matrix composites. <i>Materials Science and Engineering Reports</i> , 1994 , 13, 325-389	30.9	125
540	Mechanical properties of an ultrafine-grained Al-7.5 Pct Mg alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2003 , 34, 603-613	2.3	124
539	The absence of plasma in spark plasma sintering. <i>Journal of Applied Physics</i> , 2008 , 104, 033305	2.5	123
538	A mathematical model of the spray deposition process. <i>Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science</i> , 1989 , 20, 71-85		123
537	Effect of particle size, morphology, and hardness on cold gas dynamic sprayed aluminum alloy coatings. <i>Surface and Coatings Technology</i> , 2006 , 201, 3422-3429	4.4	118
536	Influence of stacking fault energy on deformation mechanism and dislocation storage capacity in ultrafine-grained materials. <i>Scripta Materialia</i> , 2009 , 60, 52-55	5.6	116

535	High-temperature deformation of 6061 Al. <i>Acta Metallurgica Et Materialia</i> , 1994 , 42, 667-678		115
534	Spray deposition of metals: A review. <i>Materials Science and Engineering</i> , 1988 , 98, 381-394		115
533	The role of stacking faults and twin boundaries in grain refinement of a CuZn alloy processed by high-pressure torsion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010 , 527, 4959-4966	5.3	111
532	Numerical simulation of substrate impact and freezing of droplets in plasma spray processes. <i>Journal Physics D: Applied Physics</i> , 1993 , 26, 1900-1908	3	111
531	Nucleation of deformation twins in nanocrystalline face-centered-cubic metals processed by severe plastic deformation. <i>Journal of Applied Physics</i> , 2005 , 98, 034319	2.5	109
530	The mechanical behavior of a cryomilled Al ₉₀ Ti ₁₀ Cu alloy. <i>Acta Materialia</i> , 2001 , 49, 4055-4068	8.4	106
529	Damping behavior of discontinuously reinforced ai alloy metal-matrix composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1995 , 26, 2803-2818	2.3	103
528	Strain rate dependence of properties of cryomilled bimodal 5083 Al alloys. <i>Acta Materialia</i> , 2006 , 54, 3015-3024	8.4	100
527	Mechanical properties of iron processed by severe plastic deformation. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2003 , 34, 71-83	2.3	98
526	High grain size stability of nanocrystalline Al prepared by mechanical attrition. <i>Journal of Materials Research</i> , 2001 , 16, 3451-3458	2.5	98
525	Microstructure and microhardness of cryomilled bulk nanocrystalline Al _{97.5} Mg alloy consolidated by high pressure torsion. <i>Scripta Materialia</i> , 2004 , 51, 209-214	5.6	97
524	Ordering-disordering phenomena and micro-hardness characteristics of B2 phase in Fe(58.5%)Si alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005 , 407, 282-290	5.3	94
523	On the mechanism of grain formation during spray atomization and deposition. <i>Acta Metallurgica Et Materialia</i> , 1992 , 40, 3003-3016		90
522	Electric field induced reversible switch in hydrogen storage based on single-layer and bilayer graphenes. <i>Carbon</i> , 2009 , 47, 3452-3460	10.4	87
521	Tensile Deformation and Fracture Mechanism of Bulk Bimodal Ultrafine-Grained Al-Mg Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2010 , 41, 795-801	2.3	87
520	Synthesis of nanostructured WC-12 pct Co coating using mechanical milling and high velocity oxygen fuel thermal spraying. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2000 , 31, 541-553	2.3	86
519	Bimodal titanium alloys with ultrafine lamellar eutectic structure fabricated by semi-solid sintering. <i>Acta Materialia</i> , 2017 , 132, 491-502	8.4	85
518	Shear band formation and ductility in bulk metallic glass. <i>Philosophical Magazine</i> , 2005 , 85, 2671-2687	1.6	83

517	Viscous flow of the Pd ₄₃ Ni ₁₀ Cu ₂₇ P ₂₀ bulk metallic glass-forming liquid. <i>Applied Physics Letters</i> , 2004 , 84, 487-489	3.4	83
516	Bimodal microstructure and deformation of cryomilled bulk nanocrystalline Al ₇₅ Mg alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005 , 410-411, 462-467	5.3	81
515	Influence of length-scales on spatial distribution and interfacial characteristics of B ₄ C in a nanostructured Al matrix. <i>Acta Materialia</i> , 2015 , 89, 327-343	8.4	80
514	The effect of heat treatments and Si contents on B ₂ ordering reaction in high-silicon steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001 , 307, 29-34	5.3	80
513	Grain growth and dislocation density evolution in a nanocrystalline Ni ₈₀ Fe alloy induced by high-pressure torsion. <i>Scripta Materialia</i> , 2011 , 64, 327-330	5.6	79
512	Yield symmetry and reduced strength differential in Mg-2.5Y alloy. <i>Acta Materialia</i> , 2016 , 120, 75-85	8.4	77
511	Microstructural investigation of nanocrystalline bulk Al ₇₅ Mg alloy fabricated by cryomilling and extrusion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004 , 374, 211-216	5.3	76
510	Synthesis of nanostructured Cr ₃ C ₂ -25(Ni ₂₀ Cr) coatings. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2000 , 31, 555-564	2.3	76
509	Numerical modeling of the thermal behavior during the LENS process. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006 , 428, 47-53	5.3	75
508	A model for the inverse Hall-Petch relation of nanocrystalline materials. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005 , 409, 243-248	5.3	75
507	Negative Strain-rate Sensitivity in a Nanostructured Aluminum Alloy. <i>Advanced Engineering Materials</i> , 2006 , 8, 945-947	3.5	74
506	Processing and Behavior of Fe-Based Metallic Glass Components via Laser-Engineered Net Shaping. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2009 , 40, 1235-1245	2.3	73
505	Grain growth of nanocrystalline cryomilled Fe-Al powders. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1998 , 29, 2469-2475	2.3	73
504	Corrosion resistance of thermally sprayed high-boron iron-based amorphous-metal coatings: Fe _{49.7} Cr _{17.7} Mn _{1.9} Mo _{7.4} W _{1.6} B _{15.2} C _{3.8} Si _{2.4} . <i>Journal of Materials Research</i> , 2007 , 22, 2297-2311	2.5	73
503	Influence of particle size and spatial distribution of B ₄ C reinforcement on the microstructure and mechanical behavior of precipitation strengthened Al alloy matrix composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016 , 675, 421-430	5.3	72
502	Use of spray techniques to synthesize particulate-reinforced metal-matrix composites. <i>Journal of Materials Science</i> , 1992 , 27, 5965-5981	4.3	72
501	The effect of porosity on the microstructural damping response of 6061 aluminium alloy. <i>Journal of Materials Science</i> , 1993 , 28, 1515-1524	4.3	72
500	Grain growth of nanocrystalline Ni powders prepared by cryomilling. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2001 , 32, 3109-3115	2.3	71

499	Aluminum with dispersed nanoparticles by laser additive manufacturing. <i>Nature Communications</i> , 2019 , 10, 4124	17.4	70
498	The absence of thermal expansion mismatch strengthening in nanostructured metal matrix composites. <i>Scripta Materialia</i> , 2009 , 61, 1052-1055	5.6	70
497	Cold gas dynamic spraying of iron-base amorphous alloy. <i>Journal of Thermal Spray Technology</i> , 2006 , 15, 495-500	2.5	70
496	Strengthening behavior of particulate reinforced MMCs. <i>Scripta Metallurgica Et Materialia</i> , 1992 , 27, 173-178		70
495	Effects of Co and sintering method on microstructure and mechanical behavior of a high-entropy Al _{0.6} NiFeCrCo alloy prepared by powder metallurgy. <i>Journal of Alloys and Compounds</i> , 2015 , 646, 175-182	5.7	69
494	3D Microstructure-based finite element modeling of deformation and fracture of SiCp/Al composites. <i>Composites Science and Technology</i> , 2016 , 123, 1-9	8.6	69
493	Dislocation-induced damping in metal matrix composites. <i>Journal of Materials Science</i> , 1993 , 28, 835-846	4.3	69
492	Substrate roughness and thickness effects on cold spray nanocrystalline AlMg coatings. <i>Journal of Thermal Spray Technology</i> , 2006 , 15, 246-254	2.5	68
491	Modeling of molten droplet impingement on a non-flat surface. <i>Acta Metallurgica Et Materialia</i> , 1995 , 43, 2053-2072		68
490	Influence of Extrusion on the Microstructure and Mechanical Behavior of Mg-9Li-3Al-xSr Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013 , 44, 1101-1113	3.3	66
489	Effect of stacking fault energy on strength and ductility of nanostructured alloys: An evaluation with minimum solution hardening. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009 , 525, 83-86	5.3	66
488	Grain size and reversible beta-to-omega phase transformation in a Ti alloy. <i>Scripta Materialia</i> , 2010 , 63, 613-616	5.6	66
487	Thermal stability of nanocrystalline Fe-10 wt.% Al produced by cryogenic mechanical alloying. <i>Scripta Materialia</i> , 1996 , 7, 565-572		66
486	Microstructure and properties of spray atomized and deposited Al-7SiSiCp metal matrix composites. <i>Scripta Metallurgica Et Materialia</i> , 1992 , 26, 825-830		66
485	Nanocrystalline Ti alloy with high hardness, low Young's modulus and excellent in vitro biocompatibility for biomedical applications. <i>Materials Science and Engineering C</i> , 2013 , 33, 3530-6	8.3	65
484	High strength, nano-structured Mg-Al-Zn alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011 , 528, 2180-2191	5.3	64
483	Processing and behavior of nanostructured metallic alloys and composites by cryomilling. <i>Journal of Materials Science</i> , 2007 , 42, 1660-1672	4.3	63
482	Boundaries and interfaces in ultrafine grain composites. <i>Acta Materialia</i> , 2011 , 59, 7206-7218	8.4	62

481	HRTEM and EELS study of aluminum nitride in nanostructured Al 5083/B4C processed via cryomilling. <i>Acta Materialia</i> , 2010 , 58, 1732-1740	8.4	62
480	Influence of nozzle-to-skin distance in cryogen spray cooling for dermatologic laser surgery. <i>Lasers in Surgery and Medicine</i> , 2001 , 28, 113-20	3.6	61
479	Formation of fine cementite precipitates by static annealing of equal-channel angular pressed low-carbon steels. <i>Acta Materialia</i> , 2001 , 49, 2387-2393	8.4	61
478	Damping behavior of 6061Al/Gr metal matrix composites. <i>Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science</i> , 1993 , 24, 701-712		60
477	Enhanced tensile strength and high ductility in cryomilled commercially pure titanium. <i>Scripta Materialia</i> , 2009 , 60, 586-589	5.6	59
476	Microstructure characterization in cryomilled Al 5083. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006 , 430, 230-241	5.3	59
475	Cold gas dynamic spraying of a high temperature Al alloy. <i>Surface and Coatings Technology</i> , 2006 , 201, 2109-2116	4.4	58
474	Theoretical and experimental analysis of droplet diameter, temperature, and evaporation rate evolution in cryogenic sprays. <i>International Journal of Heat and Mass Transfer</i> , 2001 , 44, 3201-3211	4.9	58
473	Solidification and microstructure evolution during spray atomization and deposition of Ni3Al. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1993 , 161, 221-235	5.3	58
472	Influence of Ti addition and sintering method on microstructure and mechanical behavior of a medium-entropy Al 0.6 CoNiFe alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014 , 619, 137-145	5.3	57
471	Tensile behavior and strengthening mechanisms in a submicron B4C-reinforced Al trimodal composite. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014 , 616, 35-43	5.3	57
470	Thermal spraying of nanocrystalline inconel 718. <i>Scripta Materialia</i> , 1997 , 9, 489-492		57
469	Modeling the constitutive response of bimodal metals. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006 , 37, 2397-2404	2.3	57
468	Wetting and interfacial reactions in Al-Li-SiCp metal matrix composites processed by spray atomization and deposition. <i>Journal of Materials Science</i> , 1991 , 26, 6673-6684	4.3	57
467	Deformation behavior of an ultrafine-grained AlMg alloy at different strain rates. <i>Scripta Materialia</i> , 2005 , 52, 929-933	5.6	56
466	Grain growth behavior of a nanostructured 5083 AlMg alloy. <i>Journal of Materials Research</i> , 2001 , 16, 938-944	2.5	56
465	Numerical analysis of the deformation and solidification of a single droplet impinging onto a flat substrate. <i>Journal of Materials Science</i> , 1993 , 28, 3313-3321	4.3	56
464	Engineering heterostructured grains to enhance strength in a single-phase high-entropy alloy with maintained ductility. <i>Materials Research Letters</i> , 2018 , 6, 634-640	7.4	56

463	Characterization of temperature dependent mechanical behavior of cartilage. <i>Lasers in Surgery and Medicine</i> , 2003 , 32, 271-8	3.6	55
462	Influence of powder properties on densification mechanism during spark plasma sintering. <i>Scripta Materialia</i> , 2017 , 139, 96-99	5.6	54
461	Recent Progress in High Entropy Alloy Research. <i>Jom</i> , 2017 , 69, 2024-2031	2.1	53
460	Structure modulation driven by cyclic deformation in nanocrystalline NiFe. <i>Physical Review Letters</i> , 2010 , 104, 255501	7.4	53
459	Thermal stability in bulk cryomilled ultrafine-grained 5083 Al alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006 , 37, 721-730	2.3	53
458	Multi-scale Al 5083 for military vehicles with improved performance. <i>Jom</i> , 2006 , 58, 56-61	2.1	53
457	Formation of nanostructure in Al produced by a low-energy ball milling at cryogenic temperature. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004 , 375-377, 917-921	5.3	53
456	The Influence of Ni-Coated TiC on Laser-Deposited IN625 Metal Matrix Composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2010 , 41, 568-573	2.3	52
455	Interaction mechanisms between ceramic particles and atomized metallic droplets. <i>Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science</i> , 1992 , 23, 2923-2937		52
454	Thermal Spraying of Nanocrystalline Ni Coatings. <i>Physica Status Solidi A</i> , 1998 , 166, 257-268		51
453	Cold-Spray processing of a nanocrystalline AlCuMgBeNi alloy with Sc. <i>Journal of Thermal Spray Technology</i> , 2006 , 15, 184-190	2.5	51
452	Microstructural investigation on B4C/Al-7093 composite. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2001 , 297, 94-104	5.3	51
451	Origins and dissociation of pyramidal dislocations in magnesium and its alloys. <i>Acta Materialia</i> , 2018 , 146, 265-272	8.4	50
450	Synthesis and mechanical behavior of nanostructured Al 5083/n-TiB 2 metal matrix composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016 , 656, 241-248	5.3	50
449	Influence of Process Parameters on the Mechanical Behavior of an Ultrafine-Grained Al Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012 , 43, 505-519	2.3	50
448	High-pressure torsion-induced grain growth and detwinning in cryomilled Cu powders. <i>Philosophical Magazine</i> , 2010 , 90, 4541-4550	1.6	50
447	Cryomilled aluminum alloy and boron carbide nano-composite plate. <i>Journal of Materials Processing Technology</i> , 2009 , 209, 5046-5053	5.3	50
446	Effect of strain rate on the ductility of a nanostructured aluminum alloy. <i>Scripta Materialia</i> , 2006 , 54, 1175-1180	5.6	50

445	Numerical simulation of impingement of molten Ti, Ni, and W droplets on a flat substrate. <i>Journal of Thermal Spray Technology</i> , 1993 , 2, 369-378	2.5	50
444	Directed energy deposition (DED) additive manufacturing: Physical characteristics, defects, challenges and applications. <i>Materials Today</i> , 2021 , 49, 271-271	21.8	49
443	Influence of interfaces on the mechanical behavior of SiC particulate-reinforced Al ₇₀ Mg ₃₀ Ti composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 644, 79-84	5.3	48
442	On the thermal stability of ultrafine-grained Al stabilized by in-situ amorphous Al ₂ O ₃ network. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 648, 61-71	5.3	48
441	Nanostructure in a Ti alloy processed using a cryomilling technique. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006 , 430, 90-97	5.3	48
440	Metal/ceramic interface structures and segregation behavior in aluminum-based composites. <i>Acta Materialia</i> , 2015 , 95, 254-263	8.4	47
439	Effects of tensile test parameters on the mechanical properties of a bimodal AlMg alloy. <i>Acta Materialia</i> , 2012 , 60, 5838-5849	8.4	47
438	Cryogen spray cooling efficiency: improvement of port wine stain laser therapy through multiple-intermittent cryogen spurts and laser pulses. <i>Lasers in Surgery and Medicine</i> , 2002 , 31, 27-35	3.6	47
437	Cryogen spray cooling in laser dermatology: effects of ambient humidity and frost formation. <i>Lasers in Surgery and Medicine</i> , 2001 , 28, 469-76	3.6	47
436	Evolution of interaction domain microstructure during spray deposition. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1994 , 25, 2341-2355	2.3	47
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