Laszlo J Kecskes

List of Publications by Year
in descending order

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111 papers	4,958 citations	94269 37 h-index	91712 69 g-index
118 all docs	118 docs citations	118 times ranked	3526 citing authors

#	Article	IF	Citations
1	Tensile properties of in situ consolidated nanocrystalline Cu. Acta Materialia, 2005, 53, 1521-1533.	3.8	445
2	Dislocationâ€“twin interactions in nanocrystalline fcc metals. Acta Materialia, 2011, 59, 812-821.	3.8	327
3	Microstructure and mechanical properties of super-strong nanocrystalline tungsten processed by high-pressure torsion. Acta Materialia, 2006, 54, 4079-4089.	3.8	302
4	Adiabatic shear banding in ultrafine-grained Fe processed by severe plastic deformation. Acta Materialia, 2004, 52, 1859-1869.	3.8	252
5	Generalized stacking fault energy, ideal strength and twinnability of dilute Mg-based alloys: A first-principles study of shear deformation. Acta Materialia, 2014, 67, 168-180.	3.8	193
6	Stabilization and strengthening of nanocrystalline copper by alloying with tantalum. Acta Materialia, 2012, 60, 2158-2168.	3.8	151
7	Grain size stabilization of nanocrystalline copper at high temperatures by alloying with tantalum. Journal of Alloys and Compounds, 2013, 573, 142-150.	2.8	145
8	Effect of grain size on prismatic slip in Mgâ€“3Alâ€“1Zn alloy. Scripta Materialia, 2012, 67, 439-442.	2.6	136
9	Effect of low-temperature rolling on the tensile behavior of commercially pure tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 491, 62-69.	2.6	133
10	Characterization of uniaxial compressive response of bulk amorphous Zrâ€“Tiâ€“Cuâ€“Niâ€“Be alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 334, 33-40.	2.6	127
11	Stabilized nanocrystalline iron-based alloys: Guiding efforts in alloy selection. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 4365-4371.	2.6	120
12	Deformation twinning in a nanocrystalline hcp Mg alloy. Scripta Materialia, 2011, 64, 213-216.	2.6	116
13	Microstructure and mechanical properties at different length scales and strain rates of nanocrystalline tantalum produced by high-pressure torsion. Acta Materialia, 2011, 59, 2423-2436.	3.8	105
14	Investigation of shear band evolution in amorphous alloys beneath a Vickers indentation. Acta Materialia, 2005, 53, 3849-3859.	3.8	104
15	Grain size engineering of bcc refractory metals: Top-down and bottom-upâ€”Application to tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 467, 33-43.	2.6	100
16	Dynamic precipitation and recrystallization in Mg-9wt.%Al during equal-channel angular extrusion: A comparative study to conventional aging. Acta Materialia, 2019, 172, 185-199.	3.8	99
17	Effects of Alloying Elements on Stacking Fault Energies and Electronic Structures of Binary Mg Alloys: A First-Principles Study. Materials Research Letters, 2014, 2, 29-36.	4.1	95
18	Grain refinement vs. crystallographic texture: Mechanical anisotropy in a magnesium alloy. Scripta Materialia, 2011, 64, 193-196.	2.6	94

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19	Microstructure, crystallographic texture, and plastic anisotropy evolution in an Mg alloy during equal channel angular extrusion processing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 7616-7627.	2.6	94
20	Negative strain rate sensitivity and compositional dependence of fracture strength in Zr/Hf based bulk metallic glasses. Scripta Materialia, 2003, 49, 1087-1092.	2.6	89
21	Mechanical Behavior of Bulk Amorphous Alloys Reinforced by Ductile Particles at Cryogenic Temperatures. Physical Review Letters, 2006, 96, 145506.	2.9	85
22	Microstructures and recrystallization behavior of severely hot-deformed tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 503, 28-31.	2.6	69
23	Atomic and electronic basis for the serrations of refractory high-entropy alloys. Npj Computational Materials, 2017, 3, .	3.5	64
24	Enhancing grain refinement in polycrystalline materials using surface mechanical attrition treatment at cryogenic temperatures. Scripta Materialia, 2013, 69, 461-464.	2.6	54
25	Densification and structural change of mechanically alloyed W-Cu composites. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2001, 32, 2885-2893.	1.1	53
26	Microstructural Properties of Combustion-Synthesized and Dynamically Consolidated Titanium Boride and Titanium Carbide. Journal of the American Ceramic Society, 1990, 73, 1274-1282.	1.9	52
27	Evaluation of hardnessâ€“yield strength relationships for bulk metallic glasses. Philosophical Magazine Letters, 2006, 86, 333-345.	0.5	50
28	Mechanical behavior of tungsten preform reinforced bulk metallic glass composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 403, 134-143.	2.6	48
29	Crystallization and mechanical behavior of (Hf, Zr)â€“Tiâ€“Cuâ€“Niâ€“Al metallic glasses. Journal of Non-Crystalline Solids, 2003, 317, 112-117.	1.5	46
30	Local lattice distortion mediated formation of stacking faults in Mg alloys. Acta Materialia, 2019, 170, 231-239.	3.8	45
31	High-Pressure Equation of the State of a Zirconium-Based Bulk Metallic Glass. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 2689-2696.	1.1	44
32	Influence of Mn solute content on grain size reduction and improved strength in mechanically alloyed Alâ€“Mn alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 589, 57-65.	2.6	44
33	Dynamic behaviors of body-centered cubic metals with ultrafine grained and nanocrystalline microstructures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 493, 58-64.	2.6	42
34	Electronic structures of long periodic stacking order structures in Mg: A first-principles study. Journal of Alloys and Compounds, 2014, 586, 656-662.	2.8	42
35	Atomic and electronic basis for solutes strengthened (010) anti-phase boundary of L12 Co3(Al, TM): A comprehensive first-principles study. Acta Materialia, 2018, 145, 30-40.	3.8	40
36	Mechanical behavior of microstructure engineered multi-length-scale titanium over a wide range of strain rates. Acta Materialia, 2013, 61, 3781-3798.	3.8	39

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37	Nanoengineering opens a new era for tungsten as well. Jom, 2006, 58, 40-44.	0.9	37
38	Mechanical behavior and dynamic failure of high-strength ultrafine grained tungsten under uniaxial compression. Acta Materialia, 2005, , .	3.8	36
39	Thermal stability of nanocrystalline nickel with yttrium additions. Journal of Materials Research, 2013, 28, 1813-1819.	1.2	36
40	Effects of Test Temperature and Loading Conditions on the Tensile Properties of a Zr-Based Bulk Metallic Glass. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 1922-1934.	1.1	35
41	Impurities in the Combustion Synthesis of Titanium Carbide. Journal of the American Ceramic Society, 1989, 72, 655-661.	1.9	34
42	Microstructural evolution and mechanical properties of niobium processed by equal channel angular extrusion up to 24 passes. Acta Materialia, 2012, 60, 2310-2323.	3.8	34
43	Effect of low-temperature rolling on the propensity to adiabatic shear banding of commercial purity tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 578, 394-401.	2.6	33
44	Exothermic reactions in cold-rolled Ni/Al reactive multilayer foils. Journal of Materials Research, 2008, 23, 367-375.	1.2	31
45	Combustion Synthesis Reactions in Cold-Rolled Ni/Al and Ti/Al Multilayers. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 1541-1546.	1.1	29
46	Micromechanical modeling of tungsten-based bulk metallic glass matrix composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 429, 115-123.	2.6	28
47	Effects of Changes in Test Temperature and Loading Conditions on Fracture Toughness of a Zr-Based Bulk Metallic Glass. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 2077-2085.	1.1	28
48	Power law scaled hardness of Mn strengthened nanocrystalline Al Mn non-equilibrium solid solutions. Scripta Materialia, 2016, 120, 31-36.	2.6	24
49	Dynamic compression of a zirconium-based bulk metallic glass confined by a stainless steel sleeve. Scripta Materialia, 2008, 59, 688-691.	2.6	21
50	Scratch induced deformation behavior of hafnium based bulk metallic glass at multiple load scales. Journal of Non-Crystalline Solids, 2015, 410, 118-126.	1.5	21
51	Revealing the Microstates of Body-Centered-Cubic (BCC) Equiatomic High Entropy Alloys. Journal of Phase Equilibria and Diffusion, 2017, 38, 404-415.	0.5	21
52	Dynamic Consolidation of Combustionâ€Synthesized Aluminaâ€Titanium Diboride Composite Ceramics. Journal of the American Ceramic Society, 1996, 79, 2687-2695.	1.9	20
53	High hardness in a nanocrystalline Mg97Y2Zn1 alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 7494-7499.	2.6	18
54	Hot explosive consolidation of W-Ti alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1995, 26, 2407-2414.	1.1	17

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55	Properties of as-cast and structurally relaxed Zr-based bulk metallic glasses. Journal of Non-Crystalline Solids, 2006, 352, 174-179.	1.5	17
56	Instrumented anvil-on-rod impact testing of a bulk metallic glass composite for constitutive model validation. Scripta Materialia, 2006, 55, 1019-1022.	2.6	17
57	First-principles calculations and thermodynamic re-modeling of the Hfâ€“W system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 38, 92-99.	0.7	17
58	Solid-Solution Hardening in Mg-Gd-TM (TMÂ=ÂAg, Zn, and Zr) Alloys: An Integrated Density Functional Theory and Electron Work Function Study. Jom, 2015, 67, 2433-2441.	0.9	17
59	Lattice distortion induced anomalous ferromagnetism and electronic structure in FCC Fe and Fe-TM (TMÂ=ÂCr, Ni, Ta and Zr) alloys. Materials Chemistry and Physics, 2015, 162, 748-756.	2.0	17
60	Strengthening Mg by self-dispersed nano-lamellar faults. Materials Research Letters, 2017, 5, 415-425.	4.1	17
61	Ultrafine and Nanostructured Refractory Metals Processed by SPD: Microstructure and Mechanical Properties. Materials Science Forum, 2008, 579, 75-90.	0.3	16
62	When a defect is a pathway to improve stability: a case study of the L12 Co3TM superlattice intrinsic stacking fault. Journal of Materials Science, 2019, 54, 13609-13618.	1.7	16
63	The effect of strain rate on the mechanisms of plastic flow and failure of an ECAE AZ31B magnesium alloy. Journal of Materials Science, 2019, 54, 13394-13419.	1.7	16
64	Microstructural effects in hot-explosively-consolidated Wâ€“Ti alloys. Journal of Materials Processing Technology, 1999, 94, 247-260.	3.1	14
65	Mechanical behavior of bulk (ZrHf)TiCuNiAl amorphous alloys. Scripta Materialia, 2003, 49, 447-452.	2.6	14
66	High-throughput investigations of configurational-transformation-dominated serrations in CuZr/Cu nanolaminates. Journal of Materials Science and Technology, 2020, 53, 192-199.	5.6	14
67	Uniaxial and biaxial compressive response of a bulk metallic glass composite over a range of strain rates and temperatures. Journal of Materials Research, 2009, 24, 66-78.	1.2	13
68	Characterization of spalled AZ31B processed by ECAE. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 767, 138298.	2.6	13
69	Control of TiB2 SHS reactions by inert dilutions and mechanical constraint. AICHE Journal, 1990, 36, 1581-1584.	1.8	12
70	Shear-Band Deformation in Amorphous Alloys and Composites. Materials Transactions, 2006, 47, 817-821.	0.4	11
71	Quasi-static and dynamic mechanical properties of commercial-purity tungsten processed by ECAE at low temperatures. Journal of Materials Science, 2008, 43, 7379-7384.	1.7	11
72	Strengthening magnesium by design: Integrating alloying and dynamic processing. Mechanics of Materials, 2022, 167, 104203.	1.7	11

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73	Precursor Morphology Effects in Combustion-Synthesized and Dynamically Consolidated Titanium Carbide and Titanium Boride. Journal of the American Ceramic Society, 1993, 76, 2961-2970.	1.9	10
74	Recrystallization mechanisms, grain refinement, and texture evolution during ECAE processing of Mg and its alloys. Mechanics of Materials, 2021, 162, 104067.	1.7	10
75	Effects of Zn addition on the improvement of glass forming ability and plasticity of Mgâ€“Cuâ€“Tb bulk metallic glasses. Journal of Non-Crystalline Solids, 2008, 354, 5368-5371.	1.5	9
76	Correlation of mechanical properties in bulk metallic glasses with 27Al NMR characteristics. Science Bulletin, 2011, 56, 3937-3941.	1.7	8
77	Experimental and computational studies of the Cuâ€“Hf binary system. Acta Materialia, 2013, 61, 660-669.	3.8	8
78	Amorphous Hf-based foams with aligned, elongated pores. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 533, 124-127.	2.6	7
79	Effect of powder characteristics on the sinterability of a microwave-plasma-synthesized iron nanopowder. Scripta Materialia, 2003, 48, 1041-1046.	2.6	6
80	Hot explosive compaction of aluminum-nickelide composites. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 1125-1131.	1.1	6
81	High-strain-rate dynamic mechanical behavior of a bulk metallic glass composite. Journal of Materials Research, 2008, 23, 998-1008.	1.2	6
82	Effect of Titanium-Aluminum Ratio on the Thermal Explosion Processing of TiAl-TiB_{0.6}Layered Composites. Materials and Manufacturing Processes, 2011, 26, 1157-1163.	2.7	6
83	Glass formability of W-based alloys through thermodynamic modeling: Wâ€“Feâ€“Hfâ€“Pdâ€“Ta and Wâ€“Feâ€“Siâ€“C. Intermetallics, 2014, 48, 79-85.	1.8	6
84	Semi-Continuous Equal-Channel Angular Extrusion and Rolling of AA5083 and AZ31 Alloys. Metals, 2019, 9, 1035.	1.0	6
85	Severe plastic deformation of nickel-coated aluminum precursor powders at elevated temperatures. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 449-457.	1.1	5
86	Initial plasticity onset in Zr- and Hf-rich bulk metallic glasses during instrumented indentation. Journal of Materials Research, 2007, 22, 1265-1269.	1.2	5
87	Hot Explosive Consolidation of Mo-Ti and W-Ti Alloys. Materials and Manufacturing Processes, 1999, 14, 123-145.	2.7	4
88	A rate dependent constitutive model for ECAE Cu based on instrumented nanoindentation results. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 597, 279-287.	2.6	4
89	Mechanical properties and failure of ECAE processed Mg97Y2Zn1 at different strain rates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 762, 138094.	2.6	4
90	Magnesium alloy design: Examples from the Materials in Extreme Dynamic Environments Metals Collaborative Research Group. Mechanics of Materials, 2022, 165, 104136.	1.7	4

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91	Hot explosive compaction of Mo-Ti alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1999, 30, 2483-2489.	1.1	3
92	Glass-Forming Ability and Crystallization Behavior in High-Density Bulk Metallic Glasses. Materials Research Society Symposia Proceedings, 2002, 754, 1.	0.1	3
93	Observation of incongruent melting in Cu10Hf7. Journal of Phase Equilibria and Diffusion, 2006, 27, 477-481.	0.5	3
94	HAFNIUM-BASED BULK METALLIC GLASSES FOR KINETIC ENERGY PENETRATORS. , 2006, , .		3
95	Hot explosive compaction of aluminum-nickelide composites. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 1125-1131.	1.1	2
96	Site Occupation and Structural Phase Transformation of the (010) Antiphase Boundary in Boron-Modified L12 Ni3Al. Jom, 2021, 73, 2285-2292.	0.9	2
97	High-strain-rate response of hot-explosively consolidated Wâ€“Ti alloys. Journal of Materials Research, 1999, 14, 2838-2848.	1.2	1
98	<title>Performance of a nanocrystalline tungsten composite in ballistic impacts</title>. , 2002, , .		1
99	DYNAMIC COMPRESSION OF A ZIRCONIUM-BASED BULK METALLIC GLASS CONFINED BY A 316 STAINLESS STEEL SLEEVE. , 2008, , .		1
100	Densification and Sintering of a Microwave-Plasma-Synthesized Iron Nanopowder. Materials Research Society Symposia Proceedings, 2002, 740, 1.	0.1	0
101	Effect of Loading Rate on Failure in Bulk Metallic Glasses. Materials Research Society Symposia Proceedings, 2002, 754, 1.	0.1	0
102	Infiltration Processing of Tungsten-Reinforced Bulk-Amorphous Metal Matrix Composites. Materials Research Society Symposia Proceedings, 2003, 806, 350.	0.1	0
103	Phase Equilibria Studies of Hf44.5Ti5Cu27Ni13.5Al10 and Hf44.5Nb5Cu27Ni13.5Al10. Materials Research Society Symposia Proceedings, 2005, 903, 1.	0.1	0
104	High-Strain-Rate Dynamic Mechanical Properties of a W-Reinforced Zr-Based Bulk Metallic Glass Composite. Materials Research Society Symposia Proceedings, 2005, 903, 1.	0.1	0
105	Hot Explosive Consolidation of WC-AlNi Composites. Advances in Science and Technology, 2006, 45, 905-916.	0.2	0
106	Local Lattice Distortion Mediated Formation of Stacking Faults in Mg Alloys. SSRN Electronic Journal, 0, , .	0.4	0
107	Processing effects on the high-strain-rate response of hot-explosively-consolidated W-Ti alloys. , 2001, , 259-265.		0
108	Observation of Incongruent Melting in Cu₁₀Hf₇. Journal of Phase Equilibria and Diffusion, 2006, 27, 477-481.	0.5	0

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109	Mechanical Behavior and Deformation Mechanism of FCC Metals With Nanoscale Twins. , 2011, , 175-204.		0
110	Solid Solution Hardening in Mg-Gd-TM (TM=Ag, Zn and Zr) Alloys: An Integrated Density Functional Theory and Electron Work Function Study. , 2016, , 157-157.		0
111	Refinement and Densification of Aluminum Nickelides by Severe Plastic Deformation. , 2006, , 89-94.		0