

Talal Al-Samman

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

67

papers

4,277

citations

28

h-index

65

g-index

71

ext. papers

4,958

ext. citations

4.7

avg, IF

6.25

L-index

#	Paper	IF	Citations
67	Superior light metals by texture engineering: Optimized aluminum and magnesium alloys for automotive applications. <i>Acta Materialia</i> , 2013 , 61, 818-843	8.4	716
66	Dynamic recrystallization during high temperature deformation of magnesium. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008 , 490, 411-420	5.3	453
65	Sheet texture modification in magnesium-based alloys by selective rare earth alloying. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011 , 528, 3809-3822	5.3	314
64	The role of strain accommodation during the variant selection of primary twins in magnesium. <i>Acta Materialia</i> , 2011 , 59, 2046-2056	8.4	241
63	A review on the effect of rare-earth elements on texture evolution during processing of magnesium alloys. <i>Journal of Materials Science</i> , 2017 , 52, 1-29	4.3	212
62	Room temperature formability of a magnesium AZ31 alloy: Examining the role of texture on the deformation mechanisms. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008 , 488, 406-414	5.3	208
61	Triggering rare earth texture modification in magnesium alloys by addition of zinc and zirconium. <i>Acta Materialia</i> , 2014 , 67, 116-133	8.4	172
60	Softening and dynamic recrystallization in magnesium single crystals during c-axis compression. <i>Acta Materialia</i> , 2012 , 60, 537-545	8.4	145
59	Twin recrystallization mechanisms in magnesium-rare earth alloys. <i>Acta Materialia</i> , 2015 , 96, 111-132	8.4	144
58	Comparative study of the deformation behavior of hexagonal magnesium-lithium alloys and a conventional magnesium AZ31 alloy. <i>Acta Materialia</i> , 2009 , 57, 2229-2242	8.4	141
57	Orientation dependent slip and twinning during compression and tension of strongly textured magnesium AZ31 alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010 , 527, 3450-3463	5.3	131
56	Mechanisms of exceptional ductility of magnesium single crystal during deformation at room temperature: Multiple twinning and dynamic recrystallization. <i>Acta Materialia</i> , 2014 , 76, 314-330	8.4	109
55	Shear band-related recrystallization and grain growth in two rolled magnesium-rare earth alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013 , 579, 50-56	5.3	103
54	Modification of texture and microstructure of magnesium alloy extrusions by particle-stimulated recrystallization. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013 , 560, 561-566	5.3	91
53	Influence of second-phase precipitates on the texture evolution of Mg-Al-Zn alloys during hot deformation. <i>Scripta Materialia</i> , 2012 , 66, 159-162	5.6	87
52	The role of atomic scale segregation in designing highly ductile magnesium alloys. <i>Acta Materialia</i> , 2016 , 116, 77-94	8.4	81
51	Mechanical properties and anisotropy of ME20 magnesium sheet produced by unidirectional and cross rolling. <i>Materials & Design</i> , 2011 , 32, 4385-4393		71

50	Profuse slip transmission across twin boundaries in magnesium. <i>Acta Materialia</i> , 2017 , 124, 397-409	8.4	62
49	Microstructure refinement and its effect on specific strength and bio-corrosion resistance in ultralight Mg ₉₂ Li ₈ Ca (LC41) alloy by hot rolling. <i>Journal of Alloys and Compounds</i> , 2014 , 615, 501-506	5.7	56
48	Influence of strain path change on the rolling behavior of twin roll cast magnesium alloy. <i>Scripta Materialia</i> , 2008 , 59, 760-763	5.6	52
47	Texture and microstructure development during hot deformation of ME20 magnesium alloy: Experiments and simulations. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011 , 528, 7915-7925	5.3	47
46	On the role of anomalous twinning in the plasticity of magnesium. <i>Acta Materialia</i> , 2016 , 103, 711-723	8.4	47
45	Investigation of the deformation behavior of aluminum micropillars produced by focused ion beam machining using Ga and Xe ions. <i>Scripta Materialia</i> , 2017 , 127, 191-194	5.6	40
44	Unraveling Recrystallization Mechanisms Governing Texture Development from Rare-Earth Element Additions to Magnesium. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018 , 49, 1809-1829	2.3	34
43	Characteristic dislocation substructure in 101 $\bar{1}$ 2 twins in hexagonal metals. <i>Scripta Materialia</i> , 2018 , 143, 81-85	5.6	31
42	New hot rolled Mg-4Li-1Ca alloy: A potential candidate for automotive and biodegradable implant applications. <i>Materials Letters</i> , 2016 , 173, 252-256	3.3	30
41	On the twinning shear of {101 $\bar{1}$ 2} twins in magnesium [Experimental determination and formal description. <i>Acta Materialia</i> , 2017 , 134, 267-273	8.4	29
40	Microstructure development and texture evolution of ME20 sheets processed by accumulative roll bonding. <i>Materials Letters</i> , 2011 , 65, 1907-1910	3.3	28
39	Microstructure and mechanical properties of Mg ₉₂ Gd ₈ Y _{0.6} Zr alloy upon conventional and hydrostatic extrusion. <i>Materials Letters</i> , 2011 , 65, 1726-1729	3.3	27
38	Competitive twinning behavior in magnesium and its impact on recrystallization and texture formation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017 , 707, 232-244	5.3	25
37	The role of recrystallization and grain growth in optimizing the sheet texture of magnesium alloys with calcium addition during annealing. <i>Journal of Magnesium and Alloys</i> , 2020 , 8, 252-268	8.8	24
36	Large-area, high-resolution characterisation and classification of damage mechanisms in dual-phase steel using deep learning. <i>PLoS ONE</i> , 2019 , 14, e0216493	3.7	23
35	On the Ductility of Magnesium Single Crystals at Ambient Temperature. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014 , 45, 3275-3281	2.3	23
34	Twinning effects in deformed and annealed magnesium-neodymium alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015 , 647, 91-104	5.3	22
33	Biocorrosion and biodegradation behavior of ultralight Mg ₉₂ Li ₈ Ca (LC41) alloy in simulated body fluid for degradable implant applications. <i>Journal of Materials Science</i> , 2015 , 50, 3041-3050	4.3	20

32	On the diversity of the plastic response of magnesium in plane strain compression. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016 , 651, 63-68	5.3	20
31	Global and High-Resolution Damage Quantification in Dual-Phase Steel Bending Samples with Varying Stress States. <i>Metals</i> , 2019 , 9, 319	2.3	19
30	Acoustic Emission of Deformation Twinning in Magnesium. <i>Materials</i> , 2016 , 9,	3.5	19
29	Cluster type grain interaction model including twinning for texture prediction: Application to magnesium alloys. <i>Acta Materialia</i> , 2011 , 59, 6938-6948	8.4	17
28	Superior microstructure and mechanical properties of a next-generation AZX310 magnesium sheet alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 763, 138112	5.3	14
27	Dislocation densities and prevailing slip-system types determined by X-ray line profile analysis in a textured AZ31 magnesium alloy deformed at different temperatures. <i>Journal of Applied Crystallography</i> , 2013 , 46, 55-62	3.8	14
26	Uniaxial and Plane Strain Compression Behaviour of Magnesium Alloy AZ31: A Comparative Study. <i>Materials Science Forum</i> , 2007 , 550, 229-234	0.4	13
25	Deformation Conditions and Stability of the Basal Texture in Magnesium. <i>Materials Science Forum</i> , 2007 , 539-543, 3401-3406	0.4	12
24	Grain boundary co-segregation in magnesium alloys with multiple substitutional elements. <i>Acta Materialia</i> , 2021 , 208, 116749	8.4	11
23	Determination of grain boundary mobility during recrystallization by statistical evaluation of electron backscatter diffraction measurements. <i>Materials Characterization</i> , 2016 , 117, 99-112	3.9	11
22	Deformation-Induced Recrystallization of Magnesium Single Crystals at Ambient Temperature. <i>IOP Conference Series: Materials Science and Engineering</i> , 2015 , 82, 012014	0.4	9
21	Effect of heavy metal impurities in secondary Mg alloys on the microstructure and mechanical properties during deformation. <i>Materials & Design</i> , 2015 , 65, 983-988		9
20	Normal and abnormal grain growth in magnesium: Experimental observations and simulations. <i>Journal of Materials Science and Technology</i> , 2020 , 50, 257-270	9.1	7
19	Hierarchical Twinning Induced Texture Weakening in Lean Magnesium Alloys. <i>Frontiers in Materials</i> , 2019 , 6,	4	7
18	Impact of grain boundaries on microstructure evolution during deformation of a magnesium tricrystal. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019 , 742, 295-304	5.3	7
17	Recrystallization and Grain Growth Related Texture and Microstructure Evolution in Two Rolled Magnesium Rare-Earth Alloys. <i>Materials Science Forum</i> , 2013 , 765, 527-531	0.4	6
16	Implementation of Mechanical Twinning in a Grain Interaction Model: Application to Magnesium Alloys. <i>Advanced Engineering Materials</i> , 2010 , 12, 1008-1014	3.5	6
15	Emerging Hot Topics and Research Questions in Wrought Magnesium Alloy Development. <i>Jom</i> , 2020 , 72, 2561-2567	2.1	5

14	Effect of Rolling on Microstructure and Room Temperature Tensile Properties of Newly Developed Mg-4Li-1Ca Alloy. <i>Advanced Materials Research</i> , 2014 , 922, 537-542	0.5	4
13	Efficient characterization tools for deformation-induced damage at different scales. <i>Production Engineering</i> , 2020 , 14, 95-104	1.9	4
12	On the Texture Weakening During Electropulse Annealing Treatment of Mg-1Ce Alloy: The Role of Nucleation and Nucleus Growth. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020 , 51, 6640-6657	2.3	4
11	The role of mesoscopic deformation heterogeneities in plastic flow and recrystallization of a magnesium sheet alloy. <i>Materialia</i> , 2020 , 12, 100715	3.2	4
10	On the effect of strain and triaxiality on void evolution in a heterogeneous microstructure [A statistical and single void study of damage in DP800 steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 799, 140332	5.3	4
9	Influence of Starting Textures on the Development of Texture and Microstructure during Large Strain Hot Rolling of Pure Magnesium. <i>Solid State Phenomena</i> , 2005 , 105, 201-206	0.4	3
8	On the role and alteration of grain boundaries in/during accommodating plasticity in magnesium. <i>Acta Materialia</i> , 2020 , 191, 124-130	8.4	2
7	Texture Selection Mechanisms during Recrystallization and Grain Growth of a Magnesium-Erbium-Zinc Alloy. <i>Metals</i> , 2021 , 11, 171	2.3	2
6	Synergistic effect of Y and Ca addition on the texture modification in AZ31B magnesium alloy. <i>Acta Materialia</i> , 2022 , 233, 117990	8.4	2
5	Towards microstructure-cytocompatibility relationship in ultralight Mg-4Li-1Ca (LX41) alloy for degradable implant applications. <i>BioNanoMaterials</i> , 2016 , 17,		1
4	Cooperative $\{101\bar{2}\}/\{101\bar{1}\}$ twinning and prismatic slip in magnesium crystals. <i>Materialia</i> , 2021 , 20, 101310	3.10	1
3	Effect of solute clusters on plastic instability in magnesium alloys. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2022 , 835, 142685	5.3	0
2	Hot Rolling of Magnesium Single Crystals. <i>Metals</i> , 2021 , 11, 443	2.3	0
1	The Effect of ($\{10\bar{1}2\}$) Twin Boundary on the Evolution of Defect Substructure. <i>Minerals, Metals and Materials Series</i> , 2017 , 175-180	0.3	