Mitra L Taheri

List of Publications by Year
in descending order

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136 papers	6,611 citations	101543 36 h-index	64796 79 g-index
137 all docs	137 docs citations	137 times ranked	8273 citing authors

#	Article	IF	Citations
1	Geometrically necessary dislocation density evolution as a function of microstructure and strain rate. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 831, 142224.	5.6	13
2	Mechanistic Insight and Local Structure Evolution of NiPS₃ upon Electrochemical Lithiation. ACS Applied Materials & Interfaces, 2022, 14, 3980-3990.	8.0	9
3	Grain boundary strain as a determinant of localized sink efficiency. Acta Materialia, 2022, 226, 117624.	7.9	10
4	Implications of Microstructure in Helium-Implanted Nanocrystalline Metals. Materials, 2022, 15, 4092.	2.9	6
5	Termination-Property Coupling via Reversible Oxygen Functionalization of MXenes. ACS Nanoscience Au, 2022, 2, 433-439.	4.8	5
6	CZTS thin film solar cells on flexible Molybdenum foil by electrodeposition-annealing route. Journal of Applied Electrochemistry, 2021, 51, 209-218.	2.9	23
7	The influence of solute on irradiation damage evolution in nanocrystalline thin-films. Journal of Nuclear Materials, 2021, 543, 152616.	2.7	6
8	Towards data-driven next-generation transmission electron microscopy. Nature Materials, 2021, 20, 274-279.	27.5	130
9	A percolation theory for designing corrosion-resistant alloys. Nature Materials, 2021, 20, 789-793.	27.5	48
10	Role of Processing in Microstructural Evolution in Inconel 625: A Comparison of Three Additive Manufacturing Techniques. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 2811-2820.	2.2	9
11	Understanding the formation of (Al,Si)3Sc and V-phase (AlSc2Si2) in Al-Si-Sc alloys via ex situ heat treatments and in situ transmission electron microscopy studies. Journal of Alloys and Compounds, 2021, 861, 158511.	5.5	21
12	A perspective on corrosion of multi-principal element alloys. Npj Materials Degradation, 2021, 5, .	5.8	55
13	Mitigation of hydrogen embrittlement in alloy custom age 625 PLUSÂ® via grain boundary engineering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 818, 141377.	5.6	4
14	Intelligent Microscopy: A Path Toward Tailored Materials at the Atomic Scale. Microscopy and Microanalysis, 2021, 27, 962-963.	0.4	0
15	Additive manufacturing of NiZnCu-ferrite soft magnetic composites. Journal of Materials Research, 2021, 36, 3579-3590.	2.6	2
16	RapidEELS: machine learning for denoising and classification in rapid acquisition electron energy loss spectroscopy. Scientific Reports, 2021, 11, 19515.	3.3	20
17	Multimodal Spectroscopic Study of Surface Termination Evolution in Cr₂TiC₂T_x MXene. Advanced Materials Interfaces, 2021, 8, 2001789.	3.7	22
18	Functionalization-induced self-assembly under ambient conditions via thiol-epoxide â€œclickâ€•chemistry. Polymer Chemistry, 2020, 11, 298-303.	3.9	15

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19	Nanoporous metals from thermal decomposition of transition metal dichalcogenides. Acta Materialia, 2020, 184, 79-85.	7.9	17
20	Evolution of Î²-phase precipitates in an aluminum-magnesium alloy at the nanoscale. Acta Materialia, 2020, 185, 279-286.	7.9	29
21	Evidence of a magnetic transition in atomically thin Cr₂TiC₂T_x MXene. Nanoscale Horizons, 2020, 5, 1557-1565.	8.0	51
22	Structural transition and recovery of Ge implanted Î² -Ga2O3. Applied Physics Letters, 2020, 117, .	3.3	35
23	Simultaneous twinning and microband formation under dynamic compression in a high entropy alloy with a complex energetic landscape. Acta Materialia, 2020, 200, 1-11.	7.9	55
24	Insight into the kinetic stabilization of Al0.3CoCrFeNi high-entropy alloys. Materialia, 2020, 14, 100872.	2.7	9
25	Ion irradiation induced phase transformation in gold nanocrystalline films. Scientific Reports, 2020, 10, 17864.	3.3	6
26	Interplay of dislocation substructure and elastic strain evolution in additively manufactured Inconel 625. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 785, 139380.	5.6	18
27	Application of Forward Modelling and Dictionary Indexing to EBSD Orientation Data as a Means of Quantifying Dislocation Substructure Formation in FCC Metals. Microscopy and Microanalysis, 2019, 25, 208-209.	0.4	0
28	Early Stages of Secondary Phase Formation in Multicomponent Alloys Using an in situ TEM Heating Approach. Microscopy and Microanalysis, 2019, 25, 1536-1537.	0.4	1
29	Toward high-throughput defect density quantification: A comparison of techniques for irradiated samples. Ultramicroscopy, 2019, 206, 112820.	1.9	8
30	Edge Capping of 2Dâ€MXene Sheets with Polyanionic Salts To Mitigate Oxidation in Aqueous Colloidal Suspensions. Angewandte Chemie, 2019, 131, 12785-12790.	2.0	78
31	Edge Capping of 2Dâ€MXene Sheets with Polyanionic Salts To Mitigate Oxidation in Aqueous Colloidal Suspensions. Angewandte Chemie - International Edition, 2019, 58, 12655-12660.	13.8	225
32	Multiscale Characterization of Microstructure and Residual Strain Distribution in Additively Manufactured Inconel 625. Microscopy and Microanalysis, 2019, 25, 2586-2587.	0.4	2
33	Direct Detection EELS at High Energy: Elemental Mapping and EXELFS. Microscopy and Microanalysis, 2019, 25, 584-585.	0.4	2
34	Diffusion of implanted Ge and Sn in Î²-Ga2O3. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	1.2	22
35	Sequential Capacitive Deposition of Ionic Liquids for Conformal Thin Film Coatings on Oxygen Reduction Reaction Electrocatalysts. ACS Catalysis, 2019, 9, 9311-9316.	11.2	42
36	Control of MXenesâ€™ electronic properties through termination and intercalation. Nature Communications, 2019, 10, 522.	12.8	721

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37	Vertical geometry 33.2 A, 4.8 MWâ€‰cm2 Ga2O3 field-plated Schottky rectifier arrays. Applied Physics Letters, 2019, 114, .	3.3	50
38	Free Standing Nanoporous Palladium Alloys as CO Poisoning Tolerant Electrocatalysts for the Electrochemical Reduction of CO₂ to Formate. ACS Catalysis, 2019, 9, 5290-5301.	11.2	78
39	Investigation of the Mechanics, Composition, and Functional Behavior of Thick Tribofilms Formed from Silicon- and Oxygen-Containing Hydrogenated Amorphous Carbon. Tribology Letters, 2019, 67, 1.	2.6	11
40	Exchange Bias in Bulk Î±-Fe/Î³-Fe₇₀Mn₃₀ Nanocomposites for Permanent Magnet Applications. ACS Applied Nano Materials, 2019, 2, 1940-1950.	5.0	8
41	Toward 3D imaging of corrosion at the nanoscale: Cross-sectional analysis of in-situ oxidized TEM samples. Micron, 2019, 120, 91-95.	2.2	1
42	Observation of oscillatory radiation induced segregation profiles at grain boundaries in neutron irradiated 316 stainless steel using atom probe tomography. Journal of Nuclear Materials, 2018, 504, 181-190.	2.7	12
43	Tracking the evolution of intergranular corrosion through twin-related domains in grain boundary networks. Npj Materials Degradation, 2018, 2, .	5.8	26
44	Chemically Preintercalated Bilayered K_xV₂O₅Â·nH₂O Nanobelts as a High-Performing Cathode Material for K-Ion Batteries. ACS Energy Letters, 2018, 3, 562-567.	17.4	104
45	Correlation of mechanical properties to microstructure in Inconel 718 fabricated by Direct Metal Laser Sintering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 712, 539-547.	5.6	60
46	Radiation damage in nanostructured materials. Progress in Materials Science, 2018, 96, 217-321.	32.8	307
47	Unraveling the origin of twin related domains and grain boundary evolution during grain boundary engineering. Acta Materialia, 2018, 144, 281-291.	7.9	80
48	Direct Detection Electron Energy-loss Spectroscopy: Applications in Low-dose Chemical Mapping and In Situ Heating+biasing. Microscopy and Microanalysis, 2018, 24, 452-453.	0.4	0
49	Coherency and Thermal Evolution of Metastable and Stable P Phase Precipitates in Aluminum Alloy AA5456. Microscopy and Microanalysis, 2018, 24, 982-983.	0.4	1
50	Unravelling Irradiation-Induced Detwinning Mechanisms via In Situ and Aberration-Corrected TEM combined with Atomistic Simulations. Microscopy and Microanalysis, 2018, 24, 1926-1927.	0.4	0
51	Functionalization-Induced Self-Assembly of Block Copolymers for Nanoparticle Synthesis. ACS Macro Letters, 2018, 7, 1503-1508.	4.8	26
52	In Situ TEM Evidence of Temperature Dependent Defect Morphology in Heavy Ion Irradiated Nanocrystalline Molybdenum. Microscopy and Microanalysis, 2018, 24, 1936-1937.	0.4	0
53	NiZnCu-ferrite coated iron powder for soft magnetic composite applications. Journal of Magnetism and Magnetic Materials, 2018, 463, 1-6.	2.3	33
54	Thermal Stability of High Entropy Alloys during in Situ TEM Heating.. Microscopy and Microanalysis, 2018, 24, 1928-1929.	0.4	3

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55	Residual Stress Characterization on the Mesoscale in Additive Manufacturing. Microscopy and Microanalysis, 2018, 24, 968-969.	0.4	0
56	Additive Manufacturing Methods for Soft Magnetic Composites (SMCs). Microscopy and Microanalysis, 2018, 24, 1066-1067.	0.4	13
57	Direct Correlation of MXene Surface Chemistry and Electronic Properties. Microscopy and Microanalysis, 2018, 24, 1606-1607.	0.4	8
58	Interdiffusion-driven synthesis of tetragonal chromium (III) oxide on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>BaTi</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review Materials, 2018, 2, .	2.4	8
59	Direct Observation of Sink-Dependent Defect Evolution in Nanocrystalline Iron under Irradiation. Scientific Reports, 2017, 7, 1836.	3.3	57
60	Evidence of a temperature transition for denuded zone formation in nanocrystalline Fe under He irradiation. Materials Research Letters, 2017, 5, 195-200.	8.7	27
61	Morphological Instability in Topologically Complex, Three-Dimensional Electrocatalytic Nanostructures. ACS Catalysis, 2017, 7, 7995-8005.	11.2	35
62	Achieving Radiation Tolerance through Non-Equilibrium Grain Boundary Structures. Scientific Reports, 2017, 7, 12275.	3.3	38
63	Structural properties of electrodeposited Cu-Ag alloys. Electrochimica Acta, 2017, 251, 475-481.	5.2	25
64	Advantages of Direct Detection and Electron Counting for Electron Energy Loss Spectroscopy Data Acquisition and the Quest of Extremely High-Energy Edges Using Eels. Microscopy and Microanalysis, 2017, 23, 60-61.	0.4	1
65	Application of Electron Counting to Electron Energy-loss Spectroscopy and Implications for Low-Dose Characterization. Microscopy and Microanalysis, 2017, 23, 1796-1797.	0.4	0
66	Defect Characterization in Irradiated Nanocrystalline Materials via Automated Crystal Orientation Mapping. Microscopy and Microanalysis, 2017, 23, 2236-2237.	0.4	2
67	Direct Detection Electron Energy-Loss Spectroscopy: A Method to Push the Limits of Resolution and Sensitivity. Scientific Reports, 2017, 7, 8243.	3.3	103
68	Elucidation of insulin assembly at acidic and neutral pH: Characterization of low molecular weight oligomers. Proteins: Structure, Function and Bioinformatics, 2017, 85, 2096-2110.	2.6	18
69	Applications of Forward Modeling to Refinement of Grain Orientations. Microscopy and Microanalysis, 2017, 23, 594-595.	0.4	1
70	Cyclic compression response of micropillars extracted from textured nanocrystalline NiTi thin-walled tubes. Acta Materialia, 2017, 136, 134-147.	7.9	18
71	Magnetic and microstructural properties of Fe3O4-coated Fe powder soft magnetic composites. Journal of Magnetism and Magnetic Materials, 2017, 423, 164-170.	2.3	48
72	Soft magnetic composites: recent advancements in the technology. Metal Powder Report, 2017, 72, 425-429.	0.1	152

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73	Control of hidden ground-state order in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>NdNi</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> superlattices. Physical Review Materials, 2017, 1, .	2.4	12
74	Performance of a Direct Electron Detector for the Application of Electron Energy-Loss Spectroscopy. Microscopy and Microanalysis, 2016, 22, 336-337.	0.4	5
75	Observations of defect structure evolution in proton and Ni ion irradiated Ni-Cr binary alloys. Journal of Nuclear Materials, 2016, 479, 48-58.	2.7	16
76	MgB₂ ultrathin films fabricated by hybrid physical chemical vapor deposition and ion milling. APL Materials, 2016, 4, 086114.	5.1	22
77	Determination of the initial oxidation behavior of Zircaloy-4 by in-situ TEM. Journal of Nuclear Materials, 2016, 474, 126-133.	2.7	15
78	In situ Transmission Electron Microscopy He+ implantation and thermal aging of nanocrystalline iron. Journal of Nuclear Materials, 2016, 482, 139-146.	2.7	8
79	Current status and future directions for in situ transmission electron microscopy. Ultramicroscopy, 2016, 170, 86-95.	1.9	181
80	Electron-beam-induced ferroelectric domain behavior in the transmission electron microscope: Toward deterministic domain patterning. Physical Review B, 2016, 94, .	3.2	26
81	Quasi-static Tensile and Compressive Behavior of Nanocrystalline Tantalum Based on Miniature Specimen Testingâ€”Part II: Mechanical Properties. Jom, 2016, 68, 2839-2846.	1.9	2
82	Quasi-static Tensile and Compressive Behavior of Nanocrystalline Tantalum based on Miniature Specimen Testingâ€”Part I: Materials Processing and Microstructure. Jom, 2016, 68, 2832-2838.	1.9	5
83	Evidence for Bulk Ripplocations in Layered Solids. Scientific Reports, 2016, 6, 33451.	3.3	73
84	I2 basal stacking fault as a degradation mechanism in reverse gate-biased AlGaN/GaN HEMTs. Applied Physics Letters, 2016, 109, .	3.3	4
85	Analysis of a New High-Toughness Ultra-high-Strength Martensitic Steel by Transmission Electron Microscopy and Atom Probe Tomography. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 1517-1528.	2.2	10
86	Asymmetric Response of Ferroelastic Domain-Wall Motion under Applied Bias. ACS Applied Materials & Interfaces, 2016, 8, 2935-2941.	8.0	11
87	Enhancement of lower critical field by reducing the thickness of epitaxial and polycrystalline MgB2 thin films. APL Materials, 2015, 3, .	5.1	15
88	Toward Deterministic Switching in Ferroelectric Systems: Insight Gained from In Situ TEM. Microscopy and Microanalysis, 2015, 21, 1347-1348.	0.4	0
89	Electronic transition above room temperature in CaMn7O12 films. Applied Physics Letters, 2015, 107, 142901.	3.3	9
90	Effects of cation stoichiometry on electronic and structural properties of LaNiO3. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	2.1	7

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91	In-situ TEM Study of the Initial Oxidation Behavior of Zry-4. Microscopy and Microanalysis, 2015, 21, 253-254.	0.4	1
92	Modeling of CCT Diagrams and Ferrite Grain Size Prediction in Low Carbon Nbâ€“Mo Microalloyed Steels. ISIJ International, 2015, 55, 1963-1972.	1.4	6
93	Electron Beam Induced Domain Motion in Ferroelectric RKTP Observed By Transmission Electron Microscopy. Microscopy and Microanalysis, 2015, 21, 271-272.	0.4	0
94	The Perfect Cut: Focused Ion Beam Preparation for In Situ TEM. Microscopy and Microanalysis, 2015, 21, 1403-1404.	0.4	0
95	Estimation of dislocation density from precession electron diffraction data using the Nye tensor. Ultramicroscopy, 2015, 153, 9-21.	1.9	46
96	Polarization screening-induced magnetic phase gradients at complex oxide interfaces. Nature Communications, 2015, 6, 6735.	12.8	71
97	Grain boundary character dependence of radiation-induced segregation in a model Niâ€“Cr alloy. Journal of Materials Research, 2015, 30, 1290-1299.	2.6	33
98	Al2O3 â€œself-coatedâ€•iron powder composites via mechanical milling. Journal of Alloys and Compounds, 2015, 653, 61-68.	5.5	29
99	Transmission electron microscopy investigation of Ag diffusion mechanisms in Î²-SiC. Journal of Nuclear Materials, 2015, 457, 298-303.	2.7	15
100	Microstructural and precipitation characterization in Nb-Mo microalloyed steels: Estimation of the contributions to the strength. Metals and Materials International, 2014, 20, 807-817.	3.4	42
101	Texture evolution in nanocrystalline iron films deposited using biased magnetron sputtering. Journal of Applied Physics, 2014, 116, .	2.5	19
102	Anisotropic radiation-induced segregation in 316L austenitic stainless steel with grain boundary character. Acta Materialia, 2014, 67, 145-155.	7.9	74
103	In situ environmental transmission electron microscopy study of oxidation of two-dimensional Ti₃C₂and formation of carbon-supported TiO₂. Journal of Materials Chemistry A, 2014, 2, 14339.	10.3	287
104	Atomic-Scale Characterization of Oxide Thin Films Gated by Ionic Liquid. ACS Applied Materials & Interfaces, 2014, 6, 17018-17023.	8.0	9
105	Specimen preparation for correlating transmission electron microscopy and atom probe tomography of mesoscale features. Ultramicroscopy, 2014, 147, 25-32.	1.9	17
106	Microstructural Features Controlling Mechanical Properties in Nb-Mo Microalloyed Steels. Part I: Yield Strength. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4960-4971.	2.2	38
107	Microstructural Features Controlling Mechanical Properties in Nb-Mo Microalloyed Steels. Part II: Impact Toughness. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4972-4982.	2.2	46
108	Thickness-Dependent Crossover from Charge- to Strain-Mediated Magnetoelectric Coupling in Ferromagnetic/Piezoelectric Oxide Heterostructures. ACS Nano, 2014, 8, 894-903.	14.6	61

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109	Real-Time Observation of Local Strain Effects on Nonvolatile Ferroelectric Memory Storage Mechanisms. Nano Letters, 2014, 14, 3617-3622.	9.1	15
110	Observation of Selfâ€Assembled Coreâ€“Shell Structures in Epitaxially Embedded TbErAs Nanoparticles. Small, 2014, 10, 4920-4925.	10.0	5
111	In-situ TEM study of the Corrosion Behavior of Zry-4. Microscopy and Microanalysis, 2014, 20, 1602-1603.	0.4	3
112	In-Situ Characterization of the Evolution of Defects in AlGaNGaN HEMTs in the On-state and Off-state condition. Microscopy and Microanalysis, 2014, 20, 1626-1627.	0.4	1
113	Evolution of strain in aluminum gallium nitride/gallium nitride high electron mobility transistors under on-state bias. Journal of Applied Physics, 2013, 114, 064507.	2.5	3
114	A (S)TEM Gas Cell Holder with Localized Laser Heating forIn SituExperiments. Microscopy and Microanalysis, 2013, 19, 470-478.	0.4	33
115	Stoichiometry of LaAlO3 films grown on SrTiO3 by pulsed laser deposition. Journal of Applied Physics, 2013, 114, 027008.	2.5	20
116	Microstructural changes in CdSe-coated ZnO nanowires evaluated byin situannealing in transmission electron microscopy and x-ray diffraction. Nanotechnology, 2012, 23, 265701.	2.6	9
117	Structural Investigation of Perovskite Manganite and Ferrite Films on Yttria-Stabilized Zirconia Substrates. Journal of the Electrochemical Society, 2012, 159, F436-F441.	2.9	4
118	Accessing intermediate ferroelectric switching regimes with time-resolved transmission electron microscopy. Journal of Applied Physics, 2012, 112, 052013.	2.5	21
119	Magnetic properties of Co2C and Co3C nanoparticles and their assemblies. Applied Physics Letters, 2012, 101, .	3.3	64
120	A study of the effect of iron island morphology and interface oxidation on the magnetic hysteresis of Fe-MgO (001) thin film composites. Journal of Applied Physics, 2012, 112, .	2.5	16
121	LaAlO3/SrTiO3 Epitaxial Heterostructures by Atomic Layer Deposition. Journal of Electronic Materials, 2012, 41, 819-823.	2.2	17
122	Towards an integrated materials characterization toolbox. Journal of Materials Research, 2011, 26, 1341-1383.	2.6	84
123	Site-specific atomic scale analysis of solute segregation to a coincidence site lattice grain boundary. Ultramicroscopy, 2010, 110, 278-284.	1.9	26
124	In situ laser crystallization of amorphous silicon: Controlled nanosecond studies in the dynamic transmission electron microscope. Applied Physics Letters, 2010, 97, .	3.3	24
125	One-Pot Aqueous Synthesis of Fe and Ag Core/Shell Nanoparticles. Chemistry of Materials, 2010, 22, 6291-6296.	6.7	66
126	Laserâ€based in situ techniques: Novel methods for generating extreme conditions in TEM samples. Microscopy Research and Technique, 2009, 72, 122-130.	2.2	21

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127	Symposium on Ultrafast Electron Microscopy and Ultrafast Science. Microscopy and Microanalysis, 2009, 15, 271-271.	0.4	9
128	In Situ Laser Synthesis of Si Nanowires in the Dynamic TEM. Small, 2008, 4, 2187-2190.	10.0	15
129	Nanosecond time-resolved investigations using the in situ of dynamic transmission electron microscope (DTEM). Ultramicroscopy, 2008, 108, 1441-1449.	1.9	115
130	Imaging of Transient Structures Using Nanosecond in Situ TEM. Science, 2008, 321, 1472-1475.	12.6	281
131	Comet 81P/Wild 2 Under a Microscope. Science, 2006, 314, 1711-1716.	12.6	848
132	Mineralogy and Petrology of Comet 81P/Wild 2 Nucleus Samples. Science, 2006, 314, 1735-1739.	12.6	589
133	In-Situ Electron Microscopy Studies of the Effect of Solute Segregation on Grain Boundary Anisotropy and Mobility in an Al-Zr Alloy. Materials Research Society Symposia Proceedings, 2004, 839, 171.	0.1	1
134	In-Situ Investigation of Grain Boundary Mobility and Character in Aluminum Alloys in the Presence of a Stored Energy Driving Force. Materials Research Society Symposia Proceedings, 2004, 819, N6.5.1.	0.1	6
135	Magnetism and structure of Zn[sub x]Fe[sub 3â^'x]O[sub 4] films processed via spin-spray deposition. Journal of Applied Physics, 2002, 91, 7595.	2.5	23
136	Precision Modification of Microstructure and Properties Through Laser Engraving. Jom, 0, , 1.	1.9	3