Alan Savan

List of Publications by Year
in descending order

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90 papers	4,118 citations	126907 33 h-index	118850 62 g-index
90 all docs	90 docs citations	90 times ranked	4805 citing authors

#	Article	IF	Citations
1	Oxygen and hydrogen evolution reactions on Ru, RuO 2 , Ir, and IrO 2 thin film electrodes in acidic and alkaline electrolytes: A comparative study on activity and stability. Catalysis Today, 2016, 262, 170-180.	4.4	999
2	Identification of Quaternary Shape Memory Alloys with Nearâ€Zero Thermal Hysteresis and Unprecedented Functional Stability. Advanced Functional Materials, 2010, 20, 1917-1923.	14.9	304
3	Discovery of a Multinary Noble Metalâ€“Free Oxygen Reduction Catalyst. Advanced Energy Materials, 2018, 8, 1802269.	19.5	227
4	Toward a Paradigm Shift in Electrocatalysis Using Complex Solid Solution Nanoparticles. ACS Energy Letters, 2019, 4, 1206-1214.	17.4	140
5	Development of multifunctional thin films using high-throughput experimentation methods. International Journal of Materials Research, 2008, 99, 1144-1149.	0.3	116
6	Mechanical and tribological performance of MoS2 co-sputtered composites. Surface and Coatings Technology, 2000, 126, 15-24.	4.8	115
7	Complexâ€Solidâ€Solution Electrocatalyst Discovery by Computational Prediction and Highâ€Throughput Experimentation**. Angewandte Chemie - International Edition, 2021, 60, 6932-6937.	13.8	86
8	Combinatorial metallurgical synthesis and processing of high-entropy alloys. Journal of Materials Research, 2018, 33, 3156-3169.	2.6	83
9	Enhanced photoelectrochemical properties of WO3 thin films fabricated by reactive magnetron sputtering. International Journal of Hydrogen Energy, 2011, 36, 4724-4731.	7.1	82
10	On the Origin of the Improved Ruthenium Stability in RuO₂â€“IrO₂Mixed Oxides. Journal of the Electrochemical Society, 2016, 163, F3099-F3104.	2.9	82
11	Design of Complex Solidâ€Solution Electrocatalysts by Correlating Configuration, Adsorption Energy Distribution Patterns, and Activity Curves. Angewandte Chemie - International Edition, 2020, 59, 5844-5850.	13.8	81
12	Structural, morphological, chemical and tribological investigations of sputter deposited MoSx/metal multilayer coatings. Surface and Coatings Technology, 1998, 108-109, 340-344.	4.8	74
13	Accelerated atomic-scale exploration of phase evolution in compositionally complex materials. Materials Horizons, 2018, 5, 86-92.	12.2	72
14	Morphology and tribological properties of metal (oxide)â€“MoS2 nanostructured multilayer coatings. Surface and Coatings Technology, 1998, 105, 175-183.	4.8	71
15	Bayesian Optimization of Highâ€Entropy Alloy Compositions for Electrocatalytic Oxygen Reduction**. Angewandte Chemie - International Edition, 2021, 60, 24144-24152.	13.8	61
16	Combinatorial fabrication and high-throughput characterization of a Tiâ€“Niâ€“Cu shape memory thin film composition spread. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 481-482, 151-155.	5.6	60
17	Use of nanoscaled multilayer and compound films to realize a soft lubrication phase within a hard, wear-resistant matrix. Surface and Coatings Technology, 2000, 126, 159-165.	4.8	52
18	Phase transformation, structural and functional fatigue properties of Tiâ€“Niâ€“Hf shape memory thin films. Acta Materialia, 2011, 59, 3267-3275.	7.9	52

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19	A combinatorial passivation study of Taâ€“Ti alloys. Corrosion Science, 2009, 51, 1519-1527.	6.6	50
20	In-process structuring of CrN coatings, and its influence on friction in dry and lubricated sliding. Wear, 2003, 254, 1099-1105.	3.1	49
21	Combinatorial study of phase transformation characteristics of a Tiâ€“Niâ€“Pd shape memory thin film composition spread in view of microactuator applications. Applied Surface Science, 2007, 254, 743-748.	6.1	45
22	High-throughput characterization of hydrogen storage materials using thin films on micromachined Si substrates. Journal of Alloys and Compounds, 2007, 446-447, 516-521.	5.5	42
23	Layered WO3/TiO2 nanostructures with enhanced photocurrent densities. International Journal of Hydrogen Energy, 2013, 38, 15954-15964.	7.1	42
24	Unravelling Compositionâ€“Activityâ€“Stability Trends in High Entropy Alloy Electrocatalysts by Using a Dataâ€Guided Combinatorial Synthesis Strategy and Computational Modeling. Advanced Energy Materials, 2022, 12, .	19.5	42
25	Alloying MoS2 with Al and Au: structure and tribological performance. Surface and Coatings Technology, 2003, 169-170, 716-720.	4.8	40
26	High-throughput synthesis and characterization of anodic oxides on Nbâ€“Ti alloys. Electrochimica Acta, 2009, 54, 5973-5980.	5.2	39
27	The ferromagnetic shape memory system Feâ€“Pdâ€“Cu. Acta Materialia, 2010, 58, 5949-5961.	7.9	39
28	Atomic-scale investigation of fast oxidation kinetics of nanocrystalline CrMnFeCoNi thin films. Journal of Alloys and Compounds, 2018, 766, 1080-1085.	5.5	39
29	Thermally Oxidized Mnâ€“Co Thin Films as Protective Coatings for SOFC Interconnects. Journal of the Electrochemical Society, 2009, 156, B1431.	2.9	37
30	Combinatorial investigation of Hfâ€“Ta thin films and their anodic oxides. Electrochimica Acta, 2010, 55, 7884-7891.	5.2	37
31	High-throughput study of martensitic transformations in the complete Tiâ€“Niâ€“Cu system. Intermetallics, 2012, 26, 98-109.	3.9	37
32	Potential-resolved dissolution of Pt-Cu: A thin-film material library study. Electrochimica Acta, 2014, 144, 332-340.	5.2	37
33	Effects of temperature on the chemistry and tribology of co-sputtered MoSx-Ti composite thin films. Thin Solid Films, 2005, 489, 137-144.	1.8	35
34	Investigation of thermally oxidised Mnâ€“Co thin films for application in SOFC metallic interconnects. Applied Surface Science, 2008, 255, 1850-1859.	6.1	33
35	A New Prototype Twoâ€Phase (TiNi)â€“(Î²â€W) SMA System with Tailorable Thermal Hysteresis. Advanced Functional Materials, 2011, 21, 113-118.	14.9	30
36	Micro-hotplates for high-throughput thin film processing and in situ phase transformation characterization. Sensors and Actuators A: Physical, 2008, 147, 576-582.	4.1	28

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37	Investigation of hard magnetic properties in the Feâ€“Pt system by combinatorial deposition of thin film multilayer libraries. Applied Surface Science, 2006, 252, 2518-2523.	6.1	27
38	Zoomingâ€in â€“ Visualization of active site heterogeneity in high entropy alloy electrocatalysts using scanning electrochemical cell microscopy. Electrochemical Science Advances, 2022, 2, e2100105.	2.8	27
39	Characterisation of magnetron sputter deposited MoSx/metal multilayers. Thin Solid Films, 1999, 354, 59-65.	1.8	26
40	High-Throughput Characterization of Pt Supported on Thin Film Oxide Material Libraries Applied in the Oxygen Reduction Reaction. Analytical Chemistry, 2011, 83, 1916-1923.	6.5	26
41	Identification of optimized Tiâ€“Niâ€“Cu shape memory alloy compositions for high-frequency thin film microactuator applications. Smart Materials and Structures, 2010, 19, 065032.	3.5	25
42	Scanning droplet cell microscopy on a wide range hafniumâ€“niobium thin film combinatorial library. Electrochimica Acta, 2013, 110, 539-549.	5.2	25
43	Interdiffusion in Feâ€“Pt multilayers. Journal of Applied Physics, 2006, 100, 073517.	2.5	24
44	Compositionâ€Dependent Oxygen Reduction Activity and Stability of Ptâ€“Cu Thin Films. ChemElectroChem, 2014, 1, 358-361.	3.4	22
45	Bayesian Optimization of Highâ€Entropy Alloy Compositions for Electrocatalytic Oxygen Reduction**. Angewandte Chemie, 2021, 133, 24346-24354.	2.0	22
46	Properties of anodic oxides grown on a hafniumâ€“tantalumâ€“titanium thin film library. Science and Technology of Advanced Materials, 2014, 15, 015006.	6.1	21
47	Searching novel complex solid solution electrocatalysts in unconventional element combinations. Nano Research, 2022, 15, 4780-4784.	10.4	21
48	High-throughput study of the anodic oxidation of Hfâ€“Ti thin films. Electrochimica Acta, 2009, 54, 5171-5178.	5.2	20
49	Using Instability of a Non-stoichiometric Mixed Oxide Oxygen Evolution Catalyst As a Tool to Improve Its Electrocatalytic Performance. Electrocatalysis, 2018, 9, 139-145.	3.0	20
50	Corrosion behaviour of MoSx-based coatings deposited onto high speed steel by magnetron sputtering. Surface and Coatings Technology, 2006, 201, 4099-4104.	4.8	19
51	Stabilization of an iridium oxygen evolution catalyst by titanium oxides. JPhys Energy, 2021, 3, 034006.	5.3	19
52	High-Throughput Compositional and Structural Evaluation of a Li_a(Ni_xMn_yCo_z)O_r Thin Film Battery Materials Library. ACS Combinatorial Science, 2013, 15, 401-409.	3.8	18
53	Microstructure and tribological performance of MoSx/Au co-sputtered composites. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 609-613.	2.1	15
54	Design von komplexen Mischkristallâ€Elektrokatalysatoren auf Basis der Korrelation von Konfiguration, Verteilungsmustern der Adsorptionsenergie und AktivitÄtskurven. Angewandte Chemie, 2020, 132, 5893-5900.	2.0	15

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55	Effects of annealing time on the structural and magnetic properties of L10 FePt thin films. Thin Solid Films, 2010, 518, 4977-4985.	1.8	14
56	Correlative chemical and structural investigations of accelerated phase evolution in a nanocrystalline high entropy alloy. Scripta Materialia, 2020, 183, 122-126.	5.2	14
57	Nanostructured Tiâ€“Ta thin films synthesized by combinatorial glancing angle sputter deposition. Nanotechnology, 2016, 27, 495604.	2.6	13
58	Structure and mechanical properties of argon assisted carbon nitride films. Thin Solid Films, 2001, 398-399, 124-129.	1.8	12
59	Applications of an energyâ€dispersive pnCCD for Xâ€ray reflectivity: Investigation of interdiffusion in Feâ€“Pt multilayers. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 2601-2607.	1.8	12
60	Electrochemistry on binary valve metal combinatorial libraries: niobium-tantalum thin films. Electrochimica Acta, 2014, 140, 366-375.	5.2	12
61	Microstructure evolution and thermal stability of equiatomic CoCrFeNi films on (0001) Î±-Al2O3. Acta Materialia, 2020, 200, 908-921.	7.9	12
62	Nanocrystalline equiatomic CoCrFeNi alloy thin films: Are they single phase fcc?. Surface and Coatings Technology, 2021, 410, 126945.	4.8	12
63	High-throughput discovery of hydrogen evolution electrocatalysts in the complex solid solution system Coâ€“Crâ€“Feâ€“Moâ€“Ni. Journal of Materials Chemistry A, 2022, 10, 9981-9987.	10.3	12
64	Topographical evolution of sputtered chromium nitride thin films. Thin Solid Films, 2007, 515, 2903-2920.	1.8	11
65	Electrocatalytic oxidation of 2-propanol on PtxIr100-x bifunctional electrocatalysts â€“ A thin-film materials library study. Journal of Catalysis, 2021, 396, 387-394.	6.2	11
66	Microstructure, chemistry, and tribological performance of MoSx/WSey co-sputtered composites. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 1682-1689.	2.1	10
67	High-throughput characterization of film thickness in thin film materials libraries by digital holographic microscopy. Science and Technology of Advanced Materials, 2011, 12, 054201.	6.1	10
68	Reactions of water and ethanol with polycrystalline TiC surfaces. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2005, 23, 234-240.	2.1	9
69	Combinatorial synthesis and high-throughput characterization of the thin film materials system Co-Mn-Ge: Composition, structure, and magnetic properties. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1969-1974.	1.8	9
70	Phase decomposition in a nanocrystalline CrCoNi alloy. Scripta Materialia, 2020, 188, 259-263.	5.2	9
71	Resistance to electrochemical corrosion of CrxNy- and DLC-coated steel tools in the environment of wet wood. Surface and Coatings Technology, 2005, 200, 83-86.	4.8	8
72	Structural and magnetic characteristics of FeCo thin films modified by combinatorial ion implantation. Thin Solid Films, 2006, 495, 169-174.	1.8	8

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73	Preparation of 24 Ternary Thin Film Materials Libraries on a Single Substrate in One Experiment for Irreversible High-Throughput Studies. ACS Combinatorial Science, 2012, 14, 25-30.	3.8	8
74	Complexâ€Solidâ€Solution Electrocatalyst Discovery by Computational Prediction and Highâ€Throughput Experimentation**. Angewandte Chemie, 2021, 133, 7008-7013.	2.0	8
75	Combinatorial investigation of Feâ€“B thin-film nanocomposites. Science and Technology of Advanced Materials, 2011, 12, 054208.	6.1	7
76	Microstructure and magnetic properties of FeCo/Ti thin film multilayers annealed in nitrogen. Thin Solid Films, 2010, 519, 770-774.	1.8	5
77	Structural and multifunctional properties of magnetron-sputtered Feâ€“P(â€“Mn) thin films. Thin Solid Films, 2016, 603, 262-267.	1.8	5
78	Structure Zone Investigation of Multiple Principle Element Alloy Thin Films as Optimization for Nanoindentation Measurements. Materials, 2020, 13, 2113.	2.9	5
79	MoS2-based alloys and nanocomposites for solid lubrication. Lubrication Science, 2004, 16, 229-238.	2.1	4
80	High-throughput characterization of the Seebeck coefficient of a-(Cr1 â˜'xSix)1 â˜'yOythin film materials libraries as verification of the extended thermopower formula. Journal of Physics Condensed Matter, 2011, 23, 265501.	1.8	4
81	Small-Scale Deposition of Thin Films and Nanoparticles by Microevaporation Sources. Journal of Microelectromechanical Systems, 2011, 20, 21-27.	2.5	3
82	Interdiffusion in Fe/Pt Multilayers: In Situ High Temperature Synchrotron Radiation Reflectivity Study. Advanced Engineering Materials, 2011, 13, 475-479.	3.5	3
83	High-throughput study of binary thin film tungsten alloys. International Journal of Refractory Metals and Hard Materials, 2017, 69, 40-48.	3.8	3
84	Atomic scale understanding of phase stability and decomposition of a nanocrystalline CrMnFeCoNi Cantor alloy. Applied Physics Letters, 2021, 119, 201910.	3.3	3
85	Linear growth of reaction layer during in-situ TEM annealing of thin film Al/Ni diffusion couples. Journal of Alloys and Compounds, 2022, 922, 165926.	5.5	3
86	Design and application of gradient annealing devices for the parallel thermal processing of Fe/Pt multilayers. Materials Research Society Symposia Proceedings, 2005, 894, 1.	0.1	2
87	Synthesis of Au microwires by selective oxidation of Auâ€“W thin-film composition spreads. Science and Technology of Advanced Materials, 2013, 14, 015003.	6.1	2
88	Pt-Cu Alloys as Catalysts for the Oxygen Reduction Reaction - A Thin-Film Study of Activity and Stability. ECS Transactions, 2013, 58, 587-592.	0.5	2
89	Phase constitution of the noble metal thin-film complex solid solution system Ag-Ir-Pd-Pt-Ru in dependence of elemental compositions and annealing temperatures. Nano Research, 0, , 1.	10.4	2
90	Ceramic nitride/metal coatings with enhanced fracture toughness and fatigue resistance using a multiscalar laminate architecture. International Journal of Surface Science and Engineering, 2008, 2, 419.	0.4	1