Donald R Sadoway

List of Publications by Year
in descending order

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114 papers	7,922 citations	46918 47 h-index	49773 87 g-index
120 all docs	120 docs citations	120 times ranked	6815 citing authors

#	Article	IF	Citations
1	Self-discharge mitigation in a liquid metal displacement battery. Journal of Energy Chemistry, 2022, 66, 390-396.	7.1	6
2	Cell voltage model for Li-Bi liquid metal batteries. Applied Energy, 2022, 309, 118331.	5.1	14
3	Liquid metal battery storage in an offshore wind turbine: Concept and economic analysis. Renewable and Sustainable Energy Reviews, 2021, 149, 111387.	8.2	21
4	Numerical simulation of mass transfer enhancement in liquid metal batteries by means of electro-vortex flow. Journal of Power Sources Advances, 2020, 1, 100004.	2.6	23
5	A borate decorated anion-immobilized solid polymer electrolyte for dendrite-free, long-life Li metal batteries. Journal of Materials Chemistry A, 2019, 7, 19970-19976.	5.2	32
6	Modeling discontinuous potential distributions using the finite volume method, and application to liquid metal batteries. Electrochimica Acta, 2019, 318, 857-864.	2.6	22
7	Electrodeposition of crystalline silicon films from silicon dioxide for low-cost photovoltaic applications. Nature Communications, 2019, 10, 5772.	5.8	70
8	Faradaically selective membrane for liquid metal displacement batteries. Nature Energy, 2018, 3, 127-131.	19.8	60
9	Liquidâ€Tinâ€Assisted Molten Salt Electrodeposition of Photoresponsive nâ€Type Silicon Films. Advanced Functional Materials, 2018, 28, 1703551.	7.8	27
10	All-Solid-State Lithium Battery Fitted with Polymer Electrolyte Enhanced by Solid Plasticizer and Conductive Ceramic Filler. Journal of the Electrochemical Society, 2018, 165, A3558-A3565.	1.3	39
11	Electrochemical growth of a corrosion-resistant multi-layer scale to enable an oxygen-evolution inert anode in molten carbonate. Electrochimica Acta, 2018, 279, 250-257.	2.6	40
12	The double-walled nature of TiO 2 nanotubes and formation of tube-in-tube structures â€“ a characterization of different tube morphologies. Electrochimica Acta, 2017, 231, 721-731.	2.6	38
13	Communicationâ€”Molten Amide-Hydroxide-Iodide Electrolyte for a Low-Temperature Sodium-Based Liquid Metal Battery. Journal of the Electrochemical Society, 2017, 164, A535-A537.	1.3	14
14	Positive current collector for Li||Sb-Pb liquid metal battery. Journal of Power Sources, 2017, 357, 158-163.	4.0	25
15	Charge-Transfer Kinetics of Alloying in Mg-Sb and Li-Bi Liquid Metal Electrodes. Journal of the Electrochemical Society, 2017, 164, A2665-A2669.	1.3	18
16	Solid polymer electrolytes incorporating cubic Li7La3Zr2O12 for all-solid-state lithium rechargeable batteries. Electrochimica Acta, 2017, 258, 1106-1114.	2.6	193
17	E-logpO2 diagrams for ironmaking by molten oxide electrolysis. Electrochimica Acta, 2017, 247, 1088-1094.	2.6	8
18	Liquid Metal Electrodes for Energy Storage Batteries. Advanced Energy Materials, 2016, 6, 1600483.	10.2	139

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19	Calcium-based multi-element chemistry for grid-scale electrochemical energy storage. Nature Communications, 2016, 7, 10999.	5.8	113
20	Electrolysis of a molten semiconductor. Nature Communications, 2016, 7, 12584.	5.8	47
21	Electrochemical Determination of the Thermodynamic Properties of Lithium-Antimony Alloys. Journal of the Electrochemical Society, 2015, 162, A421-A425.	1.3	32
22	Low-Temperature Molten Salt Electrolytes for Membrane-Free Sodium Metal Batteries. Journal of the Electrochemical Society, 2015, 162, A2729-A2736.	1.3	34
23	Self-healing Liâ€“Bi liquid metal battery for grid-scale energy storage. Journal of Power Sources, 2015, 275, 370-376.	4.0	149
24	Calcium-Antimony Alloys as Electrodes for Liquid Metal Batteries. Journal of the Electrochemical Society, 2014, 161, A1898-A1904.	1.3	54
25	Mixing in a liquid metal electrode. Physics of Fluids, 2014, 26, .	1.6	59
26	Lithiumâ€“antimonyâ€“lead liquid metal battery for grid-level energy storage. Nature, 2014, 514, 348-350.	13.7	351
27	Calciumâ€“bismuth electrodes for large-scale energy storage (liquid metal batteries). Journal of Power Sources, 2013, 241, 239-248.	4.0	99
28	Thermodynamic properties of calciumâ€“magnesium alloys determined by emf measurements. Electrochimica Acta, 2013, 91, 293-301.	2.6	49
29	Liquid Metal Batteries: Past, Present, and Future. Chemical Reviews, 2013, 113, 2075-2099.	23.0	413
30	A new anode material for oxygen evolution in molten oxide electrolysis. Nature, 2013, 497, 353-356.	13.7	186
31	Capture and electrochemical conversion of CO2 to value-added carbon and oxygen by molten salt electrolysis. Energy and Environmental Science, 2013, 6, 1538.	15.6	262
32	Application of the Molecular Interaction Volume Model (MIVM) to Calcium-Based Liquid Alloys of Systems Forming High-Melting Intermetallics. Journal of the American Chemical Society, 2013, 135, 8260-8265.	6.6	31
33	Solid-state Graft Copolymer Electrolytes for Lithium Battery Applications. Journal of Visualized Experiments, 2013, , .	0.2	0
34	Magnesiumâ€“Antimony Liquid Metal Battery for Stationary Energy Storage. Journal of the American Chemical Society, 2012, 134, 1895-1897.	6.6	250
35	Integration of Information Literacy Components into a Large First-Year Lecture-Based Chemistry Course. Journal of Chemical Education, 2012, 89, 487-491.	1.1	25
36	Thermodynamic properties of calciumâ€“bismuth alloys determined by emf measurements. Electrochimica Acta, 2012, 60, 154-162.	2.6	52

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37	Determination and modeling of the thermodynamic properties of liquid calciumâ€“antimony alloys. Electrochimica Acta, 2012, 76, 8-15.	2.6	52
38	Production of Oxygen Gas and Liquid Metal by Electrochemical Decomposition of Molten Iron Oxide. Journal of the Electrochemical Society, 2011, 158, E51.	1.3	101
39	Electrolysis of Molten Iron Oxide with an Iridium Anode: The Role of Electrolyte Basicity. Journal of the Electrochemical Society, 2011, 158, E101.	1.3	87
40	Oriented silver oxidenanostructures synthesized through a template-free electrochemical route. Journal of Materials Chemistry, 2011, 21, 432-438.	6.7	103
41	Recycling ZnTe, CdTe, and Other Compound Semiconductors by Ambipolar Electrolysis. Journal of the American Chemical Society, 2011, 133, 19971-19975.	6.6	31
42	Graft copolymer-based lithium-ion battery for high-temperature operation. Journal of Power Sources, 2011, 196, 5604-5610.	4.0	73
43	Copper sulfate reference electrode. Journal of Electroanalytical Chemistry, 2011, 659, 143-150.	1.9	9
44	Towards a design tool for self-heated cells producing liquid metal by electrolysis. , 2011, , 387-392.		0
45	Instruction Online: Core Components for Re-Use. ACS Symposium Series, 2010, , 235-262.	0.5	0
46	Stability of Iridium Anode in Molten Oxide Electrolysis for Ironmaking: Influence of Slag Basicity. ECS Transactions, 2010, 33, 219-230.	0.3	11
47	Direct Electrolysis of Molten Lunar Regolith for the Production of Oxygen and Metals on the Moon. ECS Transactions, 2010, 28, 367-373.	0.3	46
48	Electrochemical Synthesis of Diamondlike Carbon Films. Journal of the Electrochemical Society, 2008, 155, E49.	1.3	18
49	Electrochemical Characterization of Vanadium Oxide Nanostructured Electrode. Journal of the Electrochemical Society, 2008, 155, A488.	1.3	10
50	Cross-disciplinary molecular science education in introductory science courses. , 2008, , .		2
51	Anisotropic Structure and Transport in Self-Assembled Layered Polymerâ”Clay Nanocomposites. Langmuir, 2007, 23, 8515-8521.	1.6	70
52	Solâ”Gel Synthesis of Vanadium Oxide within a Block Copolymer Matrix. Chemistry of Materials, 2006, 18, 2828-2833.	3.2	51
53	Microstructure Effects on the Electrochemical Kinetics of Vanadium Pentoxide Thin-Film Cathodes. Journal of the Electrochemical Society, 2006, 153, A1372.	1.3	17
54	Polarization in Cells Containing Single-Ion Graft Copolymer Electrolytes. Journal of the Electrochemical Society, 2006, 153, A1098.	1.3	10

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55	Single-ion conducting polymerâ€“silicate nanocomposite electrolytes for lithium battery applications. Electrochimica Acta, 2005, 50, 2125-2134.	2.6	84
56	NSF NSDL Materials Digital Library & MSE Education. Materials Research Society Symposia Proceedings, 2005, 909, 1.	0.1	1
57	Large introductory science courses & digital libraries. , 2005, , .		3
58	Electrochemically controlled transport of lithium through ultrathin SiO2. Journal of Applied Physics, 2005, 98, 023516.	1.1	39
59	Design and Testing of an Impedance-Based Sensor for Monitoring Drug Delivery. Journal of the Electrochemical Society, 2005, 152, H6.	1.3	37
60	Effect of Counter Ion Placement on Conductivity in Single-Ion Conducting Block Copolymer Electrolytes. Journal of the Electrochemical Society, 2005, 152, A158.	1.3	135
61	Rubbery Graft Copolymer Electrolytes for Solid-State, Thin-Film Lithium Batteries. Journal of the Electrochemical Society, 2005, 152, A1.	1.3	89
62	Synthesis and Characterization of Single-Ion Graft Copolymer Electrolytes. Journal of the Electrochemical Society, 2005, 152, A2281.	1.3	32
63	Use of MatML with software applications for e-learning. , 2004, , .		1
64	MatDL.org: The Materials Digital Library and the National Science Digital Library Program. Materials Research Society Symposia Proceedings, 2004, 827, 231.	0.1	0
65	Block and graft copolymer electrolytes for high-performance, solid-state, lithium batteries. Journal of Power Sources, 2004, 129, 1-3.	4.0	98
66	Magnetic characterization of orthorhombic LiMnO2 and electrochemically transformed spinel LixMnO2 (x<1). Journal of Physics and Chemistry of Solids, 2003, 64, 2525-2533.	1.9	14
67	Block Copolymer-Templated Nanocomposite Electrodes for Rechargeable Lithium Batteries. Journal of the Electrochemical Society, 2002, 149, A1610.	1.3	48
68	Portable Power: Advanced Rechargeable Lithium Batteries. MRS Bulletin, 2002, 27, 590-596.	1.7	42
69	Block Copolymer Electrolytes Synthesized by Atom Transfer Radical Polymerization for Solid-State, Thin-Film Lithium Batteries. Electrochemical and Solid-State Letters, 2002, 5, A85.	2.2	80
70	A thermochemical analysis of the production of anhydrous MgCl2. Journal of Light Metals, 2001, 1, 111-117.	0.8	100
71	Melt-Formable Block Copolymer Electrolytes for Lithium Rechargeable Batteries. Journal of the Electrochemical Society, 2001, 148, A537.	1.3	187
72	Inert anodes for the Hall-HÃ©roult cell: The ultimate materials challenge. Jom, 2001, 53, 34-35.	0.9	155

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73	Self-doped block copolymer electrolytes for solid-state, rechargeable lithium batteries. Journal of Power Sources, 2001, 97-98, 621-623.	4.0	116
74	High energy density, thin-film, rechargeable lithium batteries for marine field operations. Journal of Power Sources, 2001, 97-98, 674-676.	4.0	23
75	Transference number measurements of TiO2â€“BaO melts by stepped-potential chronoamperometry. Electrochimica Acta, 2001, 46, 3351-3358.	2.6	32
76	Synthesis of nanoscale particles of Ta and Nb₃Al by homogeneous reduction in liquid ammonia. Journal of Materials Research, 2001, 16, 2544-2549.	1.2	27
77	Magnetic characterization of Î»-MnO2 and Li2Mn2O4 prepared by electrochemical cycling of LiMn2O4. Journal of Applied Physics, 2000, 87, 7382-7388.	1.1	40
78	Electrochemical Cyclingâ€Induced Spinel Formation in Highâ€Chargeâ€Capacity Orthorhombic LiMnO2. Journal of the Electrochemical Society, 1999, 146, 3217-3223.	1.3	125
79	LiAl y Co1â€‰â˜’â€‰y â€‰Oâ€‰2 â€‰(â€‰â€‰Râ€‰3Ì„mâ€‰)â€‰ Intercalation Cathode for Rechargeable Lithium Batteries. Electrochemical Society, 1999, 146, 862-868.	1.3	173
80	Synthesis and characterization of LiAlyCo1â˜’yO2 and LiAlyNi1â˜’yO2. Journal of Power Sources, 1999, 81-82, 589-593.	4.0	64
81	Electron microscopic characterization of electrochemically cycled LiCoO2 and Li(Al,Co)O2 battery cathodes. Journal of Power Sources, 1999, 81-82, 594-598.	4.0	67
82	Rubbery Block Copolymer Electrolytes for Solidâ€State Rechargeable Lithium Batteries. Journal of the Electrochemical Society, 1999, 146, 32-37.	1.3	293
83	TEM Study of Electrochemical Cyclingâ€Induced Damage and Disorder in LiCoO2 Cathodes for Rechargeable Lithium Batteries. Journal of the Electrochemical Society, 1999, 146, 473-480.	1.3	613
84	Title is missing!. Journal of Applied Electrochemistry, 1998, 28, 1365-1369.	1.5	65
85	Identification of cathode materials for lithium batteries guided by first-principles calculations. Nature, 1998, 392, 694-696.	13.7	760
86	Toward new technologies for the production of lithium. Jom, 1998, 50, 24-26.	0.9	45
87	Synthesis of LiCoO2 by Decomposition and Intercalation of Hydroxides. Journal of the Electrochemical Society, 1998, 145, 887-891.	1.3	62
88	A high-accuracy, calibration-free technique for measuring the electrical conductivity of liquids. Review of Scientific Instruments, 1998, 69, 3308-3313.	0.6	59
89	Metallothermic reduction as an electronically mediated reaction. Journal of Materials Research, 1998, 13, 3372-3377.	1.2	66
90	Relative Dielectric Constant Measurements in the Butyronitrileâ€Chloroethane System at Subambient Temperatures. Journal of the Electrochemical Society, 1997, 144, 2392-2398.	1.3	10

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91	A high-accuracy, calibration-free technique for measuring the electrical conductivity of molten oxides. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 1997, 28, 1141-1149.	1.0	28
92	Electrochemical deoxidation of yttrium-oxygen solid solutions. Journal of Alloys and Compounds, 1996, 237, 150-154.	2.8	65
93	Phase Diagram of Butyronitrileâ˜Chloroethane Determined by Differential Thermal Analysis. The Journal of Physical Chemistry, 1996, 100, 19628-19631.	2.9	2
94	Densities in the Liquid Hydrogen Chloride Solvent System. The Journal of Physical Chemistry, 1996, 100, 5956-5963.	2.9	4
95	New opportunities for metals extraction and waste treatment by electrochemical processing in molten salts. Journal of Materials Research, 1995, 10, 487-492.	1.2	80
96	Electrical Conductivity Measurements of Molten Alkalineâ€Earth Fluorides. Journal of the Electrochemical Society, 1992, 139, 1027-1033.	1.3	33
97	The eelectrochemical processing of refractory metals. Jom, 1991, 43, 15-19.	0.9	40
98	Metallurgical Electrochemistry: The Interface between Materials Science and Molten Salt Chemistry. Materials Science Forum, 1991, 73-75, 555-560.	0.3	2
99	Electrical Conductivity Measurements of Molten Alkaline-Earth Fluorides. ECS Proceedings Volumes, 1990, 1990-17, 174-178.	0.1	0
100	The electrodeposition of improved molybdenum coatings from molten salts by the use of electrolyte additives. Journal of Applied Electrochemistry, 1988, 18, 823-830.	1.5	19
101	Super ionic conduction in alkali metal hexachloro niobates and tantalates. Solid State Ionics, 1988, 28-30, 271-275.	1.3	2
102	The Use of Molten Salts as Physical Models for the Study of Solidification in Metals and Semiconductors. Materials Research Society Symposia Proceedings, 1986, 87, 173.	0.1	1
103	Phase Separation Kinetics in Immiscible Liquids. Materials Research Society Symposia Proceedings, 1986, 87, 281.	0.1	2
104	Phase diagram studies of the systems KCl-K3MoCl6 and LiCl-K3MoCl6. Metallurgical and Materials Transactions B - Process Metallurgy and Materials Processing Science, 1986, 17, 231-232.	0.5	1
105	Approaches to an Integrated Undergraduate Education in Materials Science and Engineering. Materials Research Society Symposia Proceedings, 1985, 66, 3.	0.1	1
106	Raman spectroscopic investigation of alkali-metal hexachloro compounds of refractory metals. Inorganic Chemistry, 1985, 24, 3881-3884.	1.9	18
107	Electrical Resistivities of Monocrystalline and Polycrystalline TiB2. Journal of the American Ceramic Society, 1984, 67, 705-708.	1.9	94
108	On binaryP-T phase diagrams. Metallurgical and Materials Transactions B - Process Metallurgy and Materials Processing Science, 1983, 14, 231-237.	0.5	9

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109	Electrical conductivity and thermal stability measurements of a mixed perovskite oxide system. Journal of Applied Physics, 1982, 53, 3686-3689.	1.1	1
110	A new experimental technique for the study of turbulent electromagnetically driven flows. Metallurgical and Materials Transactions B - Process Metallurgy and Materials Processing Science, 1980, 11, 334-336.	0.5	4
111	Quantitative determination of tantalum in niobium by neutron activation analysis. Canadian Journal of Chemistry, 1980, 58, 537-538.	0.6	1
112	Thermodynamic properties of the alkali metal hexachloroniobate and hexachlorotantalate compounds by vapour pressure measurements. Canadian Journal of Chemistry, 1978, 56, 2538-2545.	0.6	9
113	The synthesis and properties of the hexachloroniobates and hexachlorotantalates of Na, K, Rb, and Cs. Canadian Journal of Chemistry, 1978, 56, 2013-2018.	0.6	10
114	Charge Asymmetrical Ternary Molten Salt Systems: Theory of Dilute Solutions. Journal of the Electrochemical Society, 1975, 122, 515-520.	1.3	3