Edward L Dreizin

List of Publications by Year
in descending order

142	5,244	39	65
papers	citations	h-index	g-index
		81889	106340

142	142	142	2108
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Effect of polymorphic phase transformations in Al2O3 film on oxidation kinetics of aluminum powders. Combustion and Flame, 2005, 140, 310-318.	5.2	448
2	Effect of polymorphic phase transformations in alumina layer on ignition of aluminium particles. Combustion Theory and Modelling, 2006, 10, 603-623.	1.9	281
3	Hydrogen production by reacting water with mechanically milled composite aluminum-metal oxide powders. International Journal of Hydrogen Energy, 2011, 36, 4781-4791.	7.1	170
4	Oxidation and Melting of Aluminum Nanopowders. Journal of Physical Chemistry B, 2006, 110, 13094-13099.	2.6	143
5	Fluorine-containing oxidizers for metal fuels in energetic formulations. Defence Technology, 2019, 15, 1-22.	4.2	112
6	Experimental methodology and heat transfer model for identification of ignition kinetics of powdered fuels. International Journal of Heat and Mass Transfer, 2006, 49, 4943-4954.	4.8	109
7	Aluminum-Rich Al-MoO3 Nanocomposite Powders Prepared by Arrested Reactive Milling. Journal of Propulsion and Power, 2008, 24, 192-198.	2.2	97
8	Ignition of aluminum-rich Alâ€"Ti mechanical alloys in air. Combustion and Flame, 2006, 144, 688-697.	5.2	94
9	Combustion characteristics of micron-sized aluminum particles in oxygenated environments. Combustion and Flame, 2011, 158, 2064-2070.	5.2	93
10	Oxidation kinetics and combustion of boron particles with modified surface. Combustion and Flame, 2016, 173, 288-295.	5.2	89
11	Mechanochemically prepared reactive and energetic materials: a review. Journal of Materials Science, 2017, 52, 11789-11809.	3.7	85
12	Fully Dense, Aluminum-Rich Al-CuO Nanocomposite Powders for Energetic Formulations. Combustion Science and Technology, 2008, 181, 97-116.	2.3	84
13	A study of mechanical alloying processes using reactive milling and discrete element modeling. Acta Materialia, 2005, 53, 2909-2918.	7.9	79
14	Ignition and combustion of mechanically alloyed Alâ€"Mg powders with customized particle sizes. Combustion and Flame, 2013, 160, 835-842.	5.2	79
15	Combustion times and emission profiles of micron-sized aluminum particles burning in different environments. Combustion and Flame, 2010, 157, 2015-2023.	5.2	78
16	Exploring mechanisms for agglomerate reduction in composite solid propellants with polyethylene inclusion modified aluminum. Combustion and Flame, 2015, 162, 846-854.	5.2	75
17	Control of Structural Refinement and Composition in Al-MoO3 Nanocomposites Prepared by Arrested Reactive Milling. Propellants, Explosives, Pyrotechnics, 2006, 31, 382-389.	1.6	74
18	Combustion of micron-sized particles of titanium and zirconium. Proceedings of the Combustion Institute, 2013, 34, 2237-2243.	3.9	69

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19	Combustion of boron and boronâ€"iron composite particles in different oxidizers. Combustion and Flame, 2018, 192, 44-58.	5.2	69
20	The effect of surface modification of aluminum powder on its flowability, combustion and reactivity. Powder Technology, 2010, 204, 63-70.	4.2	67
21	Predicting conditions for scaled-up manufacturing of materials prepared by ball milling. Powder Technology, 2012, 221, 403-411.	4.2	66
22	Correlating ignition mechanisms of aluminum-based reactive materials with thermoanalytical measurements. Progress in Energy and Combustion Science, 2015, 50, 81-105.	31.2	65
23	Oxidation of nano-sized aluminum powders. Thermochimica Acta, 2016, 636, 48-56.	2.7	65
24	Combustion of fine aluminum and magnesium powders in water. Combustion and Flame, 2013, 160, 2242-2250.	5.2	64
25	Reactive Structural Materials: Preparation and Characterization. Advanced Engineering Materials, 2018, 20, 1700631.	3.5	63
26	Ignition and combustion of AlÂ·Mg alloy powders prepared by different techniques. Combustion and Flame, 2015, 162, 1440-1447.	5.2	58
27	Kinetic Analysis of Thermite Reactions in Al-MoO3 Nanocomposites. Journal of Propulsion and Power, 2007, 23, 683-687.	2.2	56
28	Reaction Interface for Heterogeneous Oxidation of Aluminum Powders. Journal of Physical Chemistry C, 2013, 117, 14025-14031.	3.1	56
29	Combustion of boron particles in products of an airâ€"acetylene flame. Combustion and Flame, 2016, 172, 194-205.	5.2	52
30	Boron doped with iron: Preparation and combustion in air. Combustion and Flame, 2019, 200, 286-295.	5.2	51
31	Morphology and composition of the fly ash particles produced in incineration of municipal solid waste. Fuel Processing Technology, 2002, 75, 173-184.	7.2	50
32	Nanocomposite thermite powders prepared by cryomilling. Journal of Alloys and Compounds, 2009, 488, 386-391.	5.5	50
33	Oxidation of Aluminum Particles in the Presence of Water. Journal of Physical Chemistry B, 2009, 113, 5136-5140.	2.6	50
34	Reaction interface between aluminum and water. International Journal of Hydrogen Energy, 2013, 38, 11222-11232.	7.1	44
35	Iodine Release, Oxidation, and Ignition of Mechanically Alloyed Alâ^'I Composites. Journal of Physical Chemistry C, 2010, 114, 19653-19659.	3.1	43
36	Oxidation of Magnesium: Implication for Aging and Ignition. Journal of Physical Chemistry C, 2016, 120, 974-983.	3.1	43

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37	Mechanically alloyed Alâ€“I composite materials. Journal of Physics and Chemistry of Solids, 2010, 71, 1213-1220.	4.0	42
38	Inactivation of Aerosolized <i>Bacillus atrophaeus</i> (BG) Endospores and MS2 Viruses by Combustion of Reactive Materials. Environmental Science & Technology, 2012, 46, 7334-7341.	10.0	42
39	Oxidation, ignition, and combustion of AlÂ·I2 composite powders. Combustion and Flame, 2012, 159, 1980-1986.	5.2	41
40	Combustion of magnesium powders in products of an air/acetylene flame. Combustion and Flame, 2015, 162, 1316-1325.	5.2	40
41	Calorimetric investigation of the aluminumâ€“water reaction. International Journal of Hydrogen Energy, 2012, 37, 11035-11045.	7.1	39
42	Low-temperature exothermic reactions in fully dense Alâ€“CuO nanocomposite powders. Thermochimica Acta, 2012, 527, 52-58.	2.7	39
43	Aluminum particle ignition in different oxidizing environments. Combustion and Flame, 2010, 157, 1356-1363.	5.2	38
44	Reactions leading to ignition in fully dense nanocomposite Al-oxide systems. Combustion and Flame, 2011, 158, 1076-1083.	5.2	38
45	Combustion of Mechanically Alloyed Alâˆ™Mg Powders in Products of a Hydrocarbon Flame. Combustion Science and Technology, 2015, 187, 807-825.	2.3	37
46	Combustion Characteristics of Stoichiometric Al-CuO Nanocomposite Thermites Prepared by Different Methods. Combustion Science and Technology, 2017, 189, 555-574.	2.3	37
47	Aluminum-Metal Reactive Composites. Combustion Science and Technology, 2011, 183, 1107-1132.	2.3	35
48	Thermal Initiation of Al-MoO3 Nanocomposite Materials Prepared by Different Methods. Journal of Propulsion and Power, 2011, 27, 1079-1087.	2.2	35
49	Correlation of optical emission and pressure generated upon ignition of fully-dense nanocomposite thermite powders. Combustion and Flame, 2013, 160, 734-741.	5.2	34
50	Effect of temperature on synthesis and properties of aluminumâ€“magnesium mechanical alloys. Journal of Alloys and Compounds, 2005, 402, 70-77.	5.5	33
51	Method for Studying Survival of Airborne Viable Microorganisms in Combustion Environments: Development and Evaluation. Aerosol and Air Quality Research, 2010, 10, 414-424.	2.1	32
52	Ignition and combustion of boron-based AlÂ·BÂ·I2 and MgÂ·BÂ·I2 composites. Chemical Engineering Journal, 2016, 293, 112-117.	12.7	32
53	Effect of purity and surface modification on stability and oxidation kinetics of boron powders. Thermochimica Acta, 2017, 652, 17-23.	2.7	32
54	Metal-rich aluminumâ€“polytetrafluoroethylene reactive composite powders prepared by mechanical milling at different temperatures. Journal of Materials Science, 2017, 52, 7452-7465.	3.7	32

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55	Characteristics of Aluminum Combustion Obtained from Constant-Volume Explosion Experiments. Combustion Science and Technology, 2010, 182, 904-921.	2.3	31
56	Bismuth fluoride-coated boron powders as enhanced fuels. Combustion and Flame, 2020, 221, 1-10.	5.2	31
57	A multi-step reaction model for ignition of fully-dense Al-CuO nanocomposite powders. Combustion Theory and Modelling, 2012, 16, 1011-1028.	1.9	30
58	Effect of flow conditions on burn rates of metal particles. Combustion and Flame, 2016, 168, 10-19.	5.2	30
59	Bimetal Alâ€“Ni nano-powders for energetic formulations. Combustion and Flame, 2016, 173, 179-186.	5.2	30
60	Iodine-containing aluminum-based fuels for inactivation of bioaerosols. Combustion and Flame, 2014, 161, 303-310.	5.2	29
61	Reactive, Mechanically Alloyed AlÂ·Mg Powders with Customized Particle Sizes and Compositions. Journal of Propulsion and Power, 2014, 30, 96-104.	2.2	28
62	Thermal initiation of consolidated nanocomposite thermites. Combustion and Flame, 2011, 158, 1631-1637.	5.2	27
63	Hydrogen generation from ammonia borane and water through combustion reactions with mechanically alloyed AlÂ·Mg powder. Combustion and Flame, 2015, 162, 1498-1506.	5.2	27
64	Nanocomposite Thermites with Calcium Iodate Oxidizer. Propellants, Explosives, Pyrotechnics, 2017, 42, 284-292.	1.6	27
65	Low-Temperature Exothermic Reactions in Al/CuO Nanothermites Producing Copper Nanodots and Accelerating Combustion. ACS Applied Nano Materials, 2021, 4, 3811-3820.	5.0	26
66	Consolidation and mechanical properties of reactive nanocomposite powders. Powder Technology, 2011, 208, 637-642.	4.2	25
67	Pyrophoricity of nano-sized aluminum particles. Journal of Nanoparticle Research, 2012, 14, 1.	1.9	25
68	Initial stages of oxidation of aluminum powder in oxygen. Journal of Thermal Analysis and Calorimetry, 2016, 125, 129-141.	3.6	25
69	Model of heterogeneous combustion of small particles. Combustion and Flame, 2013, 160, 2982-2989.	5.2	24
70	Combustion of Boron and Boron-Containing Reactive Composites in Laminar and Turbulent Air Flows. Combustion Science and Technology, 2017, 189, 683-697.	2.3	24
71	Aluminum Powder Oxidation in CO₂ and Mixed CO₂/O₂ Environments. Journal of Physical Chemistry C, 2009, 113, 6768-6773.	3.1	23
72	Low-temperature exothermic reactions in fully-dense Al/MoO3 nanocomposite powders. Thermochimica Acta, 2014, 594, 1-10.	2.7	23

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73	On problems of isoconversion data processing for reactions in Al-rich Alâ€“MoO3 thermites. Thermochimica Acta, 2008, 477, 1-6.	2.7	22
74	Combustion of Energetic Porous Silicon Composites Containing Different Oxidizers. Propellants, Explosives, Pyrotechnics, 2016, 41, 179-188.	1.6	22
75	Nanocomposite thermite powders with improved flowability prepared by mechanical milling. Powder Technology, 2018, 327, 368-380.	4.2	22
76	Reactive Composite Boronâ€“Magnesium Powders Prepared byÂMechanical Milling. Journal of Propulsion and Power, 2018, 34, 787-794.	2.2	22
77	Boron-based reactive materials with high concentrations of iodine as a biocidal additive. Chemical Engineering Journal, 2017, 325, 495-501.	12.7	21
78	On Weak Effect of Particle Size on Its Burn Time for Micron-Sized Aluminum Powders. Combustion Science and Technology, 2012, 184, 1993-2007.	2.3	20
79	Ignition of Nanocomposite Thermites by Electric Spark and Shock Wave. Propellants, Explosives, Pyrotechnics, 2014, 39, 444-453.	1.6	20
80	Ignition of Titanium Powder Layers by Electrostatic Discharge. Combustion Science and Technology, 2011, 183, 823-845.	2.3	19
81	Effect of composition on properties of reactive AlÂ·BÂ·I2 powders prepared by mechanical milling. Journal of Physics and Chemistry of Solids, 2015, 83, 1-7.	4.0	19
82	Combustion of thermite mixtures based on mechanically alloyed aluminumâ€“iodine material. Combustion and Flame, 2016, 164, 164-166.	5.2	19
83	Biocidal effectiveness of combustion products of iodine-bearing reactive materials against aerosolized bacterial spores. Journal of Aerosol Science, 2018, 116, 106-115.	3.8	19
84	Heterogeneous reaction kinetics for oxidation and combustion of boron. Thermochimica Acta, 2019, 682, 178415.	2.7	19
85	Microspheres with Diverse Material Compositions Can be Prepared by Mechanical Milling. Advanced Engineering Materials, 2020, 22, 1901204.	3.5	19
86	Oxidation of Aluminum Particles in Mixed CO₂/H₂O Atmospheres. Journal of Physical Chemistry C, 2010, 114, 18925-18930.	3.1	18
87	Validation of the Thermal Oxidation Model for Al/CuO Nanocomposite Powder. Combustion Science and Technology, 2014, 186, 47-67.	2.3	18
88	Nanocomposite and mechanically alloyed reactive materials as energetic additives in chemical oxygen generators. Combustion and Flame, 2014, 161, 2708-2716.	5.2	18
89	Fuel-rich aluminumâ€“nickel fluoride reactive composites. Combustion and Flame, 2019, 210, 439-453.	5.2	18
90	Depression of melting point for protective aluminum oxide films. Chemical Physics Letters, 2015, 618, 63-65.	2.6	17

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91	Combustion of Aluminumâ€Metal Fluoride Reactive Composites in Different Environments. Propellants, Explosives, Pyrotechnics, 2019, 44, 1327-1336.	1.6	17
92	Effect of particle morphology on reactivity, ignition and combustion of boron powders. Fuel, 2022, 324, 124538.	6.4	17
93	Aluminumâ€“Iodoform Composite Reactive Material. Advanced Engineering Materials, 2014, 16, 909-917.	3.5	15
94	Ignition of Fully Dense Nanocomposite Thermite Powders by an Electric Spark. Journal of Propulsion and Power, 2014, 30, 765-774.	2.2	15
95	Modes of Ignition of Powder Layers of Nanocomposite Thermites by Electrostatic Discharge. Journal of Energetic Materials, 2017, 35, 29-43.	2.0	15
96	Combustion of Mg and composite MgÂ·S powders in different oxidizers. Combustion and Flame, 2018, 195, 292-302.	5.2	15
97	Reactive Shell Model for Boron Oxidation. Journal of Physical Chemistry C, 2019, 123, 11807-11813.	3.1	15
98	Preparation, Ignition, and Combustion of MgÂ·S Reactive Nanocomposites. Combustion Science and Technology, 2016, 188, 1345-1364.	2.3	14
99	Mechanically alloyed magnesiumâ€“boronâ€“iodine composite powders. Journal of Materials Science, 2016, 51, 3585-3591.	3.7	14
100	Aluminum-based materials for inactivation of aerosolized spores of <i>Bacillus anthracis</i> surrogates. Aerosol Science and Technology, 2017, 51, 224-234.	3.1	14
101	Composite Alâ`™Ti powders prepared by high-energy milling with different process controls agents. Advanced Powder Technology, 2019, 30, 1319-1328.	4.1	14
102	Transition Metal Catalysts for Boron Combustion. Combustion Science and Technology, 2021, 193, 1400-1424.	2.3	14
103	Reactive Liners Prepared Using Powders of Aluminum and Aluminum-Magnesium Alloys. Propellants, Explosives, Pyrotechnics, 2016, 41, 605-611.	1.6	13
104	Preparation, ignition, and combustion of magnesium-calcium iodate reactive nano-composite powders. Chemical Engineering Journal, 2019, 359, 955-962.	12.7	12
105	Rapid destruction of sarin surrogates by gas phase reactions with focus on diisopropyl methylphosphonate (DIMP). Defence Technology, 2021, 17, 703-714.	4.2	12
106	At what ambient temperature can thermal runaway of a burning metal particle occur?. Combustion and Flame, 2022, 236, 111800.	5.2	12
107	Energy storage materials with oxide-encapsulated inclusions of low melting metal. Acta Materialia, 2016, 107, 254-260.	7.9	11
108	High density reactive composite powders. Journal of Alloys and Compounds, 2018, 735, 1863-1870.	5.5	11

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109	Effect of process parameters on mechanochemical nitration of toluene. Journal of Materials Science, 2018, 53, 13690-13700.	3.7	11
110	Zirconium-boron reactive composite powders prepared by arrested reactive milling. Journal of Energetic Materials, 2020, 38, 142-161.	2.0	11
111	Effect of Purity, Surface Modification and Iron Coating on Ignition and Combustion of Boron in Air. Combustion Science and Technology, 2021, 193, 1567-1586.	2.3	11
112	Study of particle lifting mechanisms in an electrostatic discharge plasma. International Journal of Multiphase Flow, 2021, 137, 103564.	3.4	11
113	Atomic Scale Insights into the First Reaction Stages Prior to Al/CuO Nanothermite Ignition: Influence of Porosity. ACS Applied Materials & Interfaces, 2022, 14, 29451-29461.	8.0	11
114	Numerical Simulation of Mechanical Alloying in a Shaker Mill by Discrete Element Method. KONA Powder and Particle Journal, 2005, 23, 152-162.	1.7	10
115	PARTICLE COMBUSTION DYNAMICS OF METAL-BASED REACTIVE MATERIALS. International Journal of Energetic Materials and Chemical Propulsion, 2011, 10, 297-319.	0.3	10
116	Effect of surface tension on the temperature of burning metal droplets. Combustion and Flame, 2014, 161, 3263-3266.	5.2	10
117	Combustion of Mechanically Alloyed Aluminumâ€Magnesium Powders in Steam. Propellants, Explosives, Pyrotechnics, 2015, 40, 749-754.	1.6	10
118	Oxidation of differently prepared Al-Mg alloy powders in oxygen. Journal of Alloys and Compounds, 2016, 685, 402-410.	5.5	10
119	Electro-Static Discharge Ignition of Monolayers of Nanocomposite Thermite Powders Prepared by Arrested Reactive Milling. Combustion Science and Technology, 2015, 187, 1276-1294.	2.3	9
120	ON GAS RELEASE BY THERMALLY-INITIATED FULLY-DENSE 2AlÂ·3CuO NANOCOMPOSITE POWDER. International Journal of Energetic Materials and Chemical Propulsion, 2012, 11, 275-292.	0.3	9
121	Model of heating and ignition of conductive polydisperse powder in electrostatic discharge. Combustion Theory and Modelling, 2012, 16, 976-993.	1.9	8
122	Inactivation of aerosolized surrogates of Bacillus anthracis spores by combustion products of aluminum- and magnesium-based reactive materials: Effect of exposure time. Aerosol Science and Technology, 2018, 52, 579-587.	3.1	8
123	Mechanochemical Nitration of Aromatic Compounds. Journal of Energetic Materials, 2018, 36, 191-201.	2.0	8
124	Effect of milling temperature on structure and reactivity of Alâ€“Ni composites. Journal of Materials Science, 2018, 53, 1178-1190.	3.7	8
125	Displacement of powders from surface by shock and plasma generated by electrostatic discharge. Journal of Electrostatics, 2019, 100, 103353.	1.9	7
126	Mechanochemical nitration of toluene with metal oxide catalysts. Applied Catalysis A: General, 2020, 601, 117604.	4.3	6

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127	Combustion of Composites of Boron with Bismuth and Cobalt Fluorides in Different Environments. Combustion Science and Technology, 2021, 193, 1343-1358.	2.3	6
128	Ignition Mechanisms of Reactive Nanocomposite Powders Combining Al, B, and Si as Fuels with Metal Fluorides as Oxidizers. Combustion Science and Technology, 2023, 195, 597-618.	2.3	6
129	Nearly Pure Aluminum Powders with Modified Protective Surface. Combustion Science and Technology, 2013, 185, 1360-1377.	2.3	5
130	Kinetics of thermal decomposition of a synthetic Kâ€“H3O jarosite analog. Journal of Thermal Analysis and Calorimetry, 2014, 115, 609-620.	3.6	5
131	Combustion of a rapidly initiated fully dense nanocomposite Alâ€“CuO thermite powder. Combustion Theory and Modelling, 2019, 23, 651-673.	1.9	5
132	Preparation and Characterization of Silicon-Metal Fluoride Reactive Composites. Nanomaterials, 2020, 10, 2367.	4.1	5
133	Real time indicators of material refinement in an attritor mill. AICHE Journal, 2013, 59, 1088-1095.	3.6	4
134	The Effect of Heating Rate on Combustion of Fully Dense Nanocomposite Thermite Particles. Combustion Science and Technology, 0, , 1-19.	2.3	4
135	Fast energy release from reactive materials under shock compression. Applied Physics Letters, 2021, 118, 101902.	3.3	4
136	Boron-Rich Composite Thermite Powders with Binary Bi₂O₃Â·CuO Oxidizers. Energy & Fuels, 2021, 35, 10327-10338.	5.1	4
137	Reactive Materials for Evaporating Samarium. Propellants, Explosives, Pyrotechnics, 2016, 41, 926-935.	1.6	3
138	Iodine Release by Combustion of Composite Mgâˆ™Ca(IO3)2 Powder. Combustion Science and Technology, 2021, 193, 1042-1054.	2.3	3
139	OXIDATION, IGNITION AND COMBUSTION OF AL-HYDROCARBON COMPOSITE REACTIVE POWDERS. International Journal of Energetic Materials and Chemical Propulsion, 2012, 11, 353-373.	0.3	3
140	Evaluation of Kâ€“H3O jarosite as thermal witness material. Journal of Thermal Analysis and Calorimetry, 2014, 117, 141-149.	3.6	1
141	Combustion of Magnesium-Sulfur Composite Particles Ignited by Different Stimuli. Propellants, Explosives, Pyrotechnics, 2018, 43, 1178-1183.	1.6	1
142	Effect of metal nitrate on mechanochemical nitration of toluene. Reaction Chemistry and Engineering, 2021, 6, 2050-2057.	3.7	1