Thomas E Graedel

List of Publications by Year
in descending order

272 papers	21,123 citations	6254 80 h-index	11607 135 g-index
288 all docs	288 docs citations	288 times ranked	12851 citing authors

#	Article	IF	Citations
1	Tracking the material cycle of Italian bricks with the aid of building information modeling. Journal of Industrial Ecology, 2022, 26, 609-626.	5.5	4
2	Alloy information helps prioritize material criticality lists. Nature Communications, 2022, 13, 150.	12.8	30
3	U.S. Cobalt: A Cycle of Diverse and Important Uses. Resources, Conservation and Recycling, 2022, 184, 106441.	10.8	11
4	Alloy Profusion, Spice Metals, and Resource Loss by Design. Sustainability, 2022, 14, 7535.	3.2	7
5	The role of design in circular economy solutions for critical materials. One Earth, 2021, 4, 353-362.	6.8	57
6	United States plastics: Large flows, short lifetimes, and negligible recycling. Resources, Conservation and Recycling, 2021, 167, 105440.	10.8	84
7	Uncertain Future of American Lithium: A Perspective until 2050. Environmental Science & Technology, 2021, 55, 16184-16194.	10.0	19
8	The rise and fall of American lithium. Resources, Conservation and Recycling, 2020, 162, 105034.	10.8	26
9	Buildings as a global carbon sink. Nature Sustainability, 2020, 3, 269-276.	23.7	419
10	The Hawaiian Islands: Conceptualizing an Industrial Ecology Holarchic System. Sustainability, 2020, 12, 3104.	3.2	7
11	Refining the understanding of China's tungsten dominance with dynamic material cycle analysis. Resources, Conservation and Recycling, 2020, 158, 104829.	10.8	37
12	Exploring future copper demand, recycling and associated greenhouse gas emissions in the EU-28. Global Environmental Change, 2020, 63, 102093.	7.8	56
13	YSTAFDB, a unified database of material stocks and flows for sustainability science. Scientific Data, 2019, 6, 84.	5.3	17
14	Material Flow Analysis from Origin to Evolution. Environmental Science & Technology, 2019, 53, 12188-12196.	10.0	134
15	On the Spatial Dimension of the Circular Economy. Resources, 2019, 8, 32.	3.5	25
16	Impact of the establishment of US offshore wind power on neodymium flows. Nature Sustainability, 2019, 2, 332-338.	23.7	74
17	Comparative analysis of metals use in the United States economy. Resources, Conservation and Recycling, 2019, 145, 448-456.	10.8	13
18	Unified Materials Information System (UMIS): An Integrated Material Stocks and Flows Data Structure. Journal of Industrial Ecology, 2019, 23, 222-240.	5.5	15

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19	Defining the Criticality of Materials. World Scientific Series in Current Energy Issues, 2019, , 103-115.	0.1	0
20	Resource Demand Scenarios for the Major Metals. Environmental Science & Technology, 2018, 52, 2491-2497.	10.0	169
21	Global Human Appropriation of Net Primary Production and Associated Resource Decoupling: 2010â€“2050. Environmental Science & Technology, 2018, 52, 1208-1215.	10.0	25
22	Analyzing critical material demand: A revised approach. Science of the Total Environment, 2018, 630, 1143-1148.	8.0	15
23	Grand Challenges in Metal Life Cycles. Natural Resources Research, 2018, 27, 181-190.	4.7	19
24	Implications of Emerging Vehicle Technologies on Rare Earth Supply and Demand in the United States. Resources, 2018, 7, 9.	3.5	60
25	Toward Financially Viable Phytoextraction and Production of Plant-Based Palladium Catalysts. Environmental Science & Technology, 2017, 51, 2992-3000.	10.0	38
26	Quantifying the potential for recoverable resources of gallium, germanium and antimony as companion metals in Australia. Ore Geology Reviews, 2017, 82, 148-159.	2.7	19
27	How â€œblack swanâ€•disruptions impact minor metals. Resources Policy, 2017, 54, 88-96.	9.6	23
28	Assessing the Reliability of Material Flow Analysis Results: The Cases of Rhenium, Gallium, and Germanium in the United States Economy. Environmental Science & Technology, 2017, 51, 11839-11847.	10.0	15
29	Anthropogenic nickel supply, demand, and associated energy and water use. Resources, Conservation and Recycling, 2017, 125, 300-307.	10.8	76
30	Criticality in Bulk Metallic Glass Constituent Elements. Jom, 2017, 69, 2156-2163.	1.9	6
31	Should we mine the deep seafloor?. Earth's Future, 2017, 5, 655-658.	6.3	21
32	Metal Criticality Determination for Australia, the US, and the Planetâ€"Comparing 2008 and 2012 Results. Resources, 2016, 5, 29.	3.5	21
33	Six Years of Criticality Assessments: What Have We Learned So Far?. Journal of Industrial Ecology, 2016, 20, 692-699.	5.5	103
34	Criticality of Seven Specialty Metals. Journal of Industrial Ecology, 2016, 20, 837-853.	5.5	33
35	Structural Investigation of Aluminum in the U.S. Economy using Network Analysis. Environmental Science & Technology, 2016, 50, 4091-4101.	10.0	37
36	Building the Material Flow Networks of Aluminum in the 2007 U.S. Economy. Environmental Science & Technology, 2016, 50, 3905-3912.	10.0	44

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37	Metal Dissipation and Inefficient Recycling Intensify Climate Forcing. Environmental Science & Technology, 2016, 50, 11394-11402.	10.0	51
38	Copper demand, supply, and associated energy use to 2050. Global Environmental Change, 2016, 39, 305-315.	7.8	272
39	Mapping supply chain risk by network analysis of product platforms. Sustainable Materials and Technologies, 2016, 10, 14-22.	3.3	39
40	A half-century of global phosphorus flows, stocks, production, consumption, recycling, and environmental impacts. Global Environmental Change, 2016, 36, 139-152.	7.8	202
41	Deriving the Metal and Alloy Networks of Modern Technology. Environmental Science & Technology, 2016, 50, 4082-4090.	10.0	46
42	Industrial Ecologyâ€™s First Decade. , 2016, , 3-20.		15
43	Criticality of the Geological Zinc, Tin, and Lead Family. Journal of Industrial Ecology, 2015, 19, 628-644.	5.5	66
44	Industrial Ecology. , 2015, , 843-853.		6
45	In-use product stocks link manufactured capital to natural capital. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6265-6270.	7.1	131
46	Industrial Ecology: The role of manufactured capital in sustainability. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6260-6264.	7.1	98
47	The criticality of four nuclear energy metals. Resources, Conservation and Recycling, 2015, 95, 193-201.	10.8	37
48	The potential for mining trace elements from phosphate rock. Journal of Cleaner Production, 2015, 91, 337-346.	9.3	90
49	Lost by Design. Environmental Science & Technology, 2015, 49, 9443-9451.	10.0	159
50	Improved Alternatives for Estimating In-Use Material Stocks. Environmental Science & Technology, 2015, 49, 3048-3055.	10.0	31
51	Criticality of the Rare Earth Elements. Journal of Industrial Ecology, 2015, 19, 1044-1054.	5.5	165
52	By-product metals are technologically essential but have problematic supply. Science Advances, 2015, 1, e1400180.	10.3	229
53	Criticality of metals and metalloids. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4257-4262.	7.1	505
54	Solar cell metals and their hosts: A tale of oversupply and undersupply. Applied Energy, 2015, 158, 167-177.	10.1	59

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55	The criticality of metals: a perspective for geologists. Geological Society Special Publication, 2015, 393, 291-302.	1.3	13
56	On the materials basis of modern society. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6295-6300.	7.1	346
57	Quantifying the Recoverable Resources of Companion Metals: A Preliminary Study of Australian Mineral Resources. Resources, 2014, 3, 657-671.	3.5	13
58	Recycling in Context. , 2014, , 17-26.		4
59	Phytoextraction as a tool for green chemistry. Green Processing and Synthesis, 2014, 3, .	3.4	17
60	Employing Considerations of Criticality in Product Design. Jom, 2014, 66, 2360-2366.	1.9	30
61	Dysprosium, the balance problem, and wind power technology. Applied Energy, 2014, 136, 548-559.	10.1	84
62	Sustainability for the Nation: Resource Connections and Governance Linkages. Environmental Science & Technology, 2014, 48, 7197-7199.	10.0	2
63	Criticality of Iron and Its Principal Alloying Elements. Environmental Science & Technology, 2014, 48, 4171-4177.	10.0	87
64	Life cycle carbon benefits of aerospace alloy recycling. Journal of Cleaner Production, 2014, 80, 38-45.	9.3	46
65	Quantifying the recoverable resources of by-product metals: The case of cobalt. Ore Geology Reviews, 2013, 55, 87-98.	2.7	130
66	Dynamic analysis of the global metals flows and stocks in electricity generation technologies. Journal of Cleaner Production, 2013, 59, 260-273.	9.3	176
67	Global anthropogenic selenium cycles for 1940â€“2010. Resources, Conservation and Recycling, 2013, 73, 17-22.	10.8	45
68	Uncovering the end uses of the rare earth elements. Science of the Total Environment, 2013, 461-462, 781-784.	8.0	114
69	The omnivorous diet of modern technology. Resources, Conservation and Recycling, 2013, 74, 1-7.	10.8	89
70	Global anthropogenic tellurium cycles for 1940â€“2010. Resources, Conservation and Recycling, 2013, 76, 21-26.	10.8	53
71	Will metal scarcity impede routine industrial use?. MRS Bulletin, 2012, 37, 325-331.	3.5	47
72	Criticality of the Geological Copper Family. Environmental Science & Technology, 2012, 46, 1071-1078.	10.0	142

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73	Challenges in Metal Recycling. Science, 2012, 337, 690-695.	12.6	569
74	Tracking the Metal of the Goblins: Cobaltâ€™s Cycle of Use. Environmental Science & Technology, 2012, 46, 1079-1086.	10.0	95
75	Anthropogenic Cycles of the Elements: A Critical Review. Environmental Science & Technology, 2012, 46, 8574-8586.	10.0	207
76	Dynamic analysis of aluminum stocks and flows in the United States: 1900â€"2009. Ecological Economics, 2012, 81, 92-102.	5.7	115
77	Methodology of Metal Criticality Determination. Environmental Science & Technology, 2012, 46, 1063-1070.	10.0	444
78	Exploring the Global Journey of Nickel with Markov Chain Models. Journal of Industrial Ecology, 2012, 16, 334-342.	5.5	42
79	Uncovering the Global Life Cycles of the Rare Earth Elements. Scientific Reports, 2011, 1, 145.	3.3	97
80	Criticality of Non-Fuel Minerals: A Review of Major Approaches and Analyses. Environmental Science & Technology, 2011, 45, 7620-7630.	10.0	309
81	Global In-Use Stocks of the Rare Earth Elements: A First Estimate. Environmental Science & Technology, 2011, 45, 4096-4101.	10.0	342
82	What Do We Know About Metal Recycling Rates?. Journal of Industrial Ecology, 2011, 15, 355-366.	5.5	476
83	Global Rare Earth In-Use Stocks in NdFeB Permanent Magnets. Journal of Industrial Ecology, 2011, 15, 836-843.	5.5	179
84	Regional development or resource preservation? A perspective from Japanese appliance exports. Ecological Economics, 2011, 70, 788-797.	5.7	23
85	On the Future Availability of the Energy Metals. Annual Review of Materials Research, 2011, 41, 323-335.	9.3	135
86	Aluminum in-use stocks in China: a bottom-up study. Journal of Material Cycles and Waste Management, 2010, 12, 66-82.	3.0	27
87	Metal spectra as indicators of development. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20905-20910.	7.1	78
88	Global Stainless Steel Cycle Exemplifies Chinaâ€™s Rise to Metal Dominance. Environmental Science & Technology, 2010, 44, 3940-3946.	10.0	66
89	Lead Inâ€Use Stock. Journal of Industrial Ecology, 2009, 13, 112-126.	5.5	45
90	Losses to the environment from the multilevel cycle of anthropogenic lead. Environmental Pollution, 2009, 157, 2670-2677.	7.5	35

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91	Anthropogenic metal cycles in China. Journal of Material Cycles and Waste Management, 2008, 10, 188-197.	3.0	33
92	The multilevel cycle of anthropogenic lead. Resources, Conservation and Recycling, 2008, 52, 1058-1064.	10.8	44
93	The multilevel cycle of anthropogenic lead. Resources, Conservation and Recycling, 2008, 52, 1050-1057.	10.8	64
94	Aluminium in-use stocks in the state of Connecticut. Resources, Conservation and Recycling, 2008, 52, 1271-1282.	10.8	47
95	The energy benefit of stainless steel recycling. Energy Policy, 2008, 36, 181-192.	8.8	143
96	Multilevel Anthropogenic Cycles of Copper and Zinc: A Comparative Statistical Analysis. Journal of Industrial Ecology, 2008, 10, 89-110.	5.5	9
97	Explanatory Variables for per Capita Stocks and Flows of Copper and Zinc. Journal of Industrial Ecology, 2008, 10, 111-132.	5.5	26
98	The â€œHiddenâ€•Trade of Metals in the United States. Journal of Industrial Ecology, 2008, 12, 739-753.	5.5	21
99	Anthropogenic Nickel Cycle: Insights into Use, Trade, and Recycling. Environmental Science & Technology, 2008, 42, 3394-3400.	10.0	199
100	In-Use Stocks of Metals: Status and Implications. Environmental Science & Technology, 2008, 42, 7038-7045.	10.0	186
101	Illuminating Tungstenâ€™s Life Cycle in the United States: 1975â€"2000. Environmental Science & Technology, 2008, 42, 3835-3842.	10.0	28
102	Dining at the Periodic Table:Â Metals Concentrations as They Relate to Recycling. Environmental Science & Technology, 2007, 41, 1759-1765.	10.0	119
103	Forging the Anthropogenic Iron Cycle. Environmental Science & Technology, 2007, 41, 5120-5129.	10.0	251
104	Silver Emissions and their Environmental Impacts:â€‰ A Multilevel Assessment. Environmental Science & Technology, 2007, 41, 6283-6289.	10.0	142
105	Earth's anthrobiogeochemical copper cycle. Global Biogeochemical Cycles, 2007, 21, n/a-n/a.	4.9	41
106	Metal capital sustaining a North American city: Iron and copper in New Haven, CT. Resources, Conservation and Recycling, 2007, 49, 406-420.	10.8	39
107	â€œBottomâ€"upâ€•study of in-use nickel stocks in New Haven, CT. Resources, Conservation and Recycling, 2007, 50, 58-70.	10.8	31
108	On the sustainability of metal supplies: A response to Tilton and Lagos. Resources Policy, 2007, 32, 24-28.	9.6	52

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109	Spatial characterisation of multi-level in-use copper and zinc stocks in Australia. Journal of Cleaner Production, 2007, 15, 849-861.	9.3	79
110	Copper and zinc recycling in Australia: potential quantities and policy options. Journal of Cleaner Production, 2007, 15, 862-877.	9.3	26
111	Metal stocks and sustainability. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 1209-1214.	7.1	499
112	Copper Mines Above and Below the Ground. Environmental Science & Technology, 2006, 40, 3135-3141.	10.0	73
113	The Contemporary Anthropogenic Chromium Cycle. Environmental Science & Technology, 2006, 40, 7060-7069.	10.0	191
114	THE CONTEMPORARY MATERIALS CYCLE FOR RADIOACTIVE 137CS IN THE UNITED STATES. Health Physics, 2006, 90, 521-532.	0.5	4
115	The contemporary European silver cycle. Resources, Conservation and Recycling, 2006, 46, 27-43.	10.8	39
116	The contemporary Latin America and the Caribbean zinc cycle: One year stocks and flows. Resources, Conservation and Recycling, 2006, 47, 82-100.	10.8	13
117	Quantitative guidelines for urban sustainability. Technology in Society, 2006, 28, 45-61.	9.4	36
118	Case studies in quantitative urban sustainability. Technology in Society, 2006, 28, 105-123.	9.4	7
119	Technological Use Histories for Solder Metals. , 2006, , .		2
120	Exploring the engine of anthropogenic iron cycles. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 16111-16116.	7.1	226
121	Making Metals Count: Applications of Material Flow Analysis. Environmental Engineering Science, 2006, 23, 493-506.	1.6	22
122	The Multilevel Cycle of Anthropogenic Zinc. Journal of Industrial Ecology, 2005, 9, 67-90.	5.5	107
123	Exploratory Data Analysis of the Multilevel Anthropogenic Zinc Cycle. Journal of Industrial Ecology, 2005, 9, 91-108.	5.5	8
124	Twentieth century copper stocks and flows in North America: A dynamic analysis. Ecological Economics, 2005, 54, 37-51.	5.7	178
125	The contemporary Asian silver cycle: 1-year stocks and flows. Journal of Material Cycles and Waste Management, 2005, 7, 93-103.	3.0	18
126	Contemporary Anthropogenic Silver Cycle:Â A Multilevel Analysis. Environmental Science & Technology, 2005, 39, 4655-4665.	10.0	104

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127	Industrial Ecology. , 2004, , 373-382.		4
128	ELEMENTAL CYCLES: A Status Report on Human or Natural Dominance. Annual Review of Environment and Resources, 2004, 29, 69-107.	13.4	130
129	The contemporary Oceania zinc cycle: one-year stocks and flows. Journal of Material Cycles and Waste Management, 2004, 6, 125.	3.0	6
130	Industrial ecology: a teenagerâ€™s progress. Technology in Society, 2004, 26, 433-445.	9.4	43
131	Where is all the zinc going: The stocks and flows project, Part 2. Jom, 2004, 56, 24-29.	1.9	15
132	The contemporary Latin American and Caribbean copper cycle: 1 year stocks and flows. Resources, Conservation and Recycling, 2004, 41, 23-46.	10.8	35
133	Multilevel Cycle of Anthropogenic Copper. Environmental Science & Technology, 2004, 38, 1242-1252.	10.0	248
134	Exploratory Data Analysis of the Multilevel Anthropogenic Copper Cycle. Environmental Science & Technology, 2004, 38, 1253-1261.	10.0	44
135	The copper cycles of European countries. Regional Environmental Change, 2003, 3, 119-127.	2.9	10
136	The contemporary copper cycle of Asia. Journal of Material Cycles and Waste Management, 2003, 5, 143-156.	3.0	34
137	The contemporary European zinc cycle: 1-year stocks and flows. Resources, Conservation and Recycling, 2003, 39, 137-160.	10.8	57
138	The characterization of technological zinc cycles. Resources, Conservation and Recycling, 2003, 39, 107-135.	10.8	79
139	Research Issues in Sustainable Consumption:Â Toward an Analytical Framework for Materials and the Environment. Environmental Science & Technology, 2003, 37, 5383-5388.	10.0	26
140	Greening the Service Industries. Service Industries Journal, 2003, 23, 48-64.	8.3	7
141	Getting Serious about Sustainability. Environmental Science & Technology, 2002, 36, 523-529.	10.0	79
142	Quantitative sustainability in a college or university setting. International Journal of Sustainability in Higher Education, 2002, 3, 346-358.	3.1	24
143	The contemporary European copper cycle: waste management subsystem. Ecological Economics, 2002, 42, 43-57.	5.7	156
144	The contemporary European copper cycle: The characterization of technological copper cycles. Ecological Economics, 2002, 42, 9-26.	5.7	116

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145	The contemporary European copper cycle: statistical entropy analysis. Ecological Economics, 2002, 42, 59-72.	5.7	90
146	The contemporary European copper cycle: 1 year stocks and flows. Ecological Economics, 2002, 42, 27-42.	5.7	110
147	Life cycle and matrix analyses for re-refined Oil in Japan. International Journal of Life Cycle Assessment, 2002, 7, 95-102.	4.7	10
148	Improving the overall environmental performance of existing telecommunications facilities. International Journal of Life Cycle Assessment, 2002, 7, 219-224.	4.7	14
149	Where has all the copper gone: The stocks and flows project, part 1. Jom, 2002, 54, 21-26.	1.9	49
150	Material substitution: a resource supply perspective. Resources, Conservation and Recycling, 2002, 34, 107-115.	10.8	21
151	Hierarchical metrics for sustainability. Environmental Quality Management, 2002, 12, 21-30.	1.9	30
152	Industrial Ecosystems as Food Webs. Journal of Industrial Ecology, 2002, 6, 29-38.	5.5	120
153	Improving the overall environmental performance of existing power generating facilities. IEEE Transactions on Energy Conversion, 2001, 16, 234-238.	5.2	2
154	Green chemistry as systems science. Pure and Applied Chemistry, 2001, 73, 1243-1246.	1.9	16
155	Mechanisms for the Atmospheric Corrosion of Carbonate Stone. Journal of the Electrochemical Society, 2000, 147, 1006.	2.9	25
156	Corrosion Mechanisms for Nickel Exposed to the Atmosphere. Journal of the Electrochemical Society, 2000, 147, 1010.	2.9	55
157	Peer Reviewed: The Evolution of Industrial Ecology. Environmental Science & Technology, 2000, 34, 28A-31A.	10.0	29
158	â€œConditioned Airâ€•â€‰ Evaluating an Environmentally Preferable Service. Environmental Science & Technology, 2000, 34, 541-545.	10.0	18
159	Composite global emissions of reactive chlorine from anthropogenic and natural sources: Reactive Chlorine Emissions Inventory. Journal of Geophysical Research, 1999, 104, 8429-8440.	3.3	311
160	Global emissions of hydrogen chloride and chloromethane from coal combustion, incineration and industrial activities: Reactive Chlorine Emissions Inventory. Journal of Geophysical Research, 1999, 104, 8391-8403.	3.3	162
161	Preface [to special section on Reactive Chlorine Emissions Inventory (RCEI)]. Journal of Geophysical Research, 1999, 104, 8331-8332.	3.3	18
162	Anthropogenic emissions of trichloromethane (chloroform, CHCl3) and chlorodifluoromethane (HCFC-22): Reactive Chlorine Emissions Inventory. Journal of Geophysical Research, 1999, 104, 8405-8415.	3.3	68

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163	Response to Comments by Paul P. Craig. Journal of Industrial Ecology, 1998, 2, 31-33.	5.5	2
164	Life-Cycle Assessment in the Service Industries. Journal of Industrial Ecology, 1997, 1, 57-70.	5.5	40
165	Global gridded inventories of anthropogenic emissions of sulfur and nitrogen. Journal of Geophysical Research, 1996, 101, 29239-29253.	3.3	472
166	Gildes model studies of aqueous chemistry. I. Formulation and potential applications of the multi-regime model. Corrosion Science, 1996, 38, 2153-2180.	6.6	65
167	Gildes model studies of aqueous chemistry. II. The corrosion of zinc in gaseous exposure chambers. Corrosion Science, 1996, 38, 2181-2199.	6.6	36
168	Gildes model studies of aqueous chemistry. III. Initial SO2-induced atmospheric corrosion of copper. Corrosion Science, 1996, 38, 2201-2224.	6.6	41
169	ON THE CONCEPT OF INDUSTRIAL ECOLOGY. Annual Review of Environment and Resources, 1996, 21, 69-98.	1.2	213
170	The Budget and Cycle of Earth's Natural Chlorine. Pure and Applied Chemistry, 1996, 68, 1689-1697.	1.9	90
171	Global emissions inventories of acid-related compounds. Water, Air, and Soil Pollution, 1995, 85, 25-36.	2.4	28
172	Tropospheric budget of reactive chlorine. Global Biogeochemical Cycles, 1995, 9, 47-77.	4.9	277
173	Matrix Approaches to Abridged Life Cycle Assessment. Environmental Science & Technology, 1995, 29, 134A-139A.	10.0	126
174	Green Product Design. At&T Technical Journal, 1995, 74, 17-25.	0.3	26
175	Global emissions inventories to aid atmospheric modelers. Eos, 1994, 75, 585.	0.1	11
176	Global Emissions and Models of Photochemically Active Compounds. , 1994, , 223-247.		63
177	A compilation of inventories of emissions to the atmosphere. Global Biogeochemical Cycles, 1993, 7, 1-26.	4.9	115
178	The Kuwait Environment and Its Effects on Electronic Materials and Components. Journal of the Electrochemical Society, 1992, 139, 2058-2066.	2.9	9
179	Industrial ecology: concepts and approaches.. Proceedings of the National Academy of Sciences of the United States of America, 1992, 89, 793-797.	7.1	272
180	Corrosion Mechanisms for Silver Exposed to the Atmosphere. Journal of the Electrochemical Society, 1992, 139, 1963-1970.	2.9	296

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181	Early solar mass loss: A potential solution to the weak sun paradox. Geophysical Research Letters, 1991, 18, 1881-1884.	4.0	33
182	Genetic activity profiles in the testing and evaluation of chemical mixtures. Teratogenesis, Carcinogenesis, and Mutagenesis, 1990, 10, 147-164.	0.8	6
183	Chemical insights into the interactions of the atmosphere with metals. Marine Chemistry, 1990, 30, 123-146.	2.3	5
184	The Impact of Environmental Issues on Materials and Processes. At&T Technical Journal, 1990, 69, 129-140.	0.3	6
185	Corrosion Mechanisms for Iron and Low Alloy Steels Exposed to the Atmosphere. Journal of the Electrochemical Society, 1990, 137, 2385-2394.	2.9	131
186	Regional and GlobalImpactson theBiosphere. Environment, 1989, 31, 8-41.	1.4	5
187	Corrosion Mechanisms for Zinc Exposed to the Atmosphere. Journal of the Electrochemical Society, 1989, 136, 193C-203C.	2.9	252
188	Regional and global impacts on the biosphere. IEEE Power Engineering Review, 1989, 9, 10-14.	0.1	0
189	Corrosion Mechanisms for Aluminum Exposed to the Atmosphere. Journal of the Electrochemical Society, 1989, 136, 204C-212C.	2.9	147
190	Atmospheric formic acid from formicine ants: a preliminary assessment. Tellus, Series B: Chemical and Physical Meteorology, 1988, 40B, 335-339.	1.6	47
191	Statistical analysis of Salmonella test data and comparison to results of animal cancer tests. Mutation Research - Genetic Toxicology Testing and Biomonitoring of Environmental Or Occupational Exposure, 1988, 205, 183-195.	1.2	47
192	Panel 4: Chemistry at the air-sea interface. Applied Geochemistry, 1988, 3, 37-48.	3.0	2
193	On the Involvement of â€‰Hâ€‰2â€‰Oâ€‰2 and â€‰SOâ€‰2 in the Atmospheric Corrosion of Steel. Journal of the Electrochemical Society, 1988, 135, 1035-1036.	2.9	5
194	The Stability of Metals in the Atmosphere: New Chemical Insights to Old Problems. Materials Research Society Symposia Proceedings, 1988, 125, 95.	0.1	3
195	Microstructure and behavior of laser-mixed Cr/Ni films on Cu alloys. Journal of Materials Research, 1987, 2, 35-45.	2.6	3
196	The Atmospheric Sulfidation of Copper Single Crystals. Journal of the Electrochemical Society, 1987, 134, 1632-1635.	2.9	28
197	Copper patinas formed in the atmosphereâ€"I. Introduction. Corrosion Science, 1987, 27, 639-657.	6.6	207
198	The characterization of patina components by X-ray diffraction and evolved gas analysis. Corrosion Science, 1987, 27, 669-684.	6.6	86

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200	Copper patinas formed in the atmosphereâ€"II. A qualitative assessment of mechanisms. Corrosion Science, 1987, 27, 721-740.	6.6	136
201	Copper patinas formed in the atmosphereâ€"III. A semi-quantitative assessment of rates and constraints in the greater New York metropolitan area. Corrosion Science, 1987, 27, 741-769.	6.6	59
202	The Nitrogen Chemistry in Interstellar Clouds. Symposium - International Astronomical Union, 1987, 120, 305-310.	0.1	0
203	The Nitrogen Chemistry in Interstellar Clouds. , 1987, , 305-310.		3
204	Degradation of materials in the atmosphere. Environmental Science & Technology, 1986, 20, 1093-1100.	10.0	65
205	Speciation, photosensitivity, and reactions of transition metal ions in atmospheric droplets. Journal of Geophysical Research, 1986, 91, 5189-5204.	3.3	146
206	Kinetic model studies of atmospheric droplet chemistry: 2. Homogeneous transition metal chemistry in raindrops. Journal of Geophysical Research, 1986, 91, 5205-5221.	3.3	223
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