

Akira Yamaguchi

List of Publications by Year in descending order

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122
papers

2,468
citations

218677

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h-index

254184

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123
all docs

123
docs citations

123
times ranked

2770
citing authors

#	ARTICLE	IF	CITATIONS
1	Photocatalytic uphill conversion of natural gas beyond the limitation of thermal reaction systems. <i>Nature Catalysis</i> , 2020, 3, 148-153.	34.4	194
2	Regulating proton-coupled electron transfer for efficient water splitting by manganese oxides at neutral pH. <i>Nature Communications</i> , 2014, 5, 4256.	12.8	151
3	Photocatalytic reduction of CO ₂ on Cu ₂ O-loaded Zn-Cr layered double hydroxides. <i>Applied Catalysis B: Environmental</i> , 2018, 224, 783-790.	20.2	129
4	Electrochemical CO ₂ Reduction by Ni-containing Iron Sulfides: How Is CO ₂ Electrochemically Reduced at Bisulfide-Bearing Deep-sea Hydrothermal Precipitates?. <i>Electrochimica Acta</i> , 2014, 141, 311-318.	5.2	100
5	Selective electro- or photo-reduction of carbon dioxide to formic acid using a Cu-Zn alloy catalyst. <i>Journal of Materials Chemistry A</i> , 2017, 5, 12113-12119.	10.3	92
6	Photoinduced hydrogen release from hydrogen boride sheets. <i>Nature Communications</i> , 2019, 10, 4880.	12.8	63
7	Tuning the intermediate reaction barriers by a CuPd catalyst to improve the selectivity of CO ₂ electroreduction to C ₂ products. <i>Chinese Journal of Catalysis</i> , 2021, 42, 1500-1508.	14.0	56
8	Synthesis of Al ₂ O ₃ platelets using sodium sulfate flux. <i>Journal of Materials Research</i> , 1999, 14, 4667-4672.	2.6	55
9	Evidence that Crystal Facet Orientation Dictates Oxygen Evolution Intermediates on Rutile Manganese Oxide. <i>Advanced Functional Materials</i> , 2018, 28, 1706319.	14.9	50
10	Visible-light-driven dry reforming of methane using a semiconductor-supported catalyst. <i>Chemical Communications</i> , 2020, 56, 4611-4614.	4.1	46
11	Oxidation Protection of MgO-C Refractories by Means of Al ₈ B ₄ C ₇ . <i>Journal of the American Ceramic Society</i> , 2001, 84, 577-582.	3.8	45
12	Recent advances in the utilization of copper sulfide compounds for electrochemical CO ₂ reduction. <i>Nano Materials Science</i> , 2020, 2, 235-247.	8.8	45
13	Synthesis and Some Properties of Al ₄ SiC ₄ . <i>Journal of the Ceramic Society of Japan</i> , 1995, 103, 20-24.	1.3	41
14	Effect of Refractory Oxides on the Oxidation of Graphite and Amorphous Carbon. <i>Journal of the American Ceramic Society</i> , 1996, 79, 2509-2511.	3.8	41
15	Geoelectrochemical CO production: Implications for the autotrophic origin of life. <i>Science Advances</i> , 2018, 4, eaao7265.	10.3	41
16	Legitimate intermediates of oxygen evolution on iridium oxide revealed by in situ electrochemical evanescent wave spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 15199-15204.	2.8	40
17	Element strategy of oxygen evolution electrocatalysis based on in situ spectroelectrochemistry. <i>Chemical Communications</i> , 2017, 53, 7149-7161.	4.1	40
18	Molybdenum Sulfide: A Bioinspired Electrocatalyst for Dissimilatory Ammonia Synthesis with Geoelectrical Current. <i>Journal of Physical Chemistry C</i> , 2017, 121, 2154-2164.	3.1	40

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19	Efficiency of Oxygen Evolution on Iridium Oxide Determined from the pH Dependence of Charge Accumulation. <i>Journal of Physical Chemistry C</i> , 2017, 121, 17873-17881.	3.1	40
20	Strontium Titanate Based Artificial Leaf Loaded with Reduction and Oxidation Cocatalysts for Selective CO ₂ Reduction Using Water as an Electron Donor. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 20613-20619.	8.0	36
21	Photocatalytic CO ₂ Reduction Using a Pristine Cu ₂ ZnSnS ₄ Film Electrode under Visible Light Irradiation. <i>Journal of Physical Chemistry C</i> , 2018, 122, 21695-21702.	3.1	35
22	Hydration Resistances and Reactions with CO of Al ₄ O ₄ C and Al ₂ OC Formed in Carbon-Containing Refractories with Al. <i>Journal of the Ceramic Society of Japan</i> , 1996, 104, 393-398.	1.3	34
23	Thermal Conductivity and Temperature Dependence of Linear Thermal Expansion Coefficient of Al ₄ SiC ₄ Sintered Bodies Prepared by Pulse Electronic Current Sintering. <i>Journal of the Ceramic Society of Japan</i> , 2003, 111, 348-351.	1.3	33
24	Temperature dependence on bandgap of semiconductor photocatalysts. <i>Journal of Chemical Physics</i> , 2020, 152, 231101.	3.0	30
25	Effect of Al ₄ SiC ₄ Addition to Carbon-Containing Refractories. <i>Journal of the Ceramic Society of Japan</i> , 1995, 103, 235-239.	1.3	29
26	Inactivation of various variant types of SARS-CoV-2 by indoor-light-sensitive TiO ₂ -based photocatalyst. <i>Scientific Reports</i> , 2022, 12, 5804.	3.3	29
27	A Cu-Zn nanoparticle promoter for selective carbon dioxide reduction and its application in visible-light-active Z-scheme systems using water as an electron donor. <i>Chemical Communications</i> , 2018, 54, 3947-3950.	4.1	28
28	Optical properties of single crystalline copper iodide with native defects: Experimental and density functional theoretical investigation. <i>Journal of Applied Physics</i> , 2019, 125, .	2.5	26
29	<i>In situ</i> FTIR study of CO ₂ reduction on inorganic analogues of carbon monoxide dehydrogenase. <i>Chemical Communications</i> , 2021, 57, 3267-3270.	4.1	26
30	Multielectron-transfer reactions at single Cu(ii) centers embedded in polyoxotungstates driven by photo-induced metal-to-metal charge transfer from anchored Ce(iii) to framework W(vi). <i>Chemical Communications</i> , 2012, 48, 2964.	4.1	25
31	In situ UV-vis Absorption Spectra of Intermediate Species for Oxygen-Evolution Reaction on the Surface of MnO ₂ in Neutral and Alkaline Media. <i>Electrochemistry</i> , 2014, 82, 325-327.	1.4	25
32	Electrochemical characterization of manganese oxides as a water oxidation catalyst in proton exchange membrane electrolyzers. <i>Royal Society Open Science</i> , 2019, 6, 190122.	2.4	23
33	Photocatalytic dry reforming of methane by rhodium supported monoclinic TiO ₂ -B nanobelts. <i>Journal of Energy Chemistry</i> , 2022, 71, 562-571.	12.9	23
34	Temperature dependence of growth rate for diamonds grown using a hot filament assisted chemical vapor deposition method at low substrate temperatures. <i>Applied Physics Letters</i> , 1994, 64, 1306-1308.	3.3	22
35	Fabrication and Oxidation Resistance of Al ₄ SiC ₄ Body.. <i>Journal of the Ceramic Society of Japan</i> , 2002, 110, 1010-1015.	1.3	22
36	Direct Observation of Interfacial Charge Transfer between Rutile TiO ₂ and Ultrathin CuO Film by Visible Light Illumination and Its Application for Efficient Photocatalysis. <i>ChemCatChem</i> , 2018, 10, 3666-3670.	3.7	22

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37	Some properties of sintered Al ₈ B ₄ C ₇ . Journal of Materials Science Letters, 2000, 19, 1045-1046.	0.5	21
38	Fabrication and properties of novel composites in the system Al–Zr–C. Journal of Materials Science, 1998, 33, 4835-4842.	3.7	20
39	Antioxidation Behavior and Effect of Al ₈ B ₄ C ₇ Added to Carbon-Containing Refractories.. Journal of the Ceramic Society of Japan, 2000, 108, 818-822.	1.3	19
40	Photo-assisted Dry Reforming of Methane over Strontium Titanate. Chemistry Letters, 2018, 47, 935-937.	1.3	19
41	Synergistic photothermal and photochemical partial oxidation of methane over noble metals incorporated in mesoporous silica. Chemical Communications, 2019, 55, 13765-13768.	4.1	19
42	Synthesis of MgAl ₂ O ₄ Whiskers by an Oxidation-Reduction Reaction. Journal of the American Ceramic Society, 1996, 79, 491-494.	3.8	18
43	Stability of organic compounds on the oxygen-evolving center of photosystem II and manganese oxide water oxidation catalysts. Chemical Communications, 2016, 52, 13760-13763.	4.1	18
44	Synthesis of Al ₈ B ₄ C ₇ and Its Oxidation Properties in Air.. Journal of the Ceramic Society of Japan, 2000, 108, 375-380.	1.3	17
45	Metal Carbide as A Light Harvesting and Anticoking Catalysis Support for Dry Reforming of Methane. Global Challenges, 2020, 4, 1900067.	3.6	17
46	Acid Assisted Synthesis of HB Sheets through Exfoliation of MgB ₂ Bulk in Organic Media. Chemistry Letters, 2020, 49, 1194-1196.	1.3	17
47	New insights into error accumulation due to biased particle distribution in semi-implicit particle methods. Computer Methods in Applied Mechanics and Engineering, 2022, 388, 114219.	6.6	17
48	Effect of back surface polycrystalline silicon layer on oxygen precipitation in Czochralski silicon wafers. Applied Physics Letters, 1989, 54, 1748-1750.	3.3	16
49	Microstructure of Sputtered CoFe ₂ O ₄ Film. Physica Status Solidi A, 2002, 191, 359-369.	1.7	16
50	Hydrogen Boride Sheets as Reductants and the Formation of Nanocomposites with Metal Nanoparticles. Chemistry Letters, 2020, 49, 789-793.	1.3	16
51	Visible-light-driven photocatalysis via reductant-to-band charge transfer in Cr(III) nanocluster-loaded SrTiO ₃ system. Applied Catalysis B: Environmental, 2020, 270, 118883.	20.2	16
52	Growth Morphology and Mechanism of a Hollow ZnO Polycrystal. Journal of the American Ceramic Society, 1996, 79, 1121-1123.	3.8	15
53	Photocatalytic Partial Oxidation of Methane on Palladium-Loaded Strontium Tantalate. Solar Rrl, 2019, 3, 1900076.	5.8	15
54	Effects of B ₄ C on the Crystallization and Oxidation Resistance of Carbon from Resin. Journal of the Ceramic Society of Japan, 1994, 102, 830-834.	1.3	14

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55	Effects of CaO and Al ₂ O ₃ Added to MgO-C Refractories on MgO-C Reaction. Journal of the Ceramic Society of Japan, 1996, 104, 84-88.	1.3	14
56	Temperature Dependence of Electrical Resistivity of the Al ₄ SiC ₄ Sintered Bodies Prepared by Pulse Electronic Current Sintering. Journal of the Ceramic Society of Japan, 2003, 111, 267-270.	1.3	14
57	CO ₂ oxidative coupling of methane using an earth-abundant CaO-based catalyst. Scientific Reports, 2019, 9, 15454.	3.3	14
58	Synthesis of β -SiAlON Whiskers from Pyrophyllite. Journal of the Ceramic Society of Japan, 1997, 105, 821-823.	1.3	13
59	Carbonation of CaO Clinkers and Improvement of Their Hydration Resistance.. Journal of the Ceramic Society of Japan, 2002, 110, 512-517.	1.3	12
60	Oxidation Behavior of Al ₄ SiC ₄ -SiC Sintered Bodies.. Journal of the Ceramic Society of Japan, 2003, 111, 126-132.	1.3	12
61	Thermal Conductivity and Temperature Dependence of Electrical Resistivity of Al ₄ SiC ₄ -SiC Sintered Bodies Prepared by Pulse Electronic Current Sintering. Journal of the Ceramic Society of Japan, 2003, 111, 466-470.	1.3	12
62	Growth of Large Single Crystals of Copper Iodide by a Temperature Difference Method Using Feed Crystal Under Ambient Pressure. Crystal Growth and Design, 2018, 18, 6748-6756.	3.0	12
63	Effects of MoO modification on photocatalytic activity of hydroxyapatite and Ti-doped hydroxyapatite. Advanced Powder Technology, 2019, 30, 1617-1624.	4.1	12
64	Photocatalytic Methane Reforming: Recent Advances. Catalysts, 2021, 11, 18.	3.5	12
65	Behavior of Al on Microstructure and Properties of MgO-C-Al Refractories. Journal of the Ceramic Society of Japan, 1993, 101, 475-479.	1.3	11
66	Visible-Light-Induced CO ₂ Reduction by Mixed-Valence Tin Oxide. ACS Applied Energy Materials, 2021, 4, 13415-13419.	5.1	11
67	Visible-Light-Active Photoelectrochemical Z-Scheme System Based on Top 5 Clarke-Number Elements. ACS Applied Energy Materials, 2018, 1, 5954-5959.	5.1	10
68	Characterization of Liquid Exsolved by Remelting Reaction of Belite. Journal of the American Ceramic Society, 2001, 84, 1155-1160.	3.8	9
69	Nanoporous Nickel Composite Catalyst for the Dry Reforming of Methane. ACS Omega, 2018, 3, 16651-16657.	3.5	9
70	Multi-Regression Analysis of CO ₂ Electroreduction Activities on Metal Sulfides. Journal of Physical Chemistry C, 2022, 126, 2772-2779.	3.1	9
71	Charge partitioning by intertwined metal-oxide nano-architectural networks for the photocatalytic dry reforming of methane. Chem Catalysis, 2022, 2, 321-329.	6.1	9
72	Crystallization and Oxidation Behavior of Carbon from Phenolic Resin in MgO-C and Al ₂ O ₃ -C Refractories. Journal of the Ceramic Society of Japan, 1995, 103, 274-277.	1.3	8

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73	Near-noble transition-metal-based ohmic contacts to p-InP: Comparison of Ni and Pd as a base metal. Journal of Applied Physics, 1999, 85, 7792-7796.	2.5	8
74	Preparation of Porous Cr ₃ C ₂ Grains with Cr ₂ O ₃ . Journal of the American Ceramic Society, 1996, 79, 2503-2505.	3.8	7
75	Oxidation of Aluminum Oxynitride-Boron Nitride (AlON-BN) Composite Prepared by Reaction Sintering.. Journal of the Ceramic Society of Japan, 2001, 109, 94-99.	1.3	7
76	Preparation and Properties of AlON-SiAlON Composites.. Journal of the Ceramic Society of Japan, 2001, 109, 434-439.	1.3	7
77	Sintering of CaO-ZrO ₂ Composite and Its Property of Slaking Resistance.. Journal of the Ceramic Society of Japan, 2002, 110, 1058-1061.	1.3	7
78	Dynamic scenario quantification for level 2 PRA of sodium-cooled fast reactor based on continuous Markov chain and Monte Carlo method coupled with meta-model of thermal-hydraulic analysis. Journal of Nuclear Science and Technology, 2018, 55, 850-858.	1.3	7
79	Green light active photocatalyst for complete oxidation of organic molecules. Chemical Communications, 2020, 56, 9210-9213.	4.1	7
80	Gas-Phase Photoelectrocatalysis Mediated by Oxygen Ions for Uphill Conversion of Greenhouse Gases. ChemPhotoChem, 2021, 5, 275-281.	3.0	7
81	Active site separation of photocatalytic steam reforming of methane using a gas-phase photoelectrochemical system. Chemical Communications, 2021, 57, 8007-8010.	4.1	7
82	Fabrication of Hydrogen Boride Thin Film by Ion Exchange in MgB ₂ . Molecules, 2021, 26, 6212.	3.8	7
83	Synthesis of Spherical Leucite Crystals.. Journal of the Ceramic Society of Japan, 2000, 108, 40-44.	1.3	6
84	Preparation and Properties of Aluminum Oxynitride (.GAMMA.-AlON).. Journal of the Ceramic Society of Japan, 2001, 109, 310-314.	1.3	6
85	BIAN-Fluorene Copolymer Bearing Ruthenium Pendant as Sensitizer of Titanium Nanotubes for Photocatalytic Hydrogen Evolution. Journal of the Electrochemical Society, 2018, 165, J3166-J3172.	2.9	6
86	Direct imaging of visible-light-induced one-step charge separation at the chromium(III) oxide-strontium titanate interface. Journal of Materials Chemistry A, 2022, 10, 752-761.	10.3	6
87	Effect of oxidation-induced stacking faults on dielectric breakdown characteristics of thermal silicon dioxide. Journal of Applied Physics, 1989, 66, 5651-5653.	2.5	5
88	Synthesis of Mg ₂ SiO ₄ Whiskers by an Oxidation-Reduction Reaction. Journal of the American Ceramic Society, 1995, 78, 1989-1991.	3.8	5
89	Synthesis of MgAl ₂ O ₄ (Spinel) Powder Using MgCl ₂ .. Journal of the Ceramic Society of Japan, 2001, 109, 894-896.	1.3	5
90	Formation of Solid Solution (Al ₂ O ₃) _{1-x} (AlN) _x and Its Application in Spinel-Carbon Clinker Preparation.. Journal of the Ceramic Society of Japan, 2002, 110, 6-11.	1.3	5

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91	Design of Metal-to-Metal Charge-Transfer Chromophores for Visible-Light Activation of Oxygen-Evolving Mn Oxide Catalysts in a Polymer Film. <i>Chemistry of Materials</i> , 2017, 29, 7234-7242.	6.7	5
92	Quasi-Monte Carlo sampling method for simulation-based dynamic probabilistic risk assessment of nuclear power plants. <i>Journal of Nuclear Science and Technology</i> , 2022, 59, 357-367.	1.3	5
93	Behavior of Carbon Obtained from Pitch and Resin Added to Carbon-Containing Refractories. <i>Journal of the Ceramic Society of Japan</i> , 1994, 102, 73-77.	1.3	4
94	Hydration of Synthesized Al_4C_3 and Its Prevention Effect by Si Addition. <i>Journal of the Ceramic Society of Japan</i> , 1995, 103, 475-478.	1.3	4
95	Synthesis of Needlelike Leucite Crystals Using Potassium Sulfate Flux.. <i>Journal of the Ceramic Society of Japan</i> , 2000, 108, 710-713.	1.3	4
96	Size Control of Spherical Leucite Crystals.. <i>Journal of the Ceramic Society of Japan</i> , 2002, 110, 27-31.	1.3	4
97	Growth of Hollow Cr_3C_2 Polycrystals with Cr_2O_3 . <i>Journal of the American Ceramic Society</i> , 1995, 78, 1985-1988.	3.8	3
98	Growth of Cr_2O_3 whiskers by the vapour-liquid-solid mechanism. <i>Journal of Materials Science</i> , 1996, 31, 317-322.	3.7	3
99	CO_2 Reduction Using an Electrochemical Approach from Chemical, Biological, and Geological Aspects in the Ancient and Modern Earth. <i>Lecture Notes in Energy</i> , 2016, , 213-228.	0.3	3
100	Decomposition of 2-naphthol in water and antibacterial property by NiO and CeO_x ; modified TiO_2 ; in the dark or under visible light. <i>Journal of the Ceramic Society of Japan</i> , 2019, 127, 688-695.	1.1	3
101	Synthesis of $CaFe_2O_4$ Nanorod Thin Film Using Molten Salt Method and Analysis of Its Photoelectrochemical Properties. <i>Chemistry Letters</i> , 2020, 49, 1462-1464.	1.3	3
102	Mechanism of Metal Precipitating in Alumina Grain in Sintered Al_2O_3 - Al_2O_3 - O_3 -C. <i>Journal of the Ceramic Society of Japan</i> , 1995, 103, 370-373.	1.3	2
103	Effect of ZrO_2 on Sintering Characteristics of MgO and $MgO-Al_2O_3$ System Powder Compacts. <i>Journal of the Ceramic Society of Japan</i> , 1997, 105, 655-659.	1.3	2
104	Preparation and characterization of ceramic porous sheet composed of platelet $(Cr, Al)_2O_3$ crystals. <i>Journal of Materials Science</i> , 1997, 32, 5703-5708.	3.7	2
105	Effect of Al and Alumina Additions on Oxidation Rate of MgO-C Refractory.. <i>Journal of the Ceramic Society of Japan</i> , 2002, 110, 699-702.	1.3	2
106	Densification and Improvement of Slaking Resistance of Calcia Clinker by Addition of ZrO_2 .. <i>Journal of the Ceramic Society of Japan</i> , 2002, 110, 975-979.	1.3	2
107	Hydrogenation and Dehydrogenation Properties of $[AlN-Pd]/Y$ and $[AlO_x-Pd]/[AlN-Pd]/Y$ Films. <i>Materials Transactions</i> , 2007, 48, 635-636.	1.2	2
108	Numerical study on structural integrity of inner barrel caused by thermal stratification in upper plenum of Monju. <i>Journal of Nuclear Science and Technology</i> , 2016, 53, 554-565.	1.3	2

