

# Hiroki Matsuo

## List of Publications by Year in descending order

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66  
papers

2,036  
citations

331670

21  
h-index

243625

44  
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67  
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67  
docs citations

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times ranked

1530  
citing authors

#	ARTICLE	IF	CITATIONS
1	Large remanent polarization of vanadium-doped Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> . Applied Physics Letters, 2001, 78, 1903-1905.	3.3	391
2	Defect Control for Large Remanent Polarization in Bismuth Titanate Ferroelectrics -- Doping Effect of Higher-Valent Cations --. Japanese Journal of Applied Physics, 2000, 39, L1259-L1262.	1.5	338
3	Gap-state engineering of visible-light-active ferroelectrics for photovoltaic applications. Nature Communications, 2017, 8, 207.	12.8	126
4	Impact of Defect Control on the Polarization Properties in Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> Ferroelectric Single Crystals. Japanese Journal of Applied Physics, 2005, 44, L570-L572.	1.5	106
5	Oxygen-vacancy-induced $90^\circ$ domain clamping in ferroelectric Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> . Physical Review B, 2010, 81, .	3.2	97
6	Structural and piezoelectric properties of high-density (Bi <sub>0.5</sub> K <sub>0.5</sub> )TiO <sub>3</sub> BiFeO <sub>3</sub> ceramics. Journal of Applied Physics, 2010, 108, .	2.5	73
7	High-Performance Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> Single Crystals Grown by High-Oxygen-Pressure Flux Method. Japanese Journal of Applied Physics, 2008, 47, 7623.	1.5	66
8	Giant photovoltaic effect of ferroelectric domain walls in perovskite single crystals. Scientific Reports, 2015, 5, 14741.	3.3	63
9	High-oxygen-pressure crystal growth of ferroelectric Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> single crystals. Applied Physics Letters, 2007, 91, 162909.	3.3	58
10	Switchable diode-effect mechanism in ferroelectric BiFeO <sub>3</sub> thin film capacitors. Journal of Applied Physics, 2015, 118, .	2.5	44
11	Ferroelectrics with a controlled oxygen-vacancy distribution by design. Scientific Reports, 2019, 9, 4225.	3.3	44
12	Bulk and domain-wall effects in ferroelectric photovoltaics. Physical Review B, 2016, 94, .	3.2	43
13	Cooperative effect of oxygen-vacancy-rich layer and ferroelectric polarization on photovoltaic properties in BiFeO <sub>3</sub> thin film capacitors. Applied Physics Letters, 2016, 108, .	3.3	41
14	High-Performance Ferroelectric Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> Single Crystals Grown by Top-Seeded Solution Growth Method under High-Pressure Oxygen Atmosphere. Japanese Journal of Applied Physics, 2010, 49, 09MC06.	1.5	31
15	Non-180° polarization rotation of ferroelectric (Bi <sub>0.5</sub> Na <sub>0.5</sub> )TiO <sub>3</sub> single crystals under electric field. Physical Review B, 2014, 89, .	3.2	29
16	Crystal Growth and Characterization of (Bi <sub>0.5</sub> Na <sub>0.5</sub> )TiO <sub>3</sub> BiFeO <sub>3</sub> Single Crystals Obtained by a Top-Seeded Solution Growth Method under High-Pressure Oxygen Atmosphere. Japanese Journal of Applied Physics, 2011, 50, 09NE07.	1.5	25
17	Successive redox-mediated visible-light ferrophotovoltaics. Nature Communications, 2020, 11, 966.	12.8	25
18	High-Quality Lead-Free Ferroelectric Ceramics Prepared from the Flash-Creation-Method-Derived Nanopowder. Journal of the Ceramic Society of Japan, 2006, 114, 97-101.	1.3	23

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19	Polarization Rotation and Monoclinic Distortion in Ferroelectric (Bi <sub>0.5</sub> Na <sub>0.5</sub> )TiO <sub>3</sub> ∕BaTiO <sub>3</sub> Single Crystals under Electric Fields. <i>Crystals</i> , 2014, 4, 273-295.	2.2	23
20	Enhanced photovoltaic currents in strained Fe-doped LiNbO <sub>3</sub> films. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2015, 212, 2968-2974.	1.8	23
21	Heavy Mn-doping effect on spontaneous polarization in ferroelectric BiFeO <sub>3</sub> thin films. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 10NA03.	1.5	22
22	Ferroelectric domain structure and c-axis polarization switching in monoclinic Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> single crystals. <i>Applied Physics Letters</i> , 2007, 90, 202904.	3.3	20
23	Nanoscale structural analysis of Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> . <i>Japanese Journal of Applied Physics</i> , 2020, 59, SPPA01.	1.5	20
24	Microstructures Related to Ferroelectric Properties in (Bi <sub>0.5</sub> K <sub>0.5</sub> )TiO <sub>3</sub> ∕BiFeO <sub>3</sub> . <i>Japanese Journal of Applied Physics</i> , 2010, 49, 09MC05.	1.5	19
25	Photocurrent Characteristics of Mn-Doped Barium Titanate Ferroelectric Single Crystals. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 09KF03.	1.5	19
26	High-Performance Ferroelectric Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> Single Crystals Grown by Top-Seeded Solution Growth Method under High-Pressure Oxygen Atmosphere. <i>Ferroelectrics</i> , 2011, 414, 24-29.	0.6	18
27	Electrical conduction mechanism in BiFeO <sub>3</sub> -based ferroelectric thin-film capacitors: Impact of Mn doping. <i>Journal of Asian Ceramic Societies</i> , 2015, 3, 426-431.	2.3	17
28	Enhanced photovoltaic effects in ferroelectric solid solution thin films with nanodomains. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	17
29	Suppression of Leakage Current in Proton-Conducting BaZr <sub>0.8</sub> Y <sub>0.2</sub> O <sub>3-δ</sub> Electrolyte by Forming Hole-Blocking Layer. <i>Journal of the Electrochemical Society</i> , 2020, 167, 084515.	2.9	16
30	Electronic Origin of Defect States in Fe-Doped LiNbO <sub>3</sub> Ferroelectrics. <i>Advances in Condensed Matter Physics</i> , 2016, 2016, 1-10.	1.1	14
31	Ferroelectric phase in the (Bi <sub>1/2</sub> Na <sub>1/2</sub> )TiO <sub>3</sub> ∕Ba(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> system. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 10NC05.	1.5	13
32	Temperature dependence of electrical resistivity, dielectric and piezoelectric properties of Ca <sub>3</sub> TaGa <sub>3-x</sub> Al <sub>x</sub> Si <sub>2</sub> O <sub>14</sub> single crystals as a function of Al content. <i>Journal of Alloys and Compounds</i> , 2016, 687, 797-803.	5.5	12
33	Control of misfit strain in ferroelectric BaTiO <sub>3</sub> thin-film capacitors with SrRuO <sub>3</sub> -based electrodes on (Ba, Sr)TiO <sub>3</sub> -buffered SrTiO <sub>3</sub> substrates. <i>Applied Physics Letters</i> , 2018, 113, 012903.	3.3	10
34	Local polarization switching in epitaxial thin films of ferroelectric (Bi <sub>1/2</sub> Na <sub>1/2</sub> )TiO <sub>3</sub> . <i>Journal of Asian Ceramic Societies</i> , 2015, 3, 160-163.	2.3	9
35	Fabrication and electrochemical performance of anode-supported solid oxide fuel cells based on proton-conducting lanthanum tungstate thin electrolyte. <i>Solid State Ionics</i> , 2019, 337, 132-139.	2.7	9
36	Effective electrode design and the reaction mechanism for electrochemical promotion of ammonia synthesis using Fe-based electrode catalysts. <i>Sustainable Energy and Fuels</i> , 2021, 5, 188-198.	4.9	9

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37	Domain-wall photovoltaic effect in Fe-doped BaTiO <sub>3</sub> single crystals. Journal of Applied Physics, 2021, 129, 084101.	2.5	9
38	Polarization properties and crystal structures of ferroelectric (Ba <sub>1-x</sub> Ca <sub>x</sub> )TiO <sub>3</sub> single crystals. Journal of Advanced Dielectrics, 2014, 04, 1450003.	2.4	8
39	Polarization degradation and oxygen-vacancy rearrangement in Mn-doped BaTiO <sub>3</sub> ; ferroelectrics ceramics. Journal of the Ceramic Society of Japan, 2014, 122, 373-380.	1.1	8
40	Defect chemistry in perovskite ferroelectrics—History, present status, and future prospects—. Journal of the Ceramic Society of Japan, 2021, 129, 271-285.	1.1	8
41	Oxygen Vacancy Migration and Dispersive Photoconductivity in Bi <sub>4</sub> Ti <sub>3</sub> O <sub>12</sub> -d. Japanese Journal of Applied Physics, 2004, 43, 6649-6652.	1.5	7
42	ENHANCED PIEZOELECTRIC PROPERTIES IN (Bi <sub>0.5</sub> K <sub>0.5</sub> )TiO <sub>3</sub> —(Bi <sub>0.5</sub> Na <sub>0.5</sub> )TiO <sub>3</sub> FERROELECTRIC SINGLE CRYSTALS. Journal of Advanced Dielectrics, 2011, 01, 63-69.	2.4	7
43	Enhanced polarization switching in ferroelectric Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> single crystals by defect control. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 791-795.	1.8	7
44	Strong interaction between ferroelectric polarization and oxygen vacancy in BiFeO <sub>3</sub> thin film capacitors. Journal of the Ceramic Society of Japan, 2016, 124, 634-638.	1.1	7
45	Carbon-dioxide activation by methane with iron-doped barium zirconate in chemical looping cracking system. Chemical Engineering Journal, 2021, 417, 128012.	12.7	7
46	Polarization and Dielectric Properties of BiFeO <sub>3</sub> -BaTiO <sub>3</sub> Superlattice-Structured Ferroelectric Films. Nanomaterials, 2021, 11, 1857.	4.1	7
47	Ferroelectric photovoltaic tensor in visible-light-active Fe-doped BaTiO <sub>3</sub> single crystals. Japanese Journal of Applied Physics, 2021, 60, SFFA01.	1.5	6
48	Crystal structure and ferroelectric polarization of tetragonal (Bi <sub>1/2</sub> Na <sub>1/2</sub> )TiO <sub>3</sub> —BaTiO <sub>3</sub> . Japanese Journal of Applied Physics, 2018, 57, 11UD05.	1.5	5
49	Impact of lattice defects on water oxidation properties in SnNb <sub>2</sub> O <sub>6</sub> photoanode prepared by pulsed-laser deposition method. Journal of Applied Physics, 2019, 126, .	2.5	5
50	Crystal structure and polarization hysteresis properties of ferroelectric BaTiO <sub>3</sub> thin-film capacitors on (Ba,Sr)TiO <sub>3</sub> -buffered substrates. Japanese Journal of Applied Physics, 2016, 55, 10TA03.	1.5	4
51	Enhanced polarization properties of ferroelectric (Bi <sub>1-x/2</sub> Na <sub>x/2</sub> )TiO <sub>3</sub> —Ba(Mg <sub>1/3</sub> Ca <sub>2/3</sub> )TiO <sub>3</sub> single crystals grown under high-pressure oxygen atmosphere. Journal of the Ceramic Society of Japan, 2017, 125, 463-467.	1.1	3
52	Leakage Current and Chemical Potential Profile in Proton-Conducting Bi-Layered Solid Oxide Electrolyte with BZY and Hole-Blocking Layers. ECS Transactions, 2019, 91, 1009-1018.	0.5	3
53	Performance of Anode-Supported Proton-Conducting Solid Oxide Fuel Cells with Lanthanum-Based Thin Bilayer Electrolyte. ECS Transactions, 2019, 91, 1019-1028.	0.5	3
54	Kinetic and deuterium isotope analyses of ammonia electrochemical synthesis. RSC Advances, 2021, 11, 17891-17900.	3.6	3

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55	Polarization-switching dynamics and microstructures of ferroelectric (Bi <sub>0.5</sub> Na <sub>0.5</sub> )TiO <sub>3</sub> single crystals. Journal of the Korean Physical Society, 2013, 62, 1035-1040.	0.7	2
56	Barium titanate dispersion obtained by a high pressure methods and light resistant composites containing the nanoparticles. Journal of the Ceramic Society of Japan, 2014, 122, 129-133.	1.1	2
57	Composition-driven structural variation in ferrielectric phase of (Bi <sub>1/2</sub> Na <sub>1/2</sub> )TiO <sub>3</sub> -Ba(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> . Japanese Journal of Applied Physics, 2019, 58, SLLA04.	1.5	2
58	Deuterium Isotope Analysis of Electrochemical Promotion in Ammonia Synthesis on Iron-Based Catalyst. ECS Transactions, 2019, 91, 2761-2769.	0.5	2
59	Effect of lanthanum tungstate hole-blocking layer for improvement of energy efficiency in anode-supported protonic ceramic fuel cells. Journal of the Ceramic Society of Japan, 2021, 129, 147-153.	1.1	2
60	Design and Modeling of Proton-Conducting Bilayer Electrolytes Using a Nernst-Planck-Poisson Formulation. ECS Transactions, 2021, 103, 1763-1777.	0.5	2
61	Ferroelectric polarization of tetragonal BiFeO <sub>3</sub> —an approach from DFT calculations for BiFeO <sub>3</sub> —BaTiO <sub>3</sub> superlattices. Japanese Journal of Applied Physics, 2022, 61, SN1002.	1.5	2
62	Fabrication and characterization of (Ba, Sr)RuO <sub>3</sub> ceramic targets and thin films for ferroelectric BaTiO <sub>3</sub> thin-film capacitors. AIP Advances, 2018, 8, 115135.	1.3	1
63	High-quality ferroelectric Bi <sub>0.5</sub> K <sub>0.5</sub> TiO <sub>3</sub> —BiFeO <sub>3</sub> solid-solution single crystals grown under high-pressure oxygen atmosphere. Applied Physics Express, 0, , .	2.4	1
64	Experimental analyses for electronic structure of barium zirconate—strontium zirconate proton—conducting solid solution. Journal of the American Ceramic Society, 2021, 104, 5740-5749.	3.8	0
65	Evaluation of Transport Properties of Lanthanum-Based Proton-Conducting Composite Electrolytes. ECS Transactions, 2021, 103, 2117-2124.	0.5	0
66	Photon energy dependence of photovoltaic properties in ferroelectric BiFeO <sub>3</sub> thin-film capacitors. Transactions of the Materials Research Society of Japan, 2016, 41, 201-204.	0.2	0