

Satyanarayan Patel

List of Publications by Year in descending order

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94
papers

2,645
citations

304368

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197535

49
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99
all docs

99
docs citations

99
times ranked

2587
citing authors

#	ARTICLE	IF	CITATIONS
1	BaTiO ₃ -based piezoelectrics: Fundamentals, current status, and perspectives. Applied Physics Reviews, 2017, 4, .	5.5	813
2	Anti-Ferroelectric Ceramics for High Energy Density Capacitors. Materials, 2015, 8, 8009-8031.	1.3	263
3	Candle soot: Journey from a pollutant to a functional material. Carbon, 2019, 144, 684-712.	5.4	87
4	Mechanical confinement for improved energy storage density in BNT-BT-KNN lead-free ceramic capacitors. AIP Advances, 2014, 4, 087106.	0.6	70
5	Large pyroelectric figure of merits for Sr-modified Ba _{0.85} Ca _{0.15} Zr _{0.1} Ti _{0.9} O ₃ ceramics. Solid State Sciences, 2016, 52, 10-18.	1.5	68
6	Multicaloric effect in Pb(Mn _{1/3} Nb _{2/3})O ₃ -32PbTiO ₃ single crystals. Acta Materialia, 2015, 89, 384-395.	3.8	59
7	Elastocaloric effect in ferroelectric ceramics. Applied Physics Letters, 2015, 106, .	1.5	55
8	A review and analysis of the elasto-caloric effect for solidstate refrigeration devices: Challenges and opportunities. MRS Energy & Sustainability, 2015, 2, 1.	1.3	53
9	Enhancing electrical energy storage density in anti-ferroelectric ceramics using ferroelastic domain switching. Materials Research Express, 2014, 1, 045502.	0.8	50
10	A technique for giant mechanical energy harvesting using ferroelectric/antiferroelectric materials. Journal of Applied Physics, 2014, 115, .	1.1	50
11	Tuning of dielectric, pyroelectric and ferroelectric properties of 0.715Bi _{0.5} Na _{0.5} TiO ₃ -0.065BaTiO ₃ -0.22SrTiO ₃ ceramic by internal clamping. AIP Advances, 2015, 5, 087145.	0.6	50
12	Elastocaloric and barocaloric effects in polyvinylidene di-fluoride-based polymers. Applied Physics Letters, 2016, 108, .	1.5	49
13	Enhanced Thermal Energy Harvesting Using Li, K&Doped Bi _{0.5} Na _{0.5} TiO ₃ Lead&Free Ferroelectric Ceramics. Energy Technology, 2014, 2, 205-209.	1.8	47
14	Interplay of conventional with inverse electrocaloric response in (Pb,Nb)(Zr,Sn,Ti)O ₃ antiferroelectric materials. Physical Review B, 2018, 97, .	1.1	42
15	Multiple caloric effects in (Ba _{0.865} Ca _{0.135} Zr _{0.1089} Ti _{0.8811} Fe _{0.01})O ₃ ferroelectric ceramic. Applied Physics Letters, 2015, 107, .	1.5	41
16	Enhanced energy harvesting in commercial ferroelectric materials. Materials Research Express, 2014, 1, 025504.	0.8	39
17	Electrocaloric Behavior and Temperature&Dependent Scaling of Dynamic Hysteresis of Ba _{0.85} Ca _{0.15} Ti _{0.9} Zr _{0.1} O ₃ Ceramics. International Journal of Applied Ceramic Technology, 2015, 12, 899-907.	1.1	35
18	Analysis of High&Field Energy Harvesting using Ferroelectric Materials. Energy Technology, 2014, 2, 480-485.	1.8	29

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19	Improved Electrical Energy Storage Density in Vanadium-Doped BaTiO ₃ Bulk Ceramics by Addition of 3BaO·3TiO ₂ ·2B ₂ O ₃ Glass. Energy Technology, 2015, 3, 70-76.	1.8	27
20	Thermal energy conversion and temperature-dependent dynamic hysteresis analysis for Ba _{0.85} Ca _{0.15} Ti _{0.9} Fe _x Zr _{0.1} O ₃ ceramics. Journal of Asian Ceramic Societies, 2016, 4, 102-111.	3.6	21
21	Elastocaloric Effect in Carbon Nanotubes and Graphene. Nano Letters, 2016, 16, 7008-7012.	4.5	24
22	Enhanced thermal energy conversion and dynamic hysteresis behavior of Sr-added Ba _{0.85} Ca _{0.15} Ti _{0.9} Zr _{0.1} O ₃ ferroelectric ceramics. Journal of Materiomics, 2016, 2, 75-86.	2.8	24
23	Multicaloric effect in Pb(Mn ^{1/3} Nb ^{2/3})O ₃ -32PbTiO ₃ single crystals: Modes of measurement. Acta Materialia, 2015, 97, 17-28.	3.8	23
24	Enhanced electrocaloric effect in Ba _{0.85} Ca _{0.15} Zr _{0.1} Ti _{0.9} Sn _x O ₃ ceramics. Phase Transitions, 2016, 89, 1062-1073.	3.6	20
25	Pyroelectric signals in (Ba,Ca)TiO _{3-x} Ba(Sn,Ti)O ₃ ceramics: A viable alternative for lead-based ceramics. Scripta Materialia, 2018, 146, 146-149.	2.6	23
26	Pyro-paraelectric and flexocaloric effects in barium strontium titanate: A first principles approach. Applied Physics Letters, 2016, 108, .	1.5	22
27	Enhanced energy storage performance of glass added 0.715Bi _{0.5} Na _{0.5} TiO ₃ -0.065BaTiO ₃ -0.22SrTiO ₃ ferroelectric ceramics. Journal of Asian Ceramic Societies, 2015, 3, 383-389.	1.0	21
28	Temperature dependence scaling behavior of the dynamic hysteresis in 0.715Bi _{0.5} Na _{0.5} TiO ₃ -0.065BaTiO ₃ -0.22SrTiO ₃ ferroelectric ceramics. Materials Research Express, 2015, 2, 035501.	1.0	21
29	Influence of grain size on the electrocaloric and pyroelectric properties in non-reducible BaTiO ₃ ceramics. AIP Advances, 2020, 10, .	0.6	21
30	Mechanical confinement for tuning ferroelectric response in PMN-PT single crystal. Journal of Applied Physics, 2015, 117, 084102.	1.1	19
31	Pyroelectric performance of BaTi _{1-x} Sn _x O ₃ ceramics. International Journal of Applied Ceramic Technology, 2018, 15, 546-553.	1.1	19
32	Enhanced electrocaloric effect in Fe-doped (Ba _{0.85} Ca _{0.15} Zr _{0.1} Ti _{0.9})O ₃ ferroelectric ceramics. Applied Materials Today, 2015, 1, 37-44.	2.3	17
33	Pyroelectric and impedance studies of the 0.5Ba(Zr _{0.2} Ti _{0.8})O ₃ -0.5(Ba _{0.7} Sr _{0.3})TiO ₃ ceramics. Ceramics International, 2018, 44, 21976-21981.	2.3	17
34	Effect of sintering temperature and dwell time on electrocaloric properties of Ba _{0.85} Ca _{0.075} Sr _{0.075} Ti _{0.90} Zr _{0.10} O ₃ ceramics. Phase Transitions, 2017, 90, 465-474.	0.6	15
35	Pyroelectric energy conversion using Ba _{0.85} Sr _{0.15} Zr _{0.1} Ti _{0.9} O ₃ ceramics and its cement-based composites. Journal of Intelligent Material Systems and Structures, 2019, 30, 869-877.	1.4	15
36	Melting of dxy Orbital Ordering Accompanied by Suppression of Giant Tetragonal Distortion and Insulator-to-Metal Transition in Cr-Substituted PbVO ₃ . Chemistry of Materials, 2019, 31, 1352-1358.	3.2	15

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37	Enhanced Electrocaloric Effect in Pre-stressed Ferroelectric Materials. Energy Technology, 2015, 3, 177-186.	1.8	14
38	Caloric Effects in Bulk Lead-Free Ferroelectric Ceramics for Solid-State Refrigeration. Energy Technology, 2016, 4, 244-248.	1.8	14
39	Cyclic Electrical Energy Harvesting Using Mechanical Confinement in Ferroelectric Ceramics. International Journal of Applied Ceramic Technology, 2015, 12, 765-770.	1.1	13
40	Pyroelectric energy harvesting for dye decolorization using Ba _{0.9} Ca _{0.1} TiO ₃ ceramics. Journal of Applied Physics, 2020, 128, .	1.1	13
41	Elastocaloric and Piezocaloric Effects in Lead Zirconate Titanate Ceramics. Energy Technology, 2016, 4, 647-652.	1.8	12
42	Functional Cementitious Composites for Pyroelectric Applications. Journal of Electronic Materials, 2018, 47, 2378-2385.	1.0	12
43	Electrocaloric behavior and temperature dependent scaling of dynamic hysteresis of Ba _x Sr _{1-x} TiO ₃ (x=0.7, 0.8 and 0.9) bulk ceramics. Journal of the Australian Ceramic Society, 2018, 54, 439-450.	1.1	12
44	Thermomechanical Energy Conversion Potential of Lead-Free 0.50Ba(Zr _{0.2} Ti _{0.8}) _{1-x} TiO ₃ Ceramics. Energy Technology, 2018, 6, 872-882.	1.8	12
45	Tunable Pyroelectricity around the Ferroelectric/Antiferroelectric Transition. Energy Technology, 2018, 6, 865-871.	1.8	11
46	Enhanced Electrical Energy Storage Density in Mechanical Confined Antiferroelectric Ceramic. Ferroelectrics, 2015, 486, 114-125.	0.3	10
47	Effect of sintering temperature and dwell time dependent dynamic hysteresis scaling behavior of (Ba _{0.85} Ca _{0.075} Sr _{0.075})(Ti _{0.90} Zr _{0.10})O ₃ ceramics. Ferroelectrics, 2016, 505, 52-66.	0.3	10
48	Flexo/electro-caloric performance of BaTi _{0.87} Sr _{0.13} O ₃ ceramics. Applied Physics Letters, 2020, 117, .	1.5	10
49	Large room temperature electrocaloric strength in bulk ferroelectric ceramics: an optimum solution. Phase Transitions, 2016, 89, 1019-1028.	0.6	9
50	Large barocaloric effect and pressure-mediated electrocaloric effect in Pb _{0.99} Nb _{0.02} (Zr _{0.95} Ti _{0.05}) _{0.08} O ₃ ceramics. Journal of the American Ceramic Society, 2017, 100, 4902-4911.		9
51	Enhanced performance of ferroelectric materials under hydrostatic pressure. Journal of Applied Physics, 2017, 122, .	1.1	9
52	Engineered microstructure for tailoring the pyroelectric performance of Ba _{0.85} Sr _{0.15} Zr _{0.1} Ti _{0.9} O ₃ ceramics by 3BaO-3TiO ₂ -B ₂ O ₃ glass addition. Applied Physics Letters, 2017, 110, .	1.5	9
53	Electrical conduction properties of the BZT-BST ceramics. Journal of Advanced Dielectrics, 2020, 10, 2050026.	1.5	9
54	Effect of porous auxetic structures on low-frequency piezoelectric energy harvesting systems: a finite element study. Applied Physics A: Materials Science and Processing, 2022, 128, 1.	1.1	9

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55	Effect of Stress on Energy Conversion and Storage Characteristics of (1-x-y)PIN-xPMN-yPT Single Crystals. <i>Ferroelectrics, Letters Section</i> , 2015, 42, 107-114.	0.4	8
56	Flexoelectric Induced Caloric Effect in Truncated Pyramid Shaped Ba _{0.67} Sr _{0.33} TiO ₃ Ferroelectric Material. <i>Journal of Electronic Materials</i> , 2017, 46, 4166-4171.	1.0	8
57	Enhanced electrocaloric effect in glass-added 0.94Bi _{0.5} Na _{0.5} TiO ₃ -0.06BaTiO ₃ ceramics. <i>Journal of the Australian Ceramic Society</i> , 2017, 53, 523-529.	1.1	8
58	Na _{1/2} Bi _{1/2} VO ₃ and K _{1/2} Bi _{1/2} VO ₃ : New Lead-Free Tetragonal Perovskites with Moderate c/a Ratios. <i>Chemistry of Materials</i> , 2018, 30, 6728-6736.	3.2	8
59	Enhanced Energy Harvesting Using Multilayer Piezoelectric Ceramics. <i>Journal of Electronic Materials</i> , 2019, 48, 6964-6971.	1.0	8
60	Effects of preconditioning on the accuracy and efficiency of incompressible flows. <i>International Journal for Numerical Methods in Fluids</i> , 2005, 47, 963-970.	0.9	7
61	Effect of Directional Mechanical Confinement on the Electrical Energy Storage Density in 68Pb(Mn _{1/3} Nb _{2/3})O ₃ -32PbTiO ₃ Single Crystals. <i>Ferroelectrics</i> , 2015, 478, 40-53.	0.3	7
62	Electric-Field-Driven Caloric Effects in Ferroelectric Materials for Solid-State Refrigeration. <i>Energy Technology</i> , 2016, 4, 417-423.	1.8	7
63	Effect of sintering parameters on the dynamic hysteresis scaling behavior of Ba _{0.85} Sr _{0.15} Zr _{0.1} Ti _{0.9} O ₃ ceramics. <i>Integrated Ferroelectrics</i> , 2016, 176, 95-108.	0.3	7
64	Finite Element Analysis of the Microstructure of AlN-TiN Composites. <i>Strain</i> , 2014, 50, 250-261.	1.4	6
65	Cyclic Piezoelectric Energy Harvesting in PMN-PT Single Crystals. <i>Ferroelectrics</i> , 2015, 481, 138-145.	0.3	6
66	Design of PZT-Pt functionally graded piezoelectric material for low-frequency actuation applications. <i>Journal of Intelligent Material Systems and Structures</i> , 2015, 26, 321-327.	1.4	6
67	Pyro-paraelectric effect in ferroelectric materials: A device perspective for transcending Curie limitation. <i>Materials Today Communications</i> , 2017, 12, 146-151.	0.9	6
68	The pyroelectric energy harvesting and storage performance around the ferroelectric/antiferroelectric transition in PNZST. <i>Journal of Materials Science</i> , 2021, 56, 1133-1146.	1.7	6
69	Effect of uniaxial stress on energy harvesting, storage and electrocaloric performance of BZT ceramics. <i>Journal of the Korean Ceramic Society</i> , 2021, 58, 437-444.	1.1	6
70	Nonstoichiometric effect on electrocaloric, pyroelectric and energy storage properties of 0.94Na _x Bi _y TiO ₃ -0.06BaTiO ₃ bulk ceramics. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 26871-26893.	1.1	6
71	Enhanced Pyroelectric Performance of Lead-Free Zn-Doped Na _{1/2} Bi _{1/2} TiO ₃ -BaTiO ₃ Ceramics. <i>Materials</i> , 2022, 15, 87.	1.3	6
72	An insight into thermal and vibration cyclic energy harvesting using ferroelectric ceramics. <i>Integrated Ferroelectrics</i> , 2016, 168, 69-84.	0.3	5

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73	Thermal Energy Harvesting Capabilities in Lead-Free Ba _{0.85} Ca _{0.15} Ti _{0.9} Sn _x Zr _{0.1} O ₃ Ferroelectric Ceramics. Journal of Electronic Materials, 2020, 49, 1194-1203.	1.0	5
74	Thermomechanical analysis of 0.94Na _{1/2} Bi _{1/2} TiO ₃ -0.06BaTiO ₃ /ZnO composites using finite element method. Journal of Alloys and Compounds, 2021, 854, 157161.	2.8	5
75	Impedance and modulus analysis of barium calcium titanate ferroelectric ceramics. Journal of the Korean Ceramic Society, 2021, 58, 337-350.	1.1	5
76	Microstructural Finite Element Modeling and Simulation on Al-MgO Composites. International Journal of Computational Methods, 2015, 12, 1550030.	0.8	4
77	Large-Temperature-Invariant and Electrocaloric Performance of Modified Barium Titanate for Solid-State Refrigeration. Energy Technology, 2016, 4, 1097-1105.	1.8	4
78	Enhanced mechanical energy conversion potential in ferroelectric single crystals. Materials Technology, 2016, 31, 274-280.	1.5	4
79	Electrocaloric properties of Sr and Sn doped BCZT lead-free ceramics. EPJ Applied Physics, 2020, 91, 20905.	0.3	4
80	Pyroelectric figures of merit and energy harvesting potential in ferroelectric cement composites. Journal of Materials Science: Materials in Electronics, 2020, 31, 16708-16719.	1.1	3
81	Flexocaloric effect in ferroelectric materials: methods of indirect evaluation. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	1.1	3
82	Giant Electro-Mechanical Energy Conversion in Lead-Free Ferroelectric Materials. Ferroelectrics, Letters Section, 2015, 42, 35-42.	0.4	2
83	Temperature dependent dynamics hysteresis scaling of Ba _{0.85} Ca _{0.15} Ti _{0.9} Sn _x Zr _{0.1} O ₃ bulk ferroelectric ceramics. Phase Transitions, 2019, 92, 960-973.	0.6	2
84	Flexo/elasto-caloric effects in 0.66Pb(Mg _{1/3} Nb _{2/3})O ₃ -0.34PbTiO ₃ single crystal. Materials Letters, 2021, 287, 129301.	1.3	2
85	Enhanced Energy Conversion and Storage Properties of Sn-Doped BaTiO ₃ Bulk Ceramics Using Compressive Stresses. Journal of Electronic Materials, 2022, 51, 1297-1310.	1.0	2
86	Energy and exergy analysis of pebble bed thermal energy storage system for diesel engine exhaust. Thermal Science, 2022, 26, 4969-4980.	0.5	2
87	Finite element analysis of WC-Al ₂ O ₃ composites. International Journal of Computational Materials Science and Engineering, 2014, 03, 1450002.	0.5	1
88	Pressure-induced spin state transition in BiFeO ₃ : an ab initio electronic structure calculation. EPJ Applied Physics, 2014, 67, 20602.	0.3	1
89	Composition dependent electrocaloric behavior of (Sr _x Ba _{1-x})Nb ₂ O ₆ ceramics. Integrated Ferroelectrics, 2016, 168, 163-169.	0.3	1
90	Vibration induced refrigeration using ferroelectric materials. Scientific Reports, 2019, 9, 3922.	1.6	1

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91	Pyroelectric performance of $[\text{Bi}_{0.48}\text{Na}_{0.4032}\text{K}_{0.0768}]\text{Sr}_{0.04}(\text{Ti}_{0.975}\text{Nb}_{0.025})\text{O}_3$ ceramics. Journal of the Australian Ceramic Society, 2020, 56, 395-402.	1.1	1
92	Elastocaloric effect in zinc oxide nanowire. Functional Materials Letters, 2021, 14, 2150021.	0.7	1
93	Thermo-mechanical energy harvesting and storage analysis in 0.6BZT-0.4BCT ceramics. EPJ Applied Physics, 2021, 95, 20901.	0.3	1
94	Thermomechanical Analysis of Ceramic Composites Using Object Oriented Finite Element Analysis. , 0, , .		0