

# Satyanarayan Patel

## List of Publications by Citations

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94  
papers

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41  
g-index

99  
ext. papers

2,246  
ext. citations

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L-index

#	Paper	IF	Citations
94	BaTiO <sub>3</sub> -based piezoelectrics: Fundamentals, current status, and perspectives. <i>Applied Physics Reviews</i> , <b>2017</b> , 4, 041305	17.3	487
93	Anti-Ferroelectric Ceramics for High Energy Density Capacitors. <i>Materials</i> , <b>2015</b> , 8, 8009-8031	3.5	194
92	Mechanical confinement for improved energy storage density in BNT-BT-KNN lead-free ceramic capacitors. <i>AIP Advances</i> , <b>2014</b> , 4, 087106	1.5	60
91	Candle soot: Journey from a pollutant to a functional material. <i>Carbon</i> , <b>2019</b> , 144, 684-712	10.4	57
90	Multicaloric effect in Pb(Mn <sup>1/3</sup> Nb <sup>2/3</sup> )O <sub>3</sub> -32PbTiO <sub>3</sub> single crystals. <i>Acta Materialia</i> , <b>2015</b> , 89, 384-395	8.4	56
89	Large pyroelectric figure of merits for Sr-modified Ba <sub>0.85</sub> Ca <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> O <sub>3</sub> ceramics. <i>Solid State Sciences</i> , <b>2016</b> , 52, 10-18	3.4	51
88	Elastocaloric effect in ferroelectric ceramics. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 172901	3.4	49
87	Tuning of dielectric, pyroelectric and ferroelectric properties of 0.715Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> -0.065BaTiO <sub>3</sub> -0.22SrTiO <sub>3</sub> ceramic by internal clamping. <i>AIP Advances</i> , <b>2015</b> , 5, 087145	1.5	46
86	A technique for giant mechanical energy harvesting using ferroelectric/antiferroelectric materials. <i>Journal of Applied Physics</i> , <b>2014</b> , 115, 084908	2.5	45
85	Enhanced Thermal Energy Harvesting Using Li, K-Doped Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> Lead-Free Ferroelectric Ceramics. <i>Energy Technology</i> , <b>2014</b> , 2, 205-209	3.5	40
84	Enhancing electrical energy storage density in anti-ferroelectric ceramics using ferroelastic domain switching. <i>Materials Research Express</i> , <b>2014</b> , 1, 045502	1.7	39
83	Multiple caloric effects in (Ba <sub>0.865</sub> Ca <sub>0.135</sub> Zr <sub>0.1089</sub> Ti <sub>0.8811</sub> Fe <sub>0.01</sub> )O <sub>3</sub> ferroelectric ceramic. <i>Applied Physics Letters</i> , <b>2015</b> , 107, 042902	3.4	38
82	A review and analysis of the elasto-caloric effect for solidstate refrigeration devices: Challenges and opportunities. <i>MRS Energy &amp; Sustainability</i> , <b>2015</b> , 2, 1	2.2	36
81	Enhanced energy harvesting in commercial ferroelectric materials. <i>Materials Research Express</i> , <b>2014</b> , 1, 025504	1.7	33
80	Elastocaloric and barocaloric effects in polyvinylidene di-fluoride-based polymers. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 072903	3.4	33
79	Electrocaloric Behavior and Temperature-Dependent Scaling of Dynamic Hysteresis of Ba <sub>0.85</sub> Ca <sub>0.15</sub> Ti <sub>0.9</sub> Zr <sub>0.1</sub> O <sub>3</sub> Ceramics. <i>International Journal of Applied Ceramic Technology</i> , <b>2015</b> , 12, 899-907	3.07	32
78	Analysis of High-Field Energy Harvesting using Ferroelectric Materials. <i>Energy Technology</i> , <b>2014</b> , 2, 480-485	3.5	28

77	Interplay of conventional with inverse electrocaloric response in (Pb,Nb)(Zr,Sn,Ti)O <sub>3</sub> antiferroelectric materials. <i>Physical Review B</i> , <b>2018</b> , 97,	3.3	26
76	Improved Electrical Energy Storage Density in Vanadium-Doped BaTiO <sub>3</sub> Bulk Ceramics by Addition of 3BaO·TiO <sub>2</sub> ·B <sub>2</sub> O <sub>3</sub> Glass. <i>Energy Technology</i> , <b>2015</b> , 3, 70-76	3.5	23
75	Enhanced thermal energy conversion and dynamic hysteresis behavior of Sr-added Ba <sub>0.85</sub> Ca <sub>0.15</sub> Ti <sub>0.9</sub> Zr <sub>0.1</sub> O <sub>3</sub> ferroelectric ceramics. <i>Journal of Materiomics</i> , <b>2016</b> , 2, 75-86	6.7	21
74	Multicaloric effect in Pb(Mn <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> -32PbTiO <sub>3</sub> single crystals: Modes of measurement. <i>Acta Materialia</i> , <b>2015</b> , 97, 17-28	8.4	20
73	Thermal energy conversion and temperature-dependent dynamic hysteresis analysis for Ba <sub>0.85</sub> Ca <sub>0.15</sub> Ti <sub>0.9</sub> Fe <sub>x</sub> Zr <sub>0.1</sub> O <sub>3</sub> ceramics Peer review under responsibility of The Ceramic Society of Japan and the Korean Ceramic Society. View all notes. <i>Journal of Asian Ceramic Societies</i> , <b>2016</b> , 4, 102-111	2.4	18
72	Temperature dependence scaling behavior of the dynamic hysteresis in 0.715Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> -0.065BaTiO <sub>3</sub> -0.22SrTiO <sub>3</sub> ferroelectric ceramics. <i>Materials Research Express</i> , <b>2015</b> , 2, 035501	1.7	18
71	Pyro-paraelectric and flexocaloric effects in barium strontium titanate: A first principles approach. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 162901	3.4	18
70	Mechanical confinement for tuning ferroelectric response in PMN-PT single crystal. <i>Journal of Applied Physics</i> , <b>2015</b> , 117, 084102	2.5	17
69	Enhanced electrocaloric effect in Ba <sub>0.85</sub> Ca <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> Sn <sub>x</sub> O <sub>3</sub> ferroelectric ceramics. <i>Phase Transitions</i> , <b>2016</b> , 89, 1062-1073	1.3	16
68	Enhanced energy storage performance of glass added 0.715Bi <sub>0.5</sub> Na <sub>0.5</sub> TiO <sub>3</sub> -0.065BaTiO <sub>3</sub> -0.22SrTiO <sub>3</sub> ferroelectric ceramics Peer review under responsibility of The Ceramic Society of Japan and the Korean Ceramic Society. View all notes. <i>Journal of Asian Ceramic Societies</i> , <b>2015</b> , 3, 383-389	2.4	16
67	Elastocaloric Effect in Carbon Nanotubes and Graphene. <i>Nano Letters</i> , <b>2016</b> , 16, 7008-7012	11.5	16
66	Enhanced electrocaloric effect in Fe-doped (Ba <sub>0.85</sub> Ca <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> )O <sub>3</sub> ferroelectric ceramics. <i>Applied Materials Today</i> , <b>2015</b> , 1, 37-44	6.6	15
65	Effect of sintering temperature and dwell time on electrocaloric properties of Ba <sub>0.85</sub> Ca <sub>0.075</sub> Sr <sub>0.075</sub> Ti <sub>0.90</sub> Zr <sub>0.10</sub> O <sub>3</sub> ceramics. <i>Phase Transitions</i> , <b>2017</b> , 90, 465-474	1.3	14
64	Pyroelectric performance of BaTi <sub>1-x</sub> Sn <sub>x</sub> O <sub>3</sub> ceramics. <i>International Journal of Applied Ceramic Technology</i> , <b>2018</b> , 15, 546-553	2	13
63	Cyclic Electrical Energy Harvesting Using Mechanical Confinement in Ferroelectric Ceramics. <i>International Journal of Applied Ceramic Technology</i> , <b>2015</b> , 12, 765-770	2	13
62	Enhanced Electrocaloric Effect in Pre-stressed Ferroelectric Materials. <i>Energy Technology</i> , <b>2015</b> , 3, 177-186	3.5	13
61	Pyroelectric signals in (Ba,Ca)TiO <sub>3</sub> -xBa(Sn,Ti)O <sub>3</sub> ceramics: A viable alternative for lead-based ceramics. <i>Scripta Materialia</i> , <b>2018</b> , 146, 146-149	5.6	13
60	Caloric Effects in Bulk Lead-Free Ferroelectric Ceramics for Solid-State Refrigeration. <i>Energy Technology</i> , <b>2016</b> , 4, 244-248	3.5	12

59	Melting of dxy Orbital Ordering Accompanied by Suppression of Giant Tetragonal Distortion and Insulator-to-Metal Transition in Cr-Substituted PbVO <sub>3</sub> . <i>Chemistry of Materials</i> , <b>2019</b> , 31, 1352-1358	9.6	12
58	Thermomechanical Energy Conversion Potential of Lead-Free 0.50Ba(Zr <sub>0.2</sub> Ti <sub>0.8</sub> )O <sub>3</sub> ·0.50(Ba <sub>0.7</sub> Ca <sub>0.3</sub> )TiO <sub>3</sub> Bulk Ceramics. <i>Energy Technology</i> , <b>2018</b> , 6, 872-882	3.5	12
57	Pyroelectric energy conversion using Ba <sub>0.85</sub> Sr <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> O <sub>3</sub> ceramics and its cement-based composites. <i>Journal of Intelligent Material Systems and Structures</i> , <b>2019</b> , 30, 869-877	2.3	10
56	Elastocaloric and Piezocaloric Effects in Lead Zirconate Titanate Ceramics. <i>Energy Technology</i> , <b>2016</b> , 4, 647-652	3.5	10
55	Pyroelectric and impedance studies of the 0.5Ba(Zr <sub>0.2</sub> Ti <sub>0.8</sub> )O <sub>3</sub> -0.5(Ba <sub>0.7</sub> Sr <sub>0.3</sub> )TiO <sub>3</sub> ceramics. <i>Ceramics International</i> , <b>2018</b> , 44, 21976-21981	5.1	10
54	Functional Cementitious Composites for Pyroelectric Applications. <i>Journal of Electronic Materials</i> , <b>2018</b> , 47, 2378-2385	1.9	9
53	Tunable Pyroelectricity around the Ferroelectric/Antiferroelectric Transition. <i>Energy Technology</i> , <b>2018</b> , 6, 865-871	3.5	9
52	Large room temperature electrocaloric strength in bulk ferroelectric ceramics: an optimum solution. <i>Phase Transitions</i> , <b>2016</b> , 89, 1019-1028	1.3	9
51	Engineered microstructure for tailoring the pyroelectric performance of Ba <sub>0.85</sub> Sr <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> O <sub>3</sub> ceramics by 3BaO-3TiO <sub>2</sub> -B <sub>2</sub> O <sub>3</sub> glass addition. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 232901	3.4	9
50	Enhanced Electrical Energy Storage Density in Mechanical Confined Antiferroelectric Ceramic. <i>Ferroelectrics</i> , <b>2015</b> , 486, 114-125	0.6	9
49	Influence of grain size on the electrocaloric and pyroelectric properties in non-reducible BaTiO <sub>3</sub> ceramics. <i>AIP Advances</i> , <b>2020</b> , 10, 085302	1.5	9
48	Effect of sintering temperature and dwell time dependent dynamic hysteresis scaling behavior of (Ba <sub>0.85</sub> Ca <sub>0.075</sub> Sr <sub>0.075</sub> )(Ti <sub>0.90</sub> Zr <sub>0.10</sub> )O <sub>3</sub> ceramics. <i>Ferroelectrics</i> , <b>2016</b> , 505, 52-66	0.6	9
47	Electrocaloric behavior and temperature dependent scaling of dynamic hysteresis of Ba <sub>x</sub> Sr <sub>1-x</sub> TiO <sub>3</sub> (x = 0.7, 0.8 and 0.9) bulk ceramics. <i>Journal of the Australian Ceramic Society</i> , <b>2018</b> , 54, 439-450	1.5	8
46	Effect of Directional Mechanical Confinement on the Electrical Energy Storage Density in 68Pb(Mn <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> -32PbTiO <sub>3</sub> Single Crystals. <i>Ferroelectrics</i> , <b>2015</b> , 478, 40-53	0.6	7
45	Effect of Stress on Energy Conversion and Storage Characteristics of (1-x-y)PIN-xPMN-yPT Single Crystals. <i>Ferroelectrics, Letters Section</i> , <b>2015</b> , 42, 107-114	0.5	7
44	Effects of preconditioning on the accuracy and efficiency of incompressible flows. <i>International Journal for Numerical Methods in Fluids</i> , <b>2005</b> , 47, 963-970	1.9	7
43	Effect of sintering parameters on the dynamic hysteresis scaling behavior of Ba <sub>0.85</sub> Sr <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> O <sub>3</sub> ceramics. <i>Integrated Ferroelectrics</i> , <b>2016</b> , 176, 95-108	0.8	7
42	Flexoelectric Induced Caloric Effect in Truncated Pyramid Shaped Ba <sub>0.67</sub> Sr <sub>0.33</sub> TiO <sub>3</sub> Ferroelectric Material. <i>Journal of Electronic Materials</i> , <b>2017</b> , 46, 4166-4171	1.9	6

41	Cyclic Piezoelectric Energy Harvesting in PMN-PT Single Crystals. <i>Ferroelectrics</i> , <b>2015</b> , 481, 138-145	0.6	6
40	Enhanced electrocaloric effect in glass-added 0.94Bi0.5Na0.5TiO3-0.06BaTiO3 ceramics. <i>Journal of the Australian Ceramic Society</i> , <b>2017</b> , 53, 523-529	1.5	6
39	Large barocaloric effect and pressure-mediated electrocaloric effect in Pb0.99Nb0.02(Zr0.95Ti0.05)0.08O3 ceramics. <i>Journal of the American Ceramic Society</i> , <b>2017</b> , 100, 4902-4911	3.8	5
38	Design of PZT/Pt functionally graded piezoelectric material for low-frequency actuation applications. <i>Journal of Intelligent Material Systems and Structures</i> , <b>2015</b> , 26, 321-327	2.3	5
37	Pyro-paraelectric effect in ferroelectric materials: A device perspective for transcending Curie limitation. <i>Materials Today Communications</i> , <b>2017</b> , 12, 146-151	2.5	5
36	Flexo/electro-caloric performance of BaTi0.87Sn0.13O3 ceramics. <i>Applied Physics Letters</i> , <b>2020</b> , 117, 092904	3.4	5
35	Pyroelectric energy harvesting for dye decolorization using Ba0.9Ca0.1TiO3 ceramics. <i>Journal of Applied Physics</i> , <b>2020</b> , 128, 095108	2.5	5
34	Electric-Field-Driven Caloric Effects in Ferroelectric Materials for Solid-State Refrigeration. <i>Energy Technology</i> , <b>2016</b> , 4, 417-423	3.5	5
33	Large-Temperature-Invariant and Electrocaloric Performance of Modified Barium Titanate for Solid-State Refrigeration. <i>Energy Technology</i> , <b>2016</b> , 4, 1097-1105	3.5	4
32	Enhanced Energy Harvesting Using Multilayer Piezoelectric Ceramics. <i>Journal of Electronic Materials</i> , <b>2019</b> , 48, 6964-6971	1.9	4
31	Enhanced performance of ferroelectric materials under hydrostatic pressure. <i>Journal of Applied Physics</i> , <b>2017</b> , 122, 224105	2.5	4
30	Finite Element Analysis of the Microstructure of AlN/iN Composites. <i>Strain</i> , <b>2014</b> , 50, 250-261	1.7	4
29	An insight into thermal and vibration cyclic energy harvesting using ferroelectric ceramics. <i>Integrated Ferroelectrics</i> , <b>2016</b> , 168, 69-84	0.8	4
28	Na1/2Bi1/2VO3 and K1/2Bi1/2VO3: New Lead-Free Tetragonal Perovskites with Moderate c/a Ratios. <i>Chemistry of Materials</i> , <b>2018</b> , 30, 6728-6736	9.6	4
27	Microstructural Finite Element Modeling and Simulation on Al/MgO Composites. <i>International Journal of Computational Methods</i> , <b>2015</b> , 12, 1550030	1.1	3
26	Enhanced mechanical energy conversion potential in ferroelectric single crystals. <i>Materials Technology</i> , <b>2016</b> , 31, 274-280	2.1	3
25	Thermal Energy Harvesting Capabilities in Lead-Free Ba0.85Ca0.15Ti0.9SnxZr0.10O3 Ferroelectric Ceramics. <i>Journal of Electronic Materials</i> , <b>2020</b> , 49, 1194-1203	1.9	3
24	Effect of uniaxial stress on energy harvesting, storage and electrocaloric performance of BZT ceramics. <i>Journal of the Korean Ceramic Society</i> , <b>2021</b> , 58, 437-444	2.2	3

23	Effect of porous auxetic structures on low-frequency piezoelectric energy harvesting systems: a finite element study. <i>Applied Physics A: Materials Science and Processing</i> , <b>2022</b> , 128, 1	2.6	3
22	Giant Electro-Mechanical Energy Conversion in Lead-Free Ferroelectric Materials. <i>Ferroelectrics, Letters Section</i> , <b>2015</b> , 42, 35-42	0.5	2
21	Temperature dependent dynamics hysteresis scaling of Ba <sub>0.85</sub> Ca <sub>0.15</sub> Ti <sub>0.9</sub> Sn <sub>x</sub> Zr <sub>0.10</sub> O <sub>3</sub> bulk ferroelectric ceramics. <i>Phase Transitions</i> , <b>2019</b> , 92, 960-973	1.3	2
20	Pyroelectric figures of merit and energy harvesting potential in ferroelectric cement composites. <i>Journal of Materials Science: Materials in Electronics</i> , <b>2020</b> , 31, 16708-16719	2.1	2
19	The pyroelectric energy harvesting and storage performance around the ferroelectric/antiferroelectric transition in PNZST. <i>Journal of Materials Science</i> , <b>2021</b> , 56, 1133-1146	4.3	2
18	Vibration induced refrigeration using ferroelectric materials. <i>Scientific Reports</i> , <b>2019</b> , 9, 3922	4.9	1
17	Pressure-induced spin state transition in BiFeO <sub>3</sub> : an ab initio electronic structure calculation. <i>EPJ Applied Physics</i> , <b>2014</b> , 67, 20602	1.1	1
16	Electrocaloric properties of Sr and Sn doped BCZT lead-free ceramics. <i>EPJ Applied Physics</i> , <b>2020</b> , 91, 209051	0.5	1
15	Thermo-mechanical energy harvesting and storage analysis in 0.6BZT-0.4BCT ceramics. <i>EPJ Applied Physics</i> , <b>2021</b> , 95, 20901	1.1	1
14	Composition dependent electrocaloric behavior of (SrxBa1-x)Nb2O6 ceramics. <i>Integrated Ferroelectrics</i> , <b>2016</b> , 168, 163-169	0.8	1
13	Thermomechanical analysis of 0.94Na <sub>1/2</sub> Bi <sub>1/2</sub> TiO <sub>3</sub> -0.06BaTiO <sub>3</sub> /ZnO composites using finite element method. <i>Journal of Alloys and Compounds</i> , <b>2021</b> , 854, 157161	5.7	1
12	Impedance and modulus analysis of barium calcium titanate ferroelectric ceramics. <i>Journal of the Korean Ceramic Society</i> , <b>2021</b> , 58, 337-350	2.2	1
11	Finite element analysis of WCAl <sub>2</sub> O <sub>3</sub> composites. <i>International Journal of Computational Materials Science and Engineering</i> , <b>2014</b> , 03, 1450002	0.3	0
10	Enhanced Energy Conversion and Storage Properties of Sn-Doped BaTiO <sub>3</sub> Bulk Ceramics Using Compressive Stresses. <i>Journal of Electronic Materials</i> , <b>2022</b> , 51, 1297-1310	1.9	0
9	Electrical conduction properties of the BZT/BST ceramics. <i>Journal of Advanced Dielectrics</i> , <b>2020</b> , 10, 2050026	0.26	0
8	Flexocaloric effect in ferroelectric materials: methods of indirect evaluation. <i>Applied Physics A: Materials Science and Processing</i> , <b>2021</b> , 127, 1	2.6	0
7	Elastocaloric effect in zinc oxide nanowire. <i>Functional Materials Letters</i> , <b>2021</b> , 14, 2150021	1.2	0
6	Pyroelectric performance of [Bi <sub>0.48</sub> Na <sub>0.40</sub> 32K <sub>0.07</sub> 68]Sr <sub>0.04</sub> (Ti <sub>0.97</sub> 5Nb <sub>0.02</sub> 5)O <sub>3</sub> ceramics. <i>Journal of the Australian Ceramic Society</i> , <b>2020</b> , 56, 395-402	1.5	0

- 5 Nonstoichiometric effect on electrocaloric, pyroelectric and energy storage properties of  $0.94\text{Na}_x\text{Bi}_y\text{TiO}_3\text{0.06BaTiO}_3$  bulk ceramics. *Journal of Materials Science: Materials in Electronics*, **2021**, 32, 26871 2.1 0
- 4 Flexo/elasto-caloric effects in  $0.66\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-}0.34\text{PbTiO}_3$  single crystal. *Materials Letters*, **2021**, 287, 129301 3.3
- 3 Pyroelectric Energy Harvesting Potential in Lead-Free BZT-BST Ceramics. *Smart Innovation, Systems and Technologies*, **2021**, 175-183 0.5
- 2 Effect of Stress on Ferroelectric, Energy Storage and Harvesting Properties of  $0.4\text{BZT}\text{-}0.6\text{BCT}$  Ceramics. *Smart Innovation, Systems and Technologies*, **2022**, 57-65 0.5
- 1 Energy and exergy analysis of pebble bed thermal energy storage system for diesel engine exhaust. *Thermal Science*, **2022**, 72-72 1.2