

Till FrÃ¶mmling

List of Publications by Year in descending order

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67
papers

2,895
citations

218592

26
h-index

168321

53
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67
all docs

67
docs citations

67
times ranked

3578
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanism of Lithium Metal Penetration through Inorganic Solid Electrolytes. <i>Advanced Energy Materials</i> , 2017, 7, 1701003.	10.2	780
2	Enhanced Lithium Transference Numbers in Ionic Liquid Electrolytes. <i>Journal of Physical Chemistry B</i> , 2008, 112, 12985-12990.	1.2	206
3	Requirements for the transfer of lead-free piezoceramics into application. <i>Journal of Materiomics</i> , 2018, 4, 13-26.	2.8	187
4	Relationship between Cation Segregation and the Electrochemical Oxygen Reduction Kinetics of $\text{La}_{0.6}\text{Sr}_{0.4}\text{CoO}_{3-\delta}$ Thin Film Electrodes. <i>Journal of the Electrochemical Society</i> , 2011, 158, B727-B734.	1.3	183
5	Phase transition behavior, dielectric and ferroelectric properties of $(1-x)\text{Bi}_0.5\text{Na}_0.5\text{TiO}_3$. <i>Journal of Applied Physics</i> , 2011, 110, 244101.	2.8	144
6	Impedance Spectroscopy of $\text{Bi}_{1/2}\text{Na}_{1/2}\text{TiO}_3$ -Based High-Temperature Dielectrics. <i>Journal of the American Ceramic Society</i> , 2014, 97, 2825-2831.	2.7	73
7	Optimizing the defect chemistry of $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$ -based materials: paving the way for excellent high temperature capacitors. <i>Journal of Materials Chemistry C</i> , 2018, 6, 4769-4776.	2.7	68
8	Ionic conductivity of acceptor doped sodium bismuth titanate: influence of dopants, phase transitions and defect associates. <i>Journal of Materials Chemistry C</i> , 2017, 5, 8958-8965.	2.7	65
9	The effect of A site non-stoichiometry on $0.94(\text{Na}_{1-x}\text{Bi}_x)\text{TiO}_3-0.06\text{BaTiO}_3$. <i>Journal of the European Ceramic Society</i> , 2017, 37, 1429-1436.	2.8	63
10	The effect of Fe acceptor doping on the electrical properties of $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$ and $0.94(\text{Na}_{1/2}\text{Bi}_{1/2})\text{TiO}_3-0.06\text{BaTiO}_3$. <i>Journal of the American Ceramic Society</i> , 2019, 102, 5295-5304.	1.9	54
11	High-performance piezoelectric $(\text{K},\text{Na},\text{Li})(\text{Nb},\text{Ta},\text{Sb})\text{O}_3$ single crystals by oxygen annealing. <i>Acta Materialia</i> , 2018, 148, 499-507.	3.8	42
12	Conceptual Framework for Dislocation-Modified Conductivity in Oxide Ceramics Deconvoluting Mesoscopic Structure, Core, and Space Charge Exemplified for SrTiO_3 . <i>ACS Nano</i> , 2021, 15, 9355-9367.	7.3	41
13	Decreasing polar-structure size: Achieving superior energy storage properties and temperature stability in $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ -based ceramics for low electric field and high-temperature applications. <i>Journal of the European Ceramic Society</i> , 2021, 41, 5890-5899.	2.8	41
14	Long term stability of electrocaloric response in barium zirconate titanate. <i>Journal of the European Ceramic Society</i> , 2018, 38, 551-556.	2.8	40
15	High-temperature dielectrics based on $(1-y)[(1-x)\text{Bi}_{0.5}\text{Na}_{0.5}\text{TiO}_3-x\text{BiAlO}_3]-y\text{CaZrO}_3$ ternary system with stable permittivity and low dielectric loss in a wide temperature range. <i>Journal of the European Ceramic Society</i> , 2019, 39, 4160-4167.	2.8	40
16	Structural mechanism behind piezoelectric enhancement in off-stoichiometric $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ based lead-free piezoceramics. <i>Acta Materialia</i> , 2019, 164, 761-775.	3.8	38
17	Designing properties of $(\text{Na}_{1/2}\text{Bi}_x)\text{TiO}_3$ -based materials through A-site non-stoichiometry. <i>Journal of Materials Chemistry C</i> , 2018, 6, 738-744.	2.7	37
18	Conduction Mechanisms in $\text{BaTiO}_3-\text{Bi}(\text{Zn}_{1/2}\text{Ti}_{1/2})\text{O}_3$ Ceramics. <i>Journal of the American Ceramic Society</i> , 2016, 99, 3047-3054.	1.9	33

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19	Oxygen tracer diffusion in donor doped barium titanate. Journal of Applied Physics, 2011, 110, .	1.1	32
20	Piezotronic sensors. MRS Bulletin, 2018, 43, 941-945.	1.7	32
21	Bulk ZnO as piezotronic pressure sensor. Applied Physics Letters, 2014, 105, .	1.5	31
22	Donor and acceptor-like self-doping by mechanically induced dislocations in bulk TiO ₂ . Nano Energy, 2021, 85, 105944.	8.2	31
23	Defect mechanisms in BaTiO ₃ M ₃ O ₃ ceramics. Journal of the American Ceramic Society, 2018, 101, 2376-2390.	1.9	30
24	Domain wall-grain boundary interactions in polycrystalline Pb(Zr _{0.7} Ti _{0.3})O ₃ piezoceramics. Journal of the European Ceramic Society, 2020, 40, 3965-3973.	2.8	30
25	Antibacterial ferroelectric materials: Advancements and future directions. Journal of Industrial and Engineering Chemistry, 2021, 97, 95-110.	2.9	30
26	Ultrawide Temperature Range with Stable Permittivity and Low Dielectric Loss in (1- α)Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 467 Td (<i>...</i> System. Advanced Electronic Materials, 2020, 6, 1901429.	2.6	29
27	Role of (Bi _{1/2} K _{1/2})TiO ₃ in the dielectric relaxations of BiFeO ₃ -(Bi _{1/2} K _{1/2})TiO ₃ ceramics. Journal of Applied Physics, 2016, 119, .	1.1	26
28	High temperature creep-mediated functionality in polycrystalline barium titanate. Journal of the American Ceramic Society, 2020, 103, 1891-1902.	1.9	26
29	Nanoscale to microscale reversal in room-temperature plasticity in SrTiO ₃ by tuning defect concentration. Scripta Materialia, 2020, 188, 228-232.	2.6	26
30	Measurement of ¹⁸ O tracer diffusion coefficients in thin yttria stabilized zirconia films. Solid State Ionics, 2011, 184, 23-26.	1.3	25
31	Piezotronic Tuning of Potential Barriers in ZnO Bicrystals. Advanced Materials, 2018, 30, 1705573.	11.1	25
32	Role of thermal gradients on the depolarization and conductivity in quenched Na _{1/2} Bi _{1/2} TiO ₃ -BaTiO ₃ . Applied Physics Letters, 2020, 116, .	1.5	24
33	Influence of metal/semiconductor interface on attainable piezoelectric and energy harvesting properties of ZnO. Acta Materialia, 2019, 162, 277-283.	3.8	23
34	Oxide Ion Transport in Donor-Doped Pb(Zr _x Ti _{1-x})O ₃ : The Role of Grain Boundaries. Journal of the American Ceramic Society, 2011, 94, 1173-1181.	1.9	22
35	Varistor piezotronics: Mechanically tuned conductivity in varistors. Journal of Applied Physics, 2015, 118, .	1.1	22
36	Piezotronic effect at Schottky barrier of a metal-ZnO single crystal interface. Journal of Applied Physics, 2017, 121, 155701.	1.1	21

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37	DC-bias dependent impedance spectroscopy of BaTiO_3 - $\text{Bi}(\text{Zn}_{1/2}\text{Ti}_{1/2})\text{O}_3$ ceramics. Journal of Materials Chemistry C, 2016, 4, 1782-1786.	2.7	19
38	Oxide Ion Transport in Donor-Doped $\text{Pb}(\text{Zr}_{1-x}\text{Ti}_x)\text{O}_3$ Near-Surface Diffusion Properties. Journal of the American Ceramic Society, 2012, 95, 1692-1700.	1.9	18
39	Pyroelectric and impedance studies of the $0.5\text{Ba}(\text{Zr}_{0.2}\text{Ti}_{0.8})\text{O}_3$ - $0.5(\text{Ba}_{0.7}\text{Sr}_{0.3})\text{TiO}_3$ ceramics. Ceramics International, 2018, 44, 21976-21981.	2.3	17
40	Reducing dielectric loss in $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ based high temperature capacitor material. Journal of the European Ceramic Society, 2021, 41, 2587-2595.	2.8	16
41	Blacklight sintering of ceramics. Materials Horizons, 2022, 9, 1717-1726.	6.4	15
42	Influence of oxygen vacancies on core-shell formation in solid solutions of $(\text{Na},\text{Bi})\text{TiO}_3$ and SrTiO_3 . Journal of the American Ceramic Society, 2021, 104, 4341-4350.	1.9	14
43	Room-temperature dislocation plasticity in SrTiO_3 tuned by defect chemistry. Journal of the American Ceramic Society, 2022, 105, 1318-1329.	1.9	14
44	The fate of aluminium in $(\text{Na},\text{Bi})\text{TiO}_3$ -based ionic conductors. Journal of Materials Chemistry A, 2020, 8, 18188-18197.	5.2	12
45	High field electroformation of sodium bismuth titanate and its solid solutions with barium titanate. Journal of Materials Chemistry C, 2021, 9, 3334-3342.	2.7	12
46	Dislocation-enhanced electrical conductivity in rutile TiO_2 accessed by room-temperature nanoindentation. Scripta Materialia, 2022, 212, 114543.	2.6	12
47	Enhanced Photoconductivity at Dislocations in SrTiO_3 . Advanced Materials, 2022, 34, .	11.1	11
48	Defect Structure of Doped Lead-Free $0.9(\text{Bi}_{0.5}\text{Na}_{0.5})\text{TiO}_3$ - $0.1(\text{Bi}_{0.5}\text{K}_{0.5})\text{TiO}_3$ Piezoceramics. Journal of the American Ceramic Society, 2016, 99, 543-550.	1.9	10
49	Gauge factors for piezotronic stress sensor in polycrystalline ZnO. Journal Physics D: Applied Physics, 2017, 50, 175106.	1.3	10
50	ZnO-based single crystal-polycrystal structures for piezotronic applications. Journal of the American Ceramic Society, 2018, 102, 2640.	1.9	10
51	Synthesis of Novel Lithium Salts containing Pentafluorophenylamido-based Anions and Investigation of their Thermal and Electrochemical Properties. Zeitschrift Fur Physikalische Chemie, 2012, 226, 377-390.	1.4	9
52	A comprehensive comparative study of CO_2 -resistance and oxygen permeability of 60wt % $\text{Ce}_{0.8}\text{M}_{0.2}\text{O}_2$ (M = La, Pr, Nd, Sm, Gd) - 40wt % $\text{La}_{0.5}\text{Sr}_{0.5}\text{Fe}_{0.8}\text{Cu}_{0.2}\text{O}_3$ dual-phase membranes. Journal of Membrane Science, 2021, 639, 119783.	4.1	9
53	Dramatic impact of the TiO_2 polymorph on the electrical properties of $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ stoichiometric ceramics prepared by solid-state reaction. Journal of Materials Chemistry A, 2022, 10, 891-901.	5.2	9
54	Mechanically tuned conductivity at individual grain boundaries in polycrystalline ZnO varistor ceramics. Journal of Applied Physics, 2020, 127, .	1.1	8

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55	Suppression of high-temperature dielectric loss by designed thermal annealing treatment in (Bi _{1/2} Na _{1/2})TiO ₃ ceramics. Journal of the European Ceramic Society, 2022, 42, 1388-1395.	2.8	8
56	Revealing the impact of acceptor dopant type on the electrical conductivity of sodium bismuth titanate. Acta Materialia, 2022, 229, 117808.	3.8	7
57	The effect of bias-temperature stress on Na ⁺ incorporation into thin insulating films. Analytical and Bioanalytical Chemistry, 2011, 400, 649-657.	1.9	6
58	An extended grain boundary barrier height model including the impact of internal electric field. AIP Advances, 2018, 8, .	0.6	6
59	Influence of the annealing conditions on temperature-dependent ferroelastic behavior of LSCF. Materialia, 2019, 6, 100297.	1.3	4
60	Influence of Wettability on the Impedance of Ion Transport Through Mesoporous Silica Films. Advanced Materials Interfaces, 2021, 8, 2002095.	1.9	4
61	Finite element simulations on piezoelectric modulation of ZnO grain boundary barrier height. Journal of Applied Physics, 2019, 126, 205101.	1.1	3
62	Segregation and properties at curved vs straight (000) inversion boundaries in piezotronic ZnO bicrystals. Journal of the American Ceramic Society, 2020, 103, 2817-2827.	1.9	3
63	Surface Cation Segregation and its Effect on the Oxygen Reduction Reaction on Mixed Conducting Electrodes Investigated by ToF-SIMS and ICP-OES. ECS Transactions, 2011, 35, 1975-1983.	0.3	2
64	Near-surface transport properties of donor doped Pb(Zr _x Ti _{1-x})O ₃ (PZT) in an external electric field. Solid State Ionics, 2012, 225, 727-731.	1.3	2
65	Impact of mechanical stress on barium titanate-based positive temperature coefficient resistive material. Journal of Materials Science, 2018, 53, 16243-16251.	1.7	2
66	Role of matrix phase and electric field gradient in Na _{1/2} Bi _{1/2} TiO ₃ BaTiO ₃ :ZnO composites. Journal of Materiomics, 2022, 8, 498-510.	2.8	2
67	Modulus spectroscopy for the detection of parallel electric responses in electroceramics. Journal of Materiomics, 2021, 8, 556-556.	2.8	0