

Jurij Koruza

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

93
papers

2,602
citations

26
h-index

48
g-index

104
ext. papers

3,306
ext. citations

5.5
avg, IF

5.41
L-index

#	Paper	IF	Citations
93	Origin of high-power drive stability in (Na _{1/2} Bi _{1/2})TiO ₃ -BaTiO ₃ based piezoceramics. <i>Acta Materialia</i> , 2022 , 227, 117703	8.4	3
92	Domain morphology of newly designed lead-free antiferroelectric NaNbO ₃ -SrSnO ₃ ceramics. <i>Journal of the American Ceramic Society</i> , 2021 , 104, 3715-3725	3.8	3
91	Revealing the mechanism of electric-field-induced phase transition in antiferroelectric NaNbO ₃ by in situ high-energy x-ray diffraction. <i>Applied Physics Letters</i> , 2021 , 118, 132903	3.4	7
90	Direct observation of domain wall motion and lattice strain dynamics in ferroelectrics under high-power resonance. <i>Physical Review B</i> , 2021 , 103,	3.3	5
89	Control of polarization in bulk ferroelectrics by mechanical dislocation imprint. <i>Science</i> , 2021 , 372, 961-964	3.3	24
88	Electroceramics XVII - The 2020 virtual conference experience at TU Darmstadt. <i>Open Ceramics</i> , 2021 , 6, 100114	3.3	0
87	Influence of Defects on the Schottky Barrier Height at BaTiO ₃ /RuO ₂ Interfaces. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2021 , 218, 2100143	1.6	0
86	Large plastic deformability of bulk ferroelectric KNbO ₃ single crystals. <i>Journal of the European Ceramic Society</i> , 2021 , 41, 4098-4107	6	6
85	Precipitation Hardening in Ferroelectric Ceramics. <i>Advanced Materials</i> , 2021 , 33, e2102421	24	9
84	Lead-Free Piezoelectric Ceramics 2021 , 358-368		0
83	Design of Lead-Free Antiferroelectric (1-x)NaNbO ₃ -xSrSnO ₃ Compositions Guided by First-Principles Calculations. <i>Chemistry of Materials</i> , 2021 , 33, 266-274	9.6	16
82	Polarization Rotation at Morphotropic Phase Boundary in New Lead-Free NaBiVTiO Piezoceramics. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 5208-5215	9.5	5
81	Multifunctional Cantilevers as Working Elements in Solid-State Cooling Devices. <i>Actuators</i> , 2021 , 10, 58	2.4	2
80	Thermal stability of the electromechanical properties in acceptor-doped and composite-hardened (Na _{1/2} Bi _{1/2})TiO ₃ -BaTiO ₃ ferroelectrics. <i>Journal of Applied Physics</i> , 2021 , 130, 014101	2.5	2
79	NaNbO ₃ -based antiferroelectric multilayer ceramic capacitors for energy storage applications. <i>Journal of the European Ceramic Society</i> , 2021 , 41, 5519-5525	6	3
78	Spontaneous ferroelectric order in lead-free relaxor Na _{1/2} Bi _{1/2} TiO ₃ -based composites. <i>Physical Review B</i> , 2020 , 101,	3.3	10
77	(K,Na)NbO ₃ -based piezoelectric single crystals: Growth methods, properties, and applications. <i>Journal of Materials Research</i> , 2020 , 35, 990-1016	2.5	15

76	Origin of high electromechanical properties in (K,Na)NbO ₃ -based lead-free piezoelectrics modified with BaZrO ₃ . <i>Physical Review Materials</i> , 2020 , 4,	3.2	6
75	High temperature creep-mediated functionality in polycrystalline barium titanate. <i>Journal of the American Ceramic Society</i> , 2020 , 103, 1891-1902	3.8	15
74	²³ Na NMR Spectroscopic Quantification of the Antiferroelectric/Ferroelectric Phase Coexistence in Sodium Niobate. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 23852-23858	3.8	4
73	Electric-field-induced antiferroelectric to ferroelectric phase transition in polycrystalline NaNbO ₃ . <i>Acta Materialia</i> , 2020 , 200, 127-135	8.4	23
72	Multistep stochastic mechanism of polarization reversal in rhombohedral ferroelectrics. <i>Physical Review B</i> , 2020 , 102,	3.3	1
71	Domain wall-grain boundary interactions in polycrystalline Pb(Zr _{0.7} Ti _{0.3})O ₃ piezoceramics. <i>Journal of the European Ceramic Society</i> , 2020 , 40, 3965-3973	6	17
70	Mechanical versus electromechanical hardening in relaxor ferroelectric Na _{1/2} Bi _{1/2} TiO ₃ -BaTiO ₃ with ZnO inclusions. <i>Scripta Materialia</i> , 2019 , 169, 92-95	5.6	6
69	Electromechanical properties of Ce-doped (Ba _{0.85} Ca _{0.15})(Zr _{0.1} Ti _{0.9})O ₃ lead-free piezoceramics. <i>Journal of Advanced Ceramics</i> , 2019 , 8, 186-195	10.7	19
68	Stochastic model of dispersive multi-step polarization switching in ferroelectrics due to spatial electric field distribution. <i>Applied Physics Letters</i> , 2019 , 114, 222902	3.4	5
67	(Na _{1/2} Bi _{1/2})TiO ₃ -based lead-free co-fired multilayer actuators with large strain and high fatigue resistance. <i>Journal of the American Ceramic Society</i> , 2019 , 102, 6147-6155	3.8	14
66	Influence of crystallographic structure on polarization reversal in polycrystalline ferroelectric/ferroelastic materials. <i>Journal of Applied Physics</i> , 2019 , 125, 174101	2.5	7
65	Anisotropy of the high-power piezoelectric properties of Pb(Zr,Ti)O ₃ . <i>Journal of the American Ceramic Society</i> , 2019 , 102, 6008-6017	3.8	19
64	Orienting anisometric pores in ferroelectrics: Piezoelectric property engineering through local electric field distributions. <i>Physical Review Materials</i> , 2019 , 3,	3.2	5
63	Melting of dxy Orbital Ordering Accompanied by Suppression of Giant Tetragonal Distortion and Insulator-to-Metal Transition in Cr-Substituted PbVO ₃ . <i>Chemistry of Materials</i> , 2019 , 31, 1352-1358	9.6	12
62	Stochastic multistep polarization switching in ferroelectrics. <i>Physical Review B</i> , 2018 , 97,	3.3	17
61	An ideal amplitude window against electric fatigue in BaTiO ₃ -based lead-free piezoelectric materials. <i>Acta Materialia</i> , 2018 , 151, 253-259	8.4	26
60	High-performance piezoelectric (K,Na,Li)(Nb,Ta,Sb)O ₃ single crystals by oxygen annealing. <i>Acta Materialia</i> , 2018 , 148, 499-507	8.4	31
59	Requirements for the transfer of lead-free piezoceramics into application. <i>Journal of Materiomics</i> , 2018 , 4, 13-26	6.7	121

58	Interplay of conventional with inverse electrocaloric response in (Pb,Nb)(Zr,Sn,Ti)O ₃ antiferroelectric materials. <i>Physical Review B</i> , 2018 , 97,	3.3	26
57	Cytotoxicity, chemical stability, and surface properties of ferroelectric ceramics for biomaterials. <i>Journal of the American Ceramic Society</i> , 2018 , 101, 440-449	3.8	14
56	Ferroelastic Properties of PZT: Characterization Under Compressive and Tensile Stress, Finite-Element Simulation, and Lifetime Calculation. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2018 , 65, 1542-1551	3.2	2
55	Temperature-Dependent Evolution of Crystallographic and Domain Structures in (K,Na,Li)(Ta,Nb)O ₃ Piezoelectric Single Crystals. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2018 , 65, 1508-1516	3.2	11
54	Revealing the sequence of switching mechanisms in polycrystalline ferroelectric/ferroelastic materials. <i>Acta Materialia</i> , 2018 , 157, 355-363	8.4	29
53	Applications of lead-free piezoelectric materials. <i>MRS Bulletin</i> , 2018 , 43, 612-616	3.2	59
52	Lead-free perovskite ferroelectrics 2018 , 51-69		11
51	Propensity for spontaneous relaxor-ferroelectric transition in quenched (Na _{1/2} Bi _{1/2})TiO ₃ -BaTiO ₃ compositions. <i>Applied Physics Letters</i> , 2018 , 113, 252902	3.4	28
50	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	9.6	4
49	Impact of Polarization Dynamics and Charged Defects on the Electrocaloric Response of Ferroelectric Pb(Zr,Ti)O ₃ Ceramics. <i>Energy Technology</i> , 2018 , 6, 1519-1525	3.5	10
48	Temperature-insensitive electric-field-induced strain and enhanced piezoelectric properties of textured (K,Na)NbO ₃ -based lead-free piezoceramics. <i>Acta Materialia</i> , 2018 , 156, 389-398	8.4	56
47	Review of methods for powder-based processing 2018 , 95-120		2
46	Hardening behavior and highly enhanced mechanical quality factor in (K _{0.5} Na _{0.5})NbO ₃ Based ceramics. <i>Journal of the European Ceramic Society</i> , 2017 , 37, 2083-2089	6	31
45	Electromechanical properties of CaZrO ₃ modified (K,Na)NbO ₃ -based lead-free piezoceramics under uniaxial stress conditions. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 2116-2122	3.8	23
44	Effect of degree of crystallographic texture on ferro- and piezoelectric properties of Ba _{0.85} Ca _{0.15} TiO ₃ piezoceramics. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 2098-2107	3.8	26
43	Multilayer lead-free piezoceramic composites: Influence of co-firing on microstructure and electromechanical behavior. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 3673-3683	3.8	5
42	Fatigue-less electrocaloric effect in relaxor Pb(Mg _{1/3} Nb _{2/3})O ₃ multilayer elements. <i>Journal of the European Ceramic Society</i> , 2017 , 37, 5105-5108	6	18
41	Influence of composition on the unipolar electric fatigue of Ba(Zr _{0.2} Ti _{0.8})O ₃ -(Ba _{0.7} Ca _{0.3})TiO ₃ lead-free piezoceramics. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 4699-4709	3.8	17

40	Grain-size-induced ferroelectricity in NaNbO ₃ . <i>Acta Materialia</i> , 2017 , 126, 77-85	8.4	52
39	Polarization-switching dynamics in bulk ferroelectrics with isometric and oriented anisometric pores. <i>Journal Physics D: Applied Physics</i> , 2017 , 50, 045303	3	21
38	Hardening of electromechanical properties in piezoceramics using a composite approach. <i>Applied Physics Letters</i> , 2017 , 111, 022905	3.4	23
37	Stress-induced phase transition in lead-free relaxor ferroelectric composites. <i>Acta Materialia</i> , 2017 , 136, 271-280	8.4	75
36	BaTiO ₃ -based piezoelectrics: Fundamentals, current status, and perspectives. <i>Applied Physics Reviews</i> , 2017 , 4, 041305	17.3	487
35	Effects of Bi ₂ O ₃ additive on sintering process and dielectric, ferroelectric, and piezoelectric properties of (Ba _{0.85} Ca _{0.15})(Zr _{0.1} Ti _{0.9})O ₃ lead-free piezoceramics. <i>Journal of the European Ceramic Society</i> , 2016 , 36, 3391-3400	6	38
34	Broad-band dielectric response of 0.5Ba(Ti _{0.8} Zr _{0.2})O ₃ -0.5(Ba _{0.7} Ca _{0.3})TiO ₃ piezoceramics: soft and central mode behaviour. <i>Phase Transitions</i> , 2016 , 89, 785-793	1.3	8
33	Formation of the core-shell microstructure in lead-free Bi _{1/2} Na _{1/2} TiO ₃ -SrTiO ₃ piezoceramics and its influence on the electromechanical properties. <i>Journal of the European Ceramic Society</i> , 2016 , 36, 1009-1016	6	60
32	Influence of Ta ⁵⁺ content on the crystallographic structure and electrical properties of [001]PC-oriented (Li,Na,K)(Nb,Ta)O ₃ single crystals. <i>CrystEngComm</i> , 2016 , 18, 2081-2088	3.3	17
31	Orientation-dependent electromechanical properties of Mn-doped (Li,Na,K)(Nb,Ta)O ₃ single crystals. <i>Applied Physics Letters</i> , 2016 , 109, 152902	3.4	32
30	Inverted electro-mechanical behaviour induced by the irreversible domain configuration transformation in (K,Na)NbO ₃ -based ceramics. <i>Scientific Reports</i> , 2016 , 6, 22053	4.9	18
29	Effect of texturing on polarization switching dynamics in ferroelectric ceramics. <i>Applied Physics Letters</i> , 2016 , 108, 012907	3.4	27
28	Criticality: Concept to Enhance the Piezoelectric and Electrocaloric Properties of Ferroelectrics. <i>Advanced Functional Materials</i> , 2016 , 26, 7326-7333	15.6	71
27	Enhanced electrocaloric cooling in ferroelectric single crystals by electric field reversal. <i>Physical Review B</i> , 2016 , 94,	3.3	20
26	Enhancing electromechanical properties of lead-free ferroelectrics with bilayer ceramic/ceramic composites. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2015 , 62, 997-1006	3.2	6
25	Revisiting the blocking force test on ferroelectric ceramics using high energy x-ray diffraction. <i>Journal of Applied Physics</i> , 2015 , 117, 174104	2.5	16
24	Vapour pressure and mixing thermodynamic properties of the KNbO ₃ /NaNbO ₃ system. <i>RSC Advances</i> , 2015 , 5, 76249-76256	3.7	45
23	Anomalous dielectric and thermal properties of Ba-doped PbZrO ₃ ceramics. <i>Journal of Physics Condensed Matter</i> , 2015 , 27, 455902	1.8	11

22	Strong domain configuration dependence of the nonlinear dielectric response in (K,Na)NbO ₃ -based ceramics. <i>Applied Physics Letters</i> , 2015 , 107, 202903	3.4	15
21	Sintering of Lead-Free Piezoelectric Sodium Potassium Niobate Ceramics. <i>Materials</i> , 2015 , 8, 8117-8146	3.5	153
20	Polar Oxide Nanopowders Prepared by Mechanical Treatments 2015 , 641-661		
19	Large electrocaloric effect in lead-free K _{0.5} Na _{0.5} NbO ₃ -SrTiO ₃ ceramics. <i>Applied Physics Letters</i> , 2015 , 106, 202905	3.4	97
18	Enhancing the operational range of piezoelectric actuators by uniaxial compressive preloading. <i>Journal Physics D: Applied Physics</i> , 2015 , 48, 215302	3	14
17	Mechanical constitutive behavior and exceptional blocking force of lead-free BZT-xBCT piezoceramics. <i>Journal of Applied Physics</i> , 2014 , 115, 204107	2.5	37
16	Negative electrocaloric effect in antiferroelectric PbZrO ₃ . <i>Europhysics Letters</i> , 2014 , 107, 17002	1.6	108
15	Determination of the True Operational Range of a Piezoelectric Actuator. <i>Journal of the American Ceramic Society</i> , 2014 , 97, 2842-2849	3.8	23
14	Preparation and Microwave Dielectric Properties of Ultra-low Temperature Sintering Ceramics in K ₂ O/MoO ₃ Binary System. <i>Journal of the American Ceramic Society</i> , 2014 , 97, 241-245	3.8	36
13	Simultaneous Enhancement of Fracture Toughness and Unipolar Strain in Pb(Zr,Ti)O ₃ -ZrO ₂ Composites Through Composition Adjustment. <i>Journal of the American Ceramic Society</i> , 2014 , 97, 1582-1588	3.8	10
12	Electric-field-induced phase transitions in co-doped Pb(ZrTi)O at the morphotropic phase boundary. <i>Science and Technology of Advanced Materials</i> , 2014 , 15, 015010	7.1	19
11	Initial stage sintering mechanism of NaNbO ₃ and implications regarding the densification of alkaline niobates. <i>Journal of the European Ceramic Society</i> , 2014 , 34, 1971-1979	6	25
10	Electrical and thermal properties of vinylidene fluoride-trifluoroethylene-based polymer system with coexisting ferroelectric and relaxor states. <i>Journal of Materials Science</i> , 2013 , 48, 7920-7926	4.3	5
9	The Electrocaloric Effect in Lead-Free K _{0.5} Na _{0.5} NbO ₃ -SrTiO ₃ Ceramics. <i>Ferroelectrics</i> , 2013 , 446, 39-45	0.6	12
8	Nonlinear stress-strain behavior and stress-induced phase transitions in soft Pb(Zr _{1-x} Ti _x)O ₃ at the morphotropic phase boundary. <i>Physical Review B</i> , 2013 , 87,	3.3	44
7	Knudsen effusion mass spectrometric approach to the thermodynamics of Na ₂ O/Nb ₂ O ₅ system. <i>International Journal of Mass Spectrometry</i> , 2012 , 309, 70-78	1.9	20
6	Deconvolving Ferroelastic and Phase Transformation Toughening in Pb(Zr _{1-x} Ti _x)O ₃ and Pb _{1-x} La _x (Zr _{1-x} Ti _x)O ₃ . <i>Journal of the American Ceramic Society</i> , 2012 , 95, 3713-3715	3.8	6
5	Top-Down Processing of Nanopowder. <i>Journal of Nanomaterials</i> , 2012 , 2012, 1-7	3.2	10

4	Linear Thermal Expansion of Lead-Free Piezoelectric $K_{0.5}Na_{0.5}NbO_3$ Ceramics in a Wide Temperature Range. <i>Journal of the American Ceramic Society</i> , 2011 , 94, 2273-2275	3.8	24
3	Microstructure Evolution During Sintering of Sodium Niobate. <i>Journal of the American Ceramic Society</i> , 2011 , 94, 4174-4178	3.8	15
2	Compositional Dependence of R-curve Behavior in Soft $Pb(Zr_{1-x}Ti_x)O_3$ Ceramics. <i>Journal of the American Ceramic Society</i> , 2011 , 94, 4419-4425	3.8	12
1	Phase transitions of sodium niobate powder and ceramics, prepared by solid state synthesis. <i>Journal of Applied Physics</i> , 2010 , 108, 113509	2.5	55