Vitaly Yu Topolov

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Understanding the effect of porosity on the polarisation-field response of ferroelectric materials. Acta Materialia, 2018, 154, 100-112.	7.9	97
2	A modified figure of merit for pyroelectric energy harvesting. Materials Letters, 2015, 138, 243-246.	2.6	74
3	Piezoelectric sensitivity of PbTiO3-based ceramic/polymer composites with 0â€“3 and 3â€“3 connectivity. Acta Materialia, 2003, 51, 4965-4976.	7.9	72
4	Modern Piezoelectric Energy-Harvesting Materials. Springer Series in Materials Science, 2016, , .	0.6	67
5	Features of piezoelectric properties of 0â€“3 PbTiO3-type ceramic/polymer composites. Materials Chemistry and Physics, 2006, 97, 357-364.	4.0	39
6	High-performance 1â€“3-type composites based on (1 â^'x)Pb(A1/3Nb2/3)O3â€“xPbTiO3single crystals (A= Mg,) Tj ETQq0 0 0 rgBT /Ove	2.8	29
7	High-performance 1â€“3-type lead-free piezo-composites with auxetic polyethylene matrices. Materials Letters, 2015, 142, 265-268.	2.6	23
8	Advanced composites based on relaxor-ferroelectric single crystals: from electromechanical coupling to energy-harvesting applications. CrystEngComm, 2016, 18, 5986-6001.	2.6	23
9	Orientation Effects in 1â€“3 Composites Based on 0.93Pb(Zn_{1/3}Nb_{2/3})O₃â€“ 0.07PbTiO₃Single Crystals. Ferroelectrics, 2008, 376, 140-152.	0.6	22
10	Analysis of the Piezoelectric Performance of Modern 0â€“3-Type Composites Based on Relaxor-Ferroelectric Single Crystals. Ferroelectrics, 2011, 413, 176-191.	0.6	22
11	On the remarkable performance of novel 2â€“2-type composites based on [0â€‰1â€‰1] poled 0.93Pb(Zn_{1/3}Nb_{2/3})O₃â€“0.07PbTiO₃single crystals. Journal Physics D: Applied Physics, 2007, 40, 7113-7120.	2.8	20
12	Piezo-Active Composites. Springer Series in Materials Science, 2018, , .	0.6	19
13	1â€3â€Type Composites Based on Ferroelectrics: Electromechanical Coupling, Figures of Merit, and Piezotechnical Energyâ€Harvesting Applications. Energy Technology, 2018, 6, 813-828.	3.8	18
14	Crystallographic Aspects of Interfaces in Ferroelectrics. Defect and Diffusion Forum, 1995, 123-124, 31-50.	0.4	16
15	Anisotropic piezoelectric properties of 1â€“3 ceramic / polymer composites comprising rods with elliptic cross section. Journal of Electroceramics, 2010, 25, 26-37.	2.0	16
16	New aspect-ratio effect in three-component composites for piezoelectric sensor, hydrophone and energy-harvesting applications. Sensors and Actuators A: Physical, 2015, 229, 94-103.	4.1	16
17	New orientation effect in piezo-active 1â€“3-type composites. Materials Chemistry and Physics, 2015, 151, 187-195.	4.0	15
18	Dielectric and piezoelectric properties of (001)-oriented (1â^'x)Pb(Mg1/3Nb2/3)O3â€“xPbTiO3 single crystals with. Solid State Communications, 2007, 143, 188-192.	1.9	13

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19	Longitudinal piezoelectric effect and hydrostatic response in novel laminar composites based on ferroelectric ceramics. Ceramics International, 2019, 45, 22241-22248.	4.8	13
20	Problem of Piezoelectric Sensitivity of 1â€“3-Type Composites Based on Ferroelectric Ceramics. Ferroelectrics, 2009, 392, 107-119.	0.6	11
21	Microgeometry, piezoelectric sensitivity and anisotropy of properties in porous materials based on Pb(Zr, Ti)O₃. Functional Materials Letters, 2014, 07, 1450029.	1.2	11
22	Hydrostatic Piezoelectric Coefficients of the 2â€“2 Composite Based on [011]-poled 0.71Pb(Mg_{1/3}Nb_{2/3})O₃-0.29PbTiO₃Single Crystal. Ferroelectrics, 2010, 400, 410-416.	0.6	10
23	Features of the Piezoelectric Effect in a Novel PZT-Type Ceramic/Clay Composite. Ferroelectrics, Letters Section, 2014, 41, 82-88.	1.0	10
24	Maxima of Effective Parameters of Novel Piezo-Composites Based on Relaxor-Ferroelectric Single Crystals. Ferroelectrics, 2007, 351, 145-152.	0.6	9
25	Electromechanical coupling and its anisotropy in a novel 1â€“3â€“0 composite based on single-domain 0.58Pb(Mg1/3Nb2/3)O3â€“0.42PbTiO3 crystal. Composites Science and Technology, 2011, 71, 1082-1088.	7.8	9
26	Nano-Imprinting of Highly Ordered Nano-Pillars of Lithium Niobate (LiNbO3). Ferroelectrics, 2012, 429, 62-68.	0.6	9
27	Remarkable hydrostatic piezoelectric response of novel 2â€“0â€“2 composites. Ferroelectrics, Letters Section, 2015, 43, 90-95.	1.0	9
28	Effect of the matrix subsystem on hydrostatic parameters of a novel 1â€“3-type piezo-composite. Functional Materials Letters, 2015, 08, 1550049.	1.2	9
29	Theoretical Study on the Piezoelectric Performance of Leadâ€Free 1â€“3â€Type Composites. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700548.	1.8	9
30	Features of the hydrostatic piezoelectric response of a novel 2â€“2â€“0 composite based on single-domain 0.67Pb(Mg1/3Nb2/3)O3â€“0.33PbTiO3 crystal. Composites Science and Technology, 2009, 69, 2532-2537.	7.8	8
31	High Performance of Novel 1â€“3-Type Composites Based on Ferroelectric PZT-Type Ceramics. Ferroelectrics, 2012, 430, 92-97.	0.6	8
32	Anisotropy of electromechanical properties and hydrostatic response of advanced 2-2-type composites. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 1334-1342.	1.8	8
33	Effect of a tetragonal phase on heterophase states in perovskite-type ferroelectric solid solutions. Solid State Communications, 2013, 170, 1-5.	1.9	8
34	Anisotropy Factors and Electromechanical Coupling in Lead-Free 1â€“3-Type Composites. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 1278-1286.	3.0	8
35	Piezo-Particulate Composites. Springer Series in Materials Science, 2019, , .	0.6	8
36	Novel lead-free composites with two porosity levels: large piezoelectric anisotropy and high sensitivity. Journal Physics D: Applied Physics, 2020, 53, 395303.	2.8	8

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37	Piezoelectric sensitivity and hydrostatic response of novel lead-free 2â€“0â€“2 composites with two single-crystal components. Materials Chemistry and Physics, 2017, 201, 224-234.	4.0	7
38	Piezoelectric performance of PZT-based materials with aligned porosity: experiment and modelling. Smart Materials and Structures, 2019, 28, 125021.	3.5	7
39	Lead-free 0â€“3-type composites: From piezoelectric sensitivity to modified figures of merit. Journal of Advanced Dielectrics, 2021, 11, 2150010.	2.4	7
40	Understanding the peculiarities of the piezoelectric effect in macro-porous BaTiO₃. Science and Technology of Advanced Materials, 2016, 17, 769-776.	6.1	6
41	Plausible domain configurations and phase contents in two- and three-phase BaTiO₃-based lead-free ferroelectrics. Journal Physics D: Applied Physics, 2017, 50, 065307.	2.8	6
42	Piezoelectric anisotropy and energy-harvesting characteristics of novel sandwich layer BaTiO₃structures. Smart Materials and Structures, 2017, 26, 105006.	3.5	6
43	The Piezoelectric Medium and Its Characteristics. Springer Series in Materials Science, 2016, , 1-22.	0.6	6
44	Electromechanical Coupling in the Novel 2â€“2 Parallel-Connected PMNâ€“0.33PT Single-Domain Crystal/Polymer Composite. Ferroelectrics, 2009, 393, 27-37.	0.6	5
45	Role of Domain Orientations in Forming the Hydrostatic Performance of Novel 2â€“2 Single Crystal/Polymer Composites. Ferroelectrics, 2013, 444, 84-99.	0.6	5
46	Relations between the piezoelectric performance and quality factors in a corundum-containing composite. Materials Chemistry and Physics, 2019, 233, 194-202.	4.0	5
47	Orientation effects and figures of merit in advanced 2â€“2-type composites based on [011]-poled domain-engineered single crystals. CrystEngComm, 2022, 24, 1177-1188.	2.6	5
48	Orientation relationships between electromechanical properties of monoclinic 0.91Pb(Zn1/3Nb2/3)O3â€“0.09PbTiO3 single crystals. Sensors and Actuators A: Physical, 2005, 121, 148-155.	4.1	4
49	Piezoelectric Composites Based on Hydroxyapatite / Barium Titanate. Advances in Science and Technology, 0, , .	0.2	4
50	Monoclinic phases and stress-relief conditions in (1âˆ’x)Pb(Mg1/3Nb2/3)TiO3â€“xPbTiO3 solid solutions. Journal of Alloys and Compounds, 2009, 480, 568-574.	5.5	4
51	Electromechanical Coupling Factors of Novel 0â€“3â€“0 Composites Based on PMNâ€“xPT Single Crystals. Ferroelectrics, 2011, 422, 40-43.	0.6	4
52	Heterophase states and a bridging phase in (1-x)BiScO3âˆ’xPbTiO3. Crystal Research and Technology, 2012, 47, 1054-1063.	1.3	4
53	Heterophase structures and their quantitative characteristics in (1âˆ’x)Pb(Fe1/2Nb1/2)O3âˆ’xPbTiO3 near the morphotropic phase boundary. Materials Letters, 2012, 66, 57-59.	2.6	4
54	2â€“2 composites based on [011]-poled relaxor-ferroelectric single crystals: analysis of the piezoelectric anisotropy and squared figures of merit for energy harvesting applications. Microsystem Technologies, 2014, 20, 709-717.	2.0	4

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55	Composition driven ferroelectric transformations in lead-free Ba(Ti1â^'Ce)O3 (0.02Ââ‰ÂxÂâ‰Â0.10). Materials Chemistry and Physics, 2016, 179, 152-159.	4.0	4
56	Piezoelectric Performance and Hydrostatic Parameters of Novel 2â€“2-Type Composites. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2017, 64, 1599-1607.	3.0	4
57	High piezoelectric sensitivity and related parameters of a novel lead-free 1â€“0â€“3 composite. Ferroelectrics, Letters Section, 2017, 44, 73-80.	1.0	4
58	Piezoelectric properties and related parameters of a novel 3â€“0-type composite. Functional Materials Letters, 2018, 11, 1850082.	1.2	4
59	Elastic matching of phases and domains in KCN-type crystals. Zeitschrift FÃ¼r Physik B-Condensed Matter, 1996, 100, 27-31.	1.1	3
60	High Piezoelectric Sensitivity Composites Based on Ferroelectric Ceramics. Integrated Ferroelectrics, 2004, 63, 171-177.	0.7	3
61	Piezoelectric Activity and Sensitivity of Novel Composites Based on Barium Titanate-Hydroxyapatite Composite Ceramics. Key Engineering Materials, 2007, 334-335, 1113-1116.	0.4	3
62	Heterophase (1 â€“x)Pb(Mg1/3Nb2/3)TiO3â€“xPbTiO3Solid Solutions Near the Morphotropic Phase Boundary: Different Scenarios of Stress Relief. Ferroelectrics, 2008, 376, 89-98.	0.6	3
63	Interrelations Between Microstructure and Piezoelectric Sensitivity in Novel 0â€“3â€“0 Composites Based on 0.67Pb(Mg_{1/3}Nb_{2/3})O₃â^' 0.33PbTiO₃Single Crystal. Ferroelectrics, 2011, 413, 11-28.	0.6	3
64	Role of Single-Crystal Pillars in Forming the Effective Properties and Figures of Merit of Novel 1â€“3 Piezocomposites. Integrated Ferroelectrics, 2012, 133, 103-108.	0.7	3
65	Interrelationship between Interphase Boundaries and Phase Contents near the Critical Compositions of Lead-Free Ferroelectric (Na_{0.5}Bi_{0.5})TiO₃â^'BaTiO₃. Ferroelectrics, 2015, 482, 22-33.	0.6	3
66	Piezoelectric sensitivity and electromechanical coupling in a novel corundum-containing 3â€“0-type composite. Ferroelectrics, Letters Section, 2018, 45, 22-29.	1.0	3
67	Squared figures of merit and electromechanical coupling factors of a novel lead-free 1â€“3â€“0 composite for sensor and energy-harvesting applications. Sensors and Actuators A: Physical, 2021, 318, 112473.	4.1	3
68	Comparative study on the performance of piezo-active 1â€“3-type composites with lead-free components. Journal of Advanced Dielectrics, 0, , 2160003.	2.4	3
69	Evolution of heterophase structures and elastic effects in twinned crystals (Bi1 â^' z Pb z)FeO3 (0 â‰ z â‰) Tj ETQq1 1 0.784314 rgBT	0.6	2
70	Polarisation Orientation Effects and Hydrostatic Parameters in Novel 2â€“2 Composites Basedon PMNâ€“xPT Single Crystals. Ferroelectrics, 2014, 466, 21-28.	0.6	2
71	Piezoelectric performance â€" composition relations in anisotropic materials based on Pb_{0.85}Ca_{0.15-x}Cd_xTi<sub>0.9</sub… phases. Functional Materials Letters, 2015, 08, 1550065.	1.2	2
72	Comparative study on heterophase structures in ferroelectric solid solutions based on barium titanate. Crystal Research and Technology, 2017, 52, 1600299.	1.3	2

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73	Domain orientations and piezoelectric properties in novel 2â€“2-type composites with two single-crystal components. Ferroelectrics, 2019, 543, 115-129.	0.6	2
74	Comparison of effective parameters of lead-free 1â€“3-type composites based on ferroelectric single crystals. Ferroelectrics, 2020, 567, 182-192.	0.6	2
75	Piezoelectric Mechanical Energy Harvesters and Related Materials. Springer Series in Materials Science, 2016, , 113-138.	0.6	2
76	Hydrostatic piezoelectric parameters of lead-free 2â€“0â€“2 composites with two single-crystal components: Waterfall-like orientation dependences. Journal of Advanced Dielectrics, 2020, 10, 2050015.	2.4	2
77	Twelve modified figures of merit of 2â€“2-type composites based on relaxor-ferroelectric single crystals. Materials Chemistry and Physics, 2022, 279, 125691.	4.0	2
78	Novel High-Sensitivity Composites Based on Ferroelectric Ceramics. Integrated Ferroelectrics, 2012, 133, 91-95.	0.7	1
79	Domain type-phase content interrelations in perovskite-type ferroelectric solid solutions. Bulletin of the Russian Academy of Sciences: Physics, 2013, 77, 1020-1024.	0.6	1
80	Domain and heterophase states in lead-free Ba(Ce x Ti1â€“x)O3 solid solutions. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 1055-1058.	0.6	1
81	Improved piezoelectric performance and hydrostatic parameters of a novel 2â€“0â€“2â€“0 composite. Materials Letters, 2019, 252, 158-160.	2.6	1
82	Orientation effects and links between hydrostatic parameters in piezo-active 2â€“0â€“2 composites. Ferroelectrics, 2020, 567, 47-60.	0.6	1
83	Piezoelectric Sensitivity and Anisotropy in 1â€“3-Type Composites Based on Lead-Free Ferroelectrics. Springer Proceedings in Materials, 2021, , 161-176.	0.3	1
84	Orientation Effects and Anisotropy of Properties in 2â€“2 and Related Composites. Springer Series in Materials Science, 2014, , 43-88.	0.6	1
85	Relationships between piezoelectric and energy-harvesting characteristics of 1â€“2â€“2 composites based on domain-engineered single crystals. Ferroelectrics, 2021, 583, 230-242.	0.6	1
86	Hydrostatic Parameters and Domain Effects in Novel 2-2 Composites Based on PZN-0.12PT Single Crystals. Smart Materials Research, 2011, 2011, 1-10.	0.5	0
87	Two-Phase States. Springer Series in Materials Science, 2012, , 23-64.	0.6	0
88	Heterophase States in Ferroelectric Solid Solutions: Examples of (1 â€“x)Pb(Fe1/2Nb1/2)O3â€“xPbTiO3and (Bi1â^’xPbx)FeO3. Ferroelectrics, 2012, 428, 8-13.	0.6	0
89	The Piezoelectric Medium and Its Electromechanical Properties. Springer Series in Materials Science, 2014, , 1-23.	0.6	0
90	Ferroelectric ceramics manufactured from nano-sized powders of bi-containing layer-structured phases. Ferroelectrics, Letters Section, 2016, 43, 1-7.	1.0	0

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91	Inter-relations of domain orientations and piezoelectric properties in composites based on relaxor-ferroelectric single crystals. Ferroelectrics, 2016, 501, 45-56.	0.6	0
92	Orientation effects in 2â€“2 composites based on single- or polydomain ferroelectric relaxor crystals. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 1101-1107.	0.6	0
93	Two-Phase States. Springer Series in Materials Science, 2018, , 25-67.	0.6	0
94	Elastic properties and frequency performance of a novel 3â€“0-type three-component composite. Ferroelectrics, 2019, 543, 26-35.	0.6	0
95	Experimental Studies on Effective Properties and Related Parameters of Piezo-Particulate Composites. Springer Series in Materials Science, 2019, , 55-85.	0.6	0
96	Piezo-Active Composites: Classification and Effective Physical Properties. Springer Series in Materials Science, 2019, , 1-23.	0.6	0
97	Aspects of Composite Manufacturing. Springer Series in Materials Science, 2019, , 25-53.	0.6	0
98	Prediction of Effective Properties of Composites Based on Ferroelectric Ceramics. Springer Series in Materials Science, 2019, , 103-141.	0.6	0
99	â€˜Domain structures â€“ heterophases â€“ phase contentsâ€™ relations in lead-free ferroelectric solid solutions. Ferroelectrics, 2019, 543, 137-147.	0.6	0
100	Some electrophysical parameters of novel clay- and corundum-containing composites based on ferroelectric ceramics. Ferroelectrics, 2020, 567, 171-181.	0.6	0
101	Orientation Effects in Single-Domain Single Crystals. Springer Series in Materials Science, 2014, , 25-42.	0.6	0
102	Orientation Effects and Anisotropy of Properties in 0â€“3 Composites. Springer Series in Materials Science, 2014, , 127-153.	0.6	0
103	Figures of Merit of Modern Piezo-Active Ceramics and Composites. Springer Series in Materials Science, 2016, , 59-112.	0.6	0
104	Electromechanical Coupling Factors and Their Anisotropy in Piezoelectric and Ferroelectric Materials. Springer Series in Materials Science, 2016, , 23-57.	0.6	0
105	Improving Piezoelectric Sensitivity. Springer Series in Materials Science, 2018, , 163-169.	0.6	0
106	Microgeometry of Composites and Their Piezoelectric Coefficients $$varvec{g_{ij}^{*} }$$. Springer Series in Materials Science, 2018, , 99-133.	0.6	0
107	Phase Coexistence Under Electric Field. Springer Series in Materials Science, 2018, , 69-98.	0.6	0
108	Piezoelectric Coefficients $$varvec{h}_{varvec{ij}}^{varvec{*}}$$: New Opportunities to Improve Sensitivity. Springer Series in Materials Science, 2018, , 153-161.	0.6	0

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109	Overlapping Structures and Transition Regions. Springer Series in Materials Science, 2018, , 121-133.	0.6	0
110	Effective Piezoelectric Coefficients $$d_{ij}^{*}$$: From Microgeometry to Anisotropy. Springer Series in Materials Science, 2018, , 35-97.	0.6	0
111	The Piezoelectric Medium and Piezoelectric Sensitivity. Springer Series in Materials Science, 2018, , 1-34.	0.6	0
112	Piezoelectric Coefficients $$user2{e}_{user2{ij}}^{*}$$ and $$user2{d}_{user2{ij}}^{*}$$: Combination of Properties at Specific Microgeometry. Springer Series in Materials Science, 2018, , 135-152.	0.6	0
113	From a Unit Cell to Morphotropic Polydomain/Heterophase Structures. Springer Series in Materials Science, 2018, , 163-166.	0.6	0
114	Three-Phase States. Springer Series in Materials Science, 2018, , 99-120.	0.6	0
115	Crystallographic Aspects of Interfaces in Ferroelectrics and Related Materials. Springer Series in Materials Science, 2018, , 1-24.	0.6	0
116	Concepts of Stress Relaxation and Heterophase Structures in Ferroelectric Solid Solutions of the Perovskite Type. Bulletin of the Russian Academy of Sciences: Physics, 2020, 84, 1048-1052.	0.6	0