

Vitaly Yu Topolov

List of Publications by Year in descending order

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126
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126
times ranked

651
citing authors

#	ARTICLE	IF	CITATIONS
1	Orientation effects and figures of merit in advanced 2 nd -type composites based on [011]-poled domain-engineered single crystals. CrystEngComm, 2022, 24, 1177-1188.	2.6	5
2	Twelve modified figures of merit of 2 nd -type composites based on relaxor-ferroelectric single crystals. Materials Chemistry and Physics, 2022, 279, 125691.	4.0	2
3	Piezoelectric Sensitivity and Anisotropy in 1 st -Type Composites Based on Lead-Free Ferroelectrics. Springer Proceedings in Materials, 2021, , 161-176.	0.3	1
4	Squared figures of merit and electromechanical coupling factors of a novel lead-free 1 st -3 rd -O composite for sensor and energy-harvesting applications. Sensors and Actuators A: Physical, 2021, 318, 112473.	4.1	3
5	Lead-free 0 th -3-type composites: From piezoelectric sensitivity to modified figures of merit. Journal of Advanced Dielectrics, 2021, 11, 2150010.	2.4	7
6	Relationships between piezoelectric and energy-harvesting characteristics of 1 st -2 nd -2 composites based on domain-engineered single crystals. Ferroelectrics, 2021, 583, 230-242.	0.6	1
7	Comparison of effective parameters of lead-free 1 st -3-type composites based on ferroelectric single crystals. Ferroelectrics, 2020, 567, 182-192.	0.6	2
8	Some electrophysical parameters of novel clay- and corundum-containing composites based on ferroelectric ceramics. Ferroelectrics, 2020, 567, 171-181.	0.6	0
9	Orientation effects and links between hydrostatic parameters in piezo-active 2 nd -0 th -2 composites. Ferroelectrics, 2020, 567, 47-60.	0.6	1
10	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
11	Hydrostatic piezoelectric parameters of lead-free 2 nd -0 th -2 composites with two single-crystal components: Waterfall-like orientation dependences. Journal of Advanced Dielectrics, 2020, 10, 2050015.	2.4	2
12	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
13	Relations between the piezoelectric performance and quality factors in a corundum-containing composite. Materials Chemistry and Physics, 2019, 233, 194-202.	4.0	5
14	Elastic properties and frequency performance of a novel 3 rd -0-type three-component composite. Ferroelectrics, 2019, 543, 26-35.	0.6	0
15	Longitudinal piezoelectric effect and hydrostatic response in novel laminar composites based on ferroelectric ceramics. Ceramics International, 2019, 45, 22241-22248.	4.8	13
16	Piezo-Particulate Composites. Springer Series in Materials Science, 2019, , .	0.6	8
17	Improved piezoelectric performance and hydrostatic parameters of a novel 2 nd -0 th -2 nd -O composite. Materials Letters, 2019, 252, 158-160.	2.6	1
18	Experimental Studies on Effective Properties and Related Parameters of Piezo-Particulate Composites. Springer Series in Materials Science, 2019, , 55-85.	0.6	0

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19	Piezo-Active Composites: Classification and Effective Physical Properties. Springer Series in Materials Science, 2019, , 1-23.	0.6	0
20	Aspects of Composite Manufacturing. Springer Series in Materials Science, 2019, , 25-53.	0.6	0
21	Prediction of Effective Properties of Composites Based on Ferroelectric Ceramics. Springer Series in Materials Science, 2019, , 103-141.	0.6	0
22	“Domain structures” heterophases “ phase contents” relations in lead-free ferroelectric solid solutions. Ferroelectrics, 2019, 543, 137-147.	0.6	0
23	Domain orientations and piezoelectric properties in novel 2“2-type composites with two single-crystal components. Ferroelectrics, 2019, 543, 115-129.	0.6	2
24	Piezoelectric performance of PZT-based materials with aligned porosity: experiment and modelling. Smart Materials and Structures, 2019, 28, 125021.	3.5	7
25	1“3-Type Composites Based on Ferroelectrics: Electromechanical Coupling, Figures of Merit, and Piezotechnical Energy Harvesting Applications. Energy Technology, 2018, 6, 813-828.	3.8	18
26	Two-Phase States. Springer Series in Materials Science, 2018, , 25-67.	0.6	0
27	Theoretical Study on the Piezoelectric Performance of Lead-Free 1“3-Type Composites. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700548.	1.8	9
28	Piezoelectric sensitivity and electromechanical coupling in a novel corundum-containing 3“0-type composite. Ferroelectrics, Letters Section, 2018, 45, 22-29.	1.0	3
29	Anisotropy Factors and Electromechanical Coupling in Lead-Free 1“3-Type Composites. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 1278-1286.	3.0	8
30	Piezo-Active Composites. Springer Series in Materials Science, 2018, , .	0.6	19
31	Piezoelectric properties and related parameters of a novel 3“0-type composite. Functional Materials Letters, 2018, 11, 1850082.	1.2	4
32	Understanding the effect of porosity on the polarisation-field response of ferroelectric materials. Acta Materialia, 2018, 154, 100-112.	7.9	97
33	Improving Piezoelectric Sensitivity. Springer Series in Materials Science, 2018, , 163-169.	0.6	0
34	Microgeometry of Composites and Their Piezoelectric Coefficients \vec{g}_{ij}^* . Springer Series in Materials Science, 2018, , 99-133.	0.6	0
35	Phase Coexistence Under Electric Field. Springer Series in Materials Science, 2018, , 69-98.	0.6	0
36	Piezoelectric Coefficients \vec{h}_{ij}^* : New Opportunities to Improve Sensitivity. Springer Series in Materials Science, 2018, , 153-161.	0.6	0

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37	Overlapping Structures and Transition Regions. Springer Series in Materials Science, 2018, , 121-133.	0.6	0
38	Effective Piezoelectric Coefficients d_{ij}^* : From Microgeometry to Anisotropy. Springer Series in Materials Science, 2018, , 35-97.	0.6	0
39	The Piezoelectric Medium and Piezoelectric Sensitivity. Springer Series in Materials Science, 2018, , 1-34.	0.6	0
40	Piezoelectric Coefficients e_{ij}^* and d_{ij}^* : Combination of Properties at Specific Microgeometry. Springer Series in Materials Science, 2018, , 135-152.	0.6	0
41	From a Unit Cell to Morphotropic Polydomain/Heterophase Structures. Springer Series in Materials Science, 2018, , 163-166.	0.6	0
42	Three-Phase States. Springer Series in Materials Science, 2018, , 99-120.	0.6	0
43	Crystallographic Aspects of Interfaces in Ferroelectrics and Related Materials. Springer Series in Materials Science, 2018, , 1-24.	0.6	0
44	Plausible domain configurations and phase contents in two- and three-phase BaTiO ₃ -based lead-free ferroelectrics. Journal Physics D: Applied Physics, 2017, 50, 065307.	2.8	6
45	Comparative study on heterophase structures in ferroelectric solid solutions based on barium titanate. Crystal Research and Technology, 2017, 52, 1600299.	1.3	2
46	Piezoelectric sensitivity and hydrostatic response of novel lead-free BaTiO_3 composites with two single-crystal components. Materials Chemistry and Physics, 2017, 201, 224-234.	4.0	7
47	Piezoelectric Performance and Hydrostatic Parameters of Novel BaTiO_3 -Type Composites. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2017, 64, 1599-1607.	3.0	4
48	High piezoelectric sensitivity and related parameters of a novel lead-free BaTiO_3 composite. Ferroelectrics, Letters Section, 2017, 44, 73-80.	1.0	4
49	Piezoelectric anisotropy and energy-harvesting characteristics of novel sandwich layer BaTiO ₃ structures. Smart Materials and Structures, 2017, 26, 105006.	3.5	6
50	Advanced composites based on relaxor-ferroelectric single crystals: from electromechanical coupling to energy-harvesting applications. CrystEngComm, 2016, 18, 5986-6001.	2.6	23
51	Ferroelectric ceramics manufactured from nano-sized powders of bi-containing layer-structured phases. Ferroelectrics, Letters Section, 2016, 43, 1-7.	1.0	0
52	Inter-relations of domain orientations and piezoelectric properties in composites based on relaxor-ferroelectric single crystals. Ferroelectrics, 2016, 501, 45-56.	0.6	0
53	Understanding the peculiarities of the piezoelectric effect in macro-porous BaTiO ₃ . Science and Technology of Advanced Materials, 2016, 17, 769-776.	6.1	6
54	Orientation effects in BaTiO_3 composites based on single- or polydomain ferroelectric relaxor crystals. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 1101-1107.	0.6	0

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55	Composition driven ferroelectric transformations in lead-free Ba(Ti $_{1-x}$ Ce $_x$)O $_3$ (0.02 \leq x \leq 0.10). Materials Chemistry and Physics, 2016, 179, 152-159.	4.0	4
56	Domain and heterophase states in lead-free Ba(Ce $_x$ Ti $_{1-x}$)O $_3$ solid solutions. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 1055-1058.	0.6	1
57	Modern Piezoelectric Energy-Harvesting Materials. Springer Series in Materials Science, 2016, , .	0.6	67
58	The Piezoelectric Medium and Its Characteristics. Springer Series in Materials Science, 2016, , 1-22.	0.6	6
59	Piezoelectric Mechanical Energy Harvesters and Related Materials. Springer Series in Materials Science, 2016, , 113-138.	0.6	2
60	Figures of Merit of Modern Piezo-Active Ceramics and Composites. Springer Series in Materials Science, 2016, , 59-112.	0.6	0
61	Electromechanical Coupling Factors and Their Anisotropy in Piezoelectric and Ferroelectric Materials. Springer Series in Materials Science, 2016, , 23-57.	0.6	0
62	Remarkable hydrostatic piezoelectric response of novel 2 \times 2 composites. Ferroelectrics, Letters Section, 2015, 43, 90-95.	1.0	9
63	Piezoelectric performance \sim composition relations in anisotropic materials based on $\text{Pb}_{0.85}\text{Ca}_{0.15-x}\text{Cd}_x\text{Ti}_{0.9}$ phases. Functional Materials Letters, 2015, 08, 1550065.		
64	Interrelationship between Interphase Boundaries and Phase Contents near the Critical Compositions of Lead-Free Ferroelectric (Na $_{0.5}$ Bi $_{0.5}$)TiO $_3$ \sim BaTiO $_3$.	0.6	3
65	High-performance 1 \times 3-type lead-free piezo-composites with auxetic polyethylene matrices. Materials Letters, 2015, 142, 265-268.	2.6	23
66	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
67	Effect of the matrix subsystem on hydrostatic parameters of a novel 1 \times 3-type piezo-composite. Functional Materials Letters, 2015, 08, 1550049.	1.2	9
68	New orientation effect in piezo-active 1 \times 3-type composites. Materials Chemistry and Physics, 2015, 151, 187-195.	4.0	15
69	A modified figure of merit for pyroelectric energy harvesting. Materials Letters, 2015, 138, 243-246.	2.6	74
70	Polarisation Orientation Effects and Hydrostatic Parameters in Novel 2 \times 2 Composites Based on PMN $_x$ PZ $_{1-x}$ Single Crystals. Ferroelectrics, 2014, 466, 21-28.	0.6	2
71	Features of the Piezoelectric Effect in a Novel PZT-Type Ceramic/Clay Composite. Ferroelectrics, Letters Section, 2014, 41, 82-88.	1.0	10
72	Microgeometry, piezoelectric sensitivity and anisotropy of properties in porous materials based on $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$. Functional Materials Letters, 2014, 07, 1450029.	1.2	11

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73	The Piezoelectric Medium and Its Electromechanical Properties. Springer Series in Materials Science, 2014, , 1-23.	0.6	0
74	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
75	Orientation Effects and Anisotropy of Properties in 2â€“2 and Related Composites. Springer Series in Materials Science, 2014, , 43-88.	0.6	1
76	Orientation Effects in Single-Domain Single Crystals. Springer Series in Materials Science, 2014, , 25-42.	0.6	0
77	Orientation Effects and Anisotropy of Properties in 0â€“3 Composites. Springer Series in Materials Science, 2014, , 127-153.	0.6	0
78	Effect of a tetragonal phase on heterophase states in perovskite-type ferroelectric solid solutions. Solid State Communications, 2013, 170, 1-5.	1.9	8
79	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
80	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
81	Novel High-Sensitivity Composites Based on Ferroelectric Ceramics. Integrated Ferroelectrics, 2012, 133, 91-95.	0.7	1
82	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
83	Nano-Imprinting of Highly Ordered Nano-Pillars of Lithium Niobate (LiNbO3). Ferroelectrics, 2012, 429, 62-68.	0.6	9
84	High Performance of Novel 1â€“3-Type Composites Based on Ferroelectric PZT-Type Ceramics. Ferroelectrics, 2012, 430, 92-97.	0.6	8
85	Two-Phase States. Springer Series in Materials Science, 2012, , 23-64.	0.6	0
86	Heterophase States in Ferroelectric Solid Solutions: Examples of $(1-x)\text{Pb}(\text{Fe}_{1/2}\text{Nb}_{1/2})\text{O}_3-x\text{PbTiO}_3$ and $(\text{Bi}_{1-x}\text{Pbx})\text{FeO}_3$. Ferroelectrics, 2012, 428, 8-13.	0.6	0
87	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
88	Heterophase states and a bridging phase in $(1-x)\text{BiScO}_3-x\text{PbTiO}_3$. Crystal Research and Technology, 2012, 47, 1054-1063.	1.3	4
89	Heterophase structures and their quantitative characteristics in $(1-x)\text{Pb}(\text{Fe}_{1/2}\text{Nb}_{1/2})\text{O}_3-x\text{PbTiO}_3$ near the morphotropic phase boundary. Materials Letters, 2012, 66, 57-59.	2.6	4
90	Evolution of heterophase structures and elastic effects in twinned crystals $(\text{Bi}_{1-z}\text{Pbz})\text{FeO}_3$ (0 ≤ z ≤ 1). J. Electroceram., 2012, 24, 1000-1002.	0.6	2

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91	Electromechanical Coupling Factors of Novel $0\hat{a}^{\circ}3\hat{a}^{\circ}0$ Composites Based on PMN \hat{a}° xPT Single Crystals. <i>Ferroelectrics</i> , 2011, 422, 40-43.	0.6	4
92	Electromechanical coupling and its anisotropy in a novel $1\hat{a}^{\circ}3\hat{a}^{\circ}0$ composite based on single-domain $0.58\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\hat{a}^{\circ}0.42\text{PbTiO}_3$ crystal. <i>Composites Science and Technology</i> , 2011, 71, 1082-1088.	7.8	9
93	Interrelations Between Microstructure and Piezoelectric Sensitivity in Novel $0\hat{a}^{\circ}3\hat{a}^{\circ}0$ Composites Based on $0.67\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\hat{a}^{\circ}0.33\text{PbTiO}_3$ Single Crystal. <i>Ferroelectrics</i> , 2011, 413, 11-28.	0.6	3
94	Hydrostatic Parameters and Domain Effects in Novel 2-2 Composites Based on PZN-0.12PT Single Crystals. <i>Smart Materials Research</i> , 2011, 2011, 1-10.	0.5	0
95	Analysis of the Piezoelectric Performance of Modern $0\hat{a}^{\circ}3$ -Type Composites Based on Relaxor-Ferroelectric Single Crystals. <i>Ferroelectrics</i> , 2011, 413, 176-191.	0.6	22
96	Anisotropic piezoelectric properties of $1\hat{a}^{\circ}3$ ceramic / polymer composites comprising rods with elliptic cross section. <i>Journal of Electroceramics</i> , 2010, 25, 26-37.	2.0	16
97	Hydrostatic Piezoelectric Coefficients of the $2\hat{a}^{\circ}2$ Composite Based on [011]-poled $0.71\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\hat{a}^{\circ}0.29\text{PbTiO}_3$ Single Crystal. <i>Ferroelectrics</i> , 2010, 400, 410-416.	0.6	10
98	Features of the hydrostatic piezoelectric response of a novel $2\hat{a}^{\circ}2\hat{a}^{\circ}0$ composite based on single-domain $0.67\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\hat{a}^{\circ}0.33\text{PbTiO}_3$ crystal. <i>Composites Science and Technology</i> , 2009, 69, 2532-2537.	7.8	8
99	Problem of Piezoelectric Sensitivity of $1\hat{a}^{\circ}3$ -Type Composites Based on Ferroelectric Ceramics. <i>Ferroelectrics</i> , 2009, 392, 107-119.	0.6	11
100	Monoclinic phases and stress-relief conditions in $(1\hat{a}^{\circ}x)\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{TiO}_3\hat{a}^{\circ}x\text{PbTiO}_3$ solid solutions. <i>Journal of Alloys and Compounds</i> , 2009, 480, 568-574.	5.5	4
101	Electromechanical Coupling in the Novel $2\hat{a}^{\circ}2$ Parallel-Connected PMN \hat{a}° 0.33PT Single-Domain Crystal/Polymer Composite. <i>Ferroelectrics</i> , 2009, 393, 27-37.	0.6	5
102	Orientation Effects in $1\hat{a}^{\circ}3$ Composites Based on $0.93\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3\hat{a}^{\circ}0.07\text{PbTiO}_3$ Single Crystals. <i>Ferroelectrics</i> , 2008, 376, 140-152.	0.6	22
103	Heterophase $(1\hat{a}^{\circ}x)\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{TiO}_3\hat{a}^{\circ}x\text{PbTiO}_3$ Solid Solutions Near the Morphotropic Phase Boundary: Different Scenarios of Stress Relief. <i>Ferroelectrics</i> , 2008, 376, 89-98.	0.6	3
104	On the remarkable performance of novel $2\hat{a}^{\circ}2$ -type composites based on [011] poled $0.93\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3\hat{a}^{\circ}0.07\text{PbTiO}_3$ single crystals. <i>Journal Physics D: Applied Physics</i> , 2007, 40, 7113-7120.	2.8	20
105	Piezoelectric Activity and Sensitivity of Novel Composites Based on Barium Titanate-Hydroxyapatite Composite Ceramics. <i>Key Engineering Materials</i> , 2007, 334-335, 1113-1116.	0.4	3
106	Maxima of Effective Parameters of Novel Piezo-Composites Based on Relaxor-Ferroelectric Single Crystals. <i>Ferroelectrics</i> , 2007, 351, 145-152.	0.6	9
107	Dielectric and piezoelectric properties of (001)-oriented $(1\hat{a}^{\circ}x)\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\hat{a}^{\circ}x\text{PbTiO}_3$ single crystals with. <i>Solid State Communications</i> , 2007, 143, 188-192.	1.9	13
108	Features of piezoelectric properties of $0\hat{a}^{\circ}3$ PbTiO_3 -type ceramic/polymer composites. <i>Materials Chemistry and Physics</i> , 2006, 97, 357-364.	4.0	39

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109	High-performance 1-3-type composites based on $(1-x)\text{Pb}(\text{A}_{1/3}\text{Nb}_{2/3})\text{O}_3-x\text{PbTiO}_3$ single crystals (A= Mg, Tl, Bi, K) Tj, ETQq1 1 0,784314	2.8	29
110	Orientation relationships between electromechanical properties of monoclinic $0.91\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3-x\text{PbTiO}_3$ single crystals. <i>Sensors and Actuators A: Physical</i> , 2005, 121, 148-155.	4.1	4
111	High Piezoelectric Sensitivity Composites Based on Ferroelectric Ceramics. <i>Integrated Ferroelectrics</i> , 2004, 63, 171-177.	0.7	3
112	Piezoelectric sensitivity of PbTiO_3 -based ceramic/polymer composites with 0-3 and 3-3 connectivity. <i>Acta Materialia</i> , 2003, 51, 4965-4976.	7.9	72
113	Elastic matching of phases and domains in KCN-type crystals. <i>Zeitschrift für Physik B-Condensed Matter</i> , 1996, 100, 27-31.	1.1	3
114	Crystallographic Aspects of Interfaces in Ferroelectrics. <i>Defect and Diffusion Forum</i> , 1995, 123-124, 31-50.	0.4	16
115	Piezoelectric Composites Based on Hydroxyapatite / Barium Titanate. <i>Advances in Science and Technology</i> , 0, , .	0.2	4
116	Comparative study on the performance of piezo-active 1-3-type composites with lead-free components. <i>Journal of Advanced Dielectrics</i> , 0, , 2160003.	2.4	3