

# Lukyanchuk A Igor

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/10192521/publications.pdf>

Version: 2024-02-01

128  
papers

3,249  
citations

159585

30  
h-index

161849

54  
g-index

129  
all docs

129  
docs citations

129  
times ranked

3435  
citing authors

#	ARTICLE	IF	CITATIONS
1	Negative capacitance in multidomain ferroelectric superlattices. <i>Nature</i> , 2016, 534, 524-528.	27.8	286
2	Phase Analysis of Quantum Oscillations in Graphite. <i>Physical Review Letters</i> , 2004, 93, 166402.	7.8	234
3	Ferroelectric negative capacitance. <i>Nature Reviews Materials</i> , 2019, 4, 243-256.	48.7	179
4	Domain-Enhanced Interlayer Coupling in Ferroelectric/Paraelectric Superlattices. <i>Physical Review Letters</i> , 2005, 94, 047601.	7.8	156
5	Symmetry Relationship and Strain-Induced Transitions between Insulating M1 and M2 and Metallic R phases of Vanadium Dioxide. <i>Nano Letters</i> , 2010, 10, 4409-4416.	9.1	149
6	Ferroelectric transition in an epitaxial barium titanate thin film: Raman spectroscopy and x-ray diffraction study. <i>Journal of Applied Physics</i> , 2003, 94, 3307-3312.	2.5	138
7	Interplay between Ferroelastic and Metal-Insulator Phase Transitions in Strained Quasi-Two-Dimensional VO <sub>2</sub> Nanoplatelets. <i>Nano Letters</i> , 2010, 10, 2003-2011.	9.1	101
8	Landau thermodynamic potential for BaTiO <sub>3</sub> . <i>Journal of Applied Physics</i> , 2007, 101, 104115.	2.5	99
9	Dirac and Normal Fermions in Graphite and Graphene: Implications of the Quantum Hall Effect. <i>Physical Review Letters</i> , 2006, 97, 256801.	7.8	95
10	Lead-free nanocomposite piezoelectric nanogenerator film for biomechanical energy harvesting. <i>Nano Energy</i> , 2021, 81, 105661.	16.0	79
11	Mesoscopic Metal-Insulator Transition at Ferroelastic Domain Walls in VO <sub>2</sub> . <i>ACS Nano</i> , 2010, 4, 4412-4419.	14.6	68
12	Magnetic properties of graphene quantum dots. <i>Physical Review B</i> , 2013, 87, .	3.2	52
13	Universal Properties of Ferroelectric Domains. <i>Physical Review Letters</i> , 2009, 102, 147601.	7.8	51
14	Modeling of ferroelectric domains in thin films and superlattices. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2005, 120, 16-20.	3.5	48
15	Electro-optical properties of phosphorene quantum dots. <i>Physical Review B</i> , 2017, 96, .	3.2	48
16	Insulator-metal transition in Rb <sub>4</sub> C <sub>60</sub> under pressure from <sup>13</sup> C-NMR. <i>Journal of Physics and Chemistry of Solids</i> , 1996, 57, 143-152.	4.0	47
17	Enhancement of dielectric properties of lead-free BCZT ferroelectric ceramics by grain size engineering. <i>Superlattices and Microstructures</i> , 2019, 127, 109-117.	3.1	47
18	Hopfions emerge in ferroelectrics. <i>Nature Communications</i> , 2020, 11, 2433.	12.8	47

#	ARTICLE	IF	CITATIONS
19	High energy storage efficiency and large electrocaloric effect in lead-free BaTi <sub>0.89</sub> Sn <sub>0.11</sub> O <sub>3</sub> ceramic. <i>Ceramics International</i> , 2020, 46, 23867-23876.	4.8	47
20	Origin of ferroelastic domains in free-standing single-crystal ferroelectric films. <i>Physical Review B</i> , 2009, 79, .	3.2	46
21	Ferroelectric symmetry-protected multibit memory cell. <i>Scientific Reports</i> , 2017, 7, 42196.	3.3	45
22	Enhanced dielectric and electrocaloric properties in lead-free rod-like BCZT ceramics. <i>Journal of Advanced Ceramics</i> , 2020, 9, 210-219.	17.4	45
23	Theory of superconductors with $\nu$ close to 1/2. <i>Physical Review B</i> , 2001, 63, .	3.2	43
24	Thermally-stable high energy storage performances and large electrocaloric effect over a broad temperature span in lead-free BCZT ceramic. <i>RSC Advances</i> , 2020, 10, 30746-30755.	3.6	43
25	Electronic localization in Rb <sub>4</sub> C <sub>60</sub> from bulk magnetic measurements. <i>Physical Review B</i> , 1995, 51, 3978-3980.	3.2	38
26	STABILITY OF VORTEX PHASES IN FERROELECTRIC EASY-PLANE NANO-CYLINDERS. <i>Integrated Ferroelectrics</i> , 2008, 99, 60-66.	0.7	36
27	Harnessing ferroelectric domains for negative capacitance. <i>Communications Physics</i> , 2019, 2, .	5.3	36
28	Phase transition in a single VO <sub>2</sub> nano-crystal: potential femtosecond tunable opto-electronic nano-gating. <i>Journal of Nanoparticle Research</i> , 2014, 16, 1.	1.9	34
29	Electro-absorption of silicene and bilayer graphene quantum dots. <i>Journal of Applied Physics</i> , 2016, 120, .	2.5	34
30	Searching for the Fractional Quantum Hall Effect in Graphite. <i>Physical Review Letters</i> , 2009, 103, 116802.	7.8	33
31	Thermal-stability of the enhanced piezoelectric, energy storage and electrocaloric properties of a lead-free BCZT ceramic. <i>RSC Advances</i> , 2021, 11, 9459-9468.	3.6	33
32	On the nature of phase transitions in the tetragonal tungsten bronze GdK <sub>2</sub> Nb <sub>5</sub> O <sub>15</sub> ceramics. <i>Journal of Applied Physics</i> , 2014, 115, 064104.	2.5	31
33	Giant Nernst-Ettingshausen Oscillations in Semiclassically Strong Magnetic Fields. <i>Physical Review Letters</i> , 2011, 107, 016601.	7.8	30
34	Lattice-Induced Double-Valley Degeneracy Lifting in Graphene by a Magnetic Field. <i>Physical Review Letters</i> , 2008, 100, 176404.	7.8	27
35	Interaction of vortices in superconductors with $\nu$ close to 1/2. <i>Physical Review B</i> , 2002, 65, .	3.2	26
36	Controllable skyrmion chirality in ferroelectrics. <i>Scientific Reports</i> , 2020, 10, 8657.	3.3	26

#	ARTICLE	IF	CITATIONS
37	Phase transition between the cholesteric and twist grain boundary C phases. Physical Review E, 1998, 57, 574-581.	2.1	25
38	High-Symmetry Polarization Domains in Low-Symmetry Ferroelectrics. Nano Letters, 2014, 14, 6931-6935.	9.1	24
39	High-resolution $^{13}\text{C}$ nuclear magnetic resonance in alkali intercalated fullerene $\text{C}_{60}$ . Journal of Chemical Physics, 1994, 101, 4585-4592.	3.0	23
40	Dielectric properties and relaxation phenomena in the diffuse ferroelectric phase transition in $\text{K}_3\text{Li}_2\text{Nb}_5\text{O}_{15}$ ceramic. European Physical Journal B, 2012, 85, 1.	1.5	22
41	Rayleigh instability of confined vortex droplets in critical superconductors. Nature Physics, 2015, 11, 21-25.	16.7	22
42	Basal-plane incommensurate phases in hexagonal-close-packed structures. Physical Review B, 1998, 57, 5086-5092.	3.2	21
43	Anomalous thermoelectric and thermomagnetic properties of graphene. Physics-Uspokhi, 2012, 55, 1146-1151.	2.2	21
44	Dirac Fermions in graphite: The state of art. Physica B: Condensed Matter, 2009, 404, 404-406.	2.7	20
45	Polarization vortex domains induced by switching electric field in ferroelectric films with circular electrodes. Physical Review B, 2014, 90, .	3.2	20
46	De Haas-van Alphen effect in 2D systems: application to mono- and bilayer graphene. Low Temperature Physics, 2011, 37, 45-48.	0.6	18
47	A novel type of incommensurate phase in quartz: The elongated-triangle phase. JETP Letters, 1996, 64, 410-415.	1.4	17
48	High-resolution $^{13}\text{C}$ NMR study of oxygen intercalation in $\text{C}_{60}$ . Physical Review B, 1996, 53, 7535-7538.	3.2	17
49	Multidomain switching in the ferroelectric nanodots. Europhysics Letters, 2015, 111, 50001.	2.0	16
50	Effect of wall thickness on the ferroelastic domain size of $\text{BaTiO}_3$ . Journal of Materials Science, 2009, 44, 5307-5311.	3.7	15
51	Density of states in randomly shaped graphene quantum dots. Superlattices and Microstructures, 2011, 49, 283-287.	3.1	15
52	Electronic and magnetic properties of graphite quantum dots. Low Temperature Physics, 2015, 41, 396-400.	0.6	15
53	Multilayer phosphorene quantum dots in an electric field: Energy levels and optical absorption. Journal of Applied Physics, 2018, 124, .	2.5	15
54	Impedance spectroscopy analysis of the diffuse phase transition in lead-free $(\text{Ba}_{0.85}\text{Ca}_{0.15})(\text{Zr}_{0.1}\text{Ti}_{0.9})\text{O}_3$ ceramic elaborated by sol-gel method. Superlattices and Microstructures, 2019, 127, 71-79.	3.1	14

#	ARTICLE	IF	CITATIONS
55	Observation of Unconventional Dynamics of Domain Walls in Uniaxial Ferroelectric Lead Germanate. <i>Advanced Functional Materials</i> , 2020, 30, 2000284.	14.9	14
56	Quantum oscillations as the tool for study of new functional materials (Review Article). <i>Low Temperature Physics</i> , 2014, 40, 270-279.	0.6	12
57	Tuning of zero energy states in quantum dots of Silicene and bilayer graphene by electric field. <i>Superlattices and Microstructures</i> , 2015, 87, 137-142.	3.1	12
58	Dynamics of field-induced polarization reversal in thin strained perovskite ferroelectric films with $c$ -oriented polarization. <i>Physical Review B</i> , 2015, 91, .	3.2	12
59	Application of Generalized Reed-Muller Expression for Development of Non-Binary Circuits. <i>Electronics (Switzerland)</i> , 2020, 9, 12.	3.1	12
60	Insulator-metal transition in $Rb_4C_6O$ under pressure: Jahn-Teller theory versus NMR experiments. <i>Synthetic Metals</i> , 1996, 77, 205-208.	3.9	11
61	Thermodynamics of the incommensurate state in $Rb_2WO_4$ : The Lifshitz point in $A_2BX_4$ compounds. <i>Physical Review B</i> , 2000, 61, 3147-3150.	3.2	11
62	Phase diagrams of ferroelectric thin film with two surface layers. <i>EPJ Applied Physics</i> , 2009, 48, 10503.	0.7	11
63	Structural, dielectric and electrocaloric properties of $(Ba_{0.85}Ca_{0.15})(Ti_{0.9}Zr_{0.1-x}Sn_x)O_3$ ceramics elaborated by sol-gel method. <i>Journal of Materials Science: Materials in Electronics</i> , 2019, 30, 14099-14111.	2.2	11
64	Study of new rare earth family $Pb_{1-6x}K_{2x}Nb_2O_6$ ( $R=La, Nd, Sm, Eu$ and $Gd$ ) of tetragonal tungsten bronze-type ferroelectrics. <i>Solid State Communications</i> , 2004, 130, 777-781.	1.9	10
65	Phase diagram and dielectric properties of ferroelectric ceramics. <i>Superlattices and Microstructures</i> , 2011, 49, 300-306.	3.1	10
66	Vortex state in thin films of multicomponent ferroelectrics. <i>Thin Solid Films</i> , 2011, 519, 5808-5810.	1.8	10
67	Studies of Diffuse Phase Transition in Ferroelectric Solid Solution $Pb_{1-x}K_{2x}Nb_2O_6$ ( $x = 0.1, 0.2, 0.25$ and $0.3$ ). <i>Ferroelectrics</i> , 2013, 444, 116-124.	0.6	10
68	Development of Programmable Logic Array for Multiple-Valued Logic Functions. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2020, 39, 4854-4866.	2.7	10
69	Comment on "Consistent Interpretation of the Low-Temperature Magnetotransport in Graphite Using the Slonczewski-Weiss-McClure 3D Band-Structure Calculations". <i>Physical Review Letters</i> , 2010, 104, 119701; author reply 119702.	7.8	9
70	Charge ordering in amorphous $WO_x$ films. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2007, 368, 419-422.	2.1	8
71	Switching Properties of Nano-scale Multi-axial Ferroelectrics: Geometry and Interface Effects. <i>Integrated Ferroelectrics</i> , 2012, 133, 96-102.	0.7	8
72	Frequency Dependence of the Dielectric Permittivity in Ferroelectric Thin Films with $180^\circ$ Domain Structure. <i>Ferroelectrics</i> , 2013, 444, 177-182.	0.6	8

#	ARTICLE	IF	CITATIONS
73	Domain textures of multi-qmodulated phases. <i>Ferroelectrics</i> , 1997, 191, 267-273.	0.6	7
74	Ferroelectric Domains in Thin Films and Superlattices: Results of Numerical Modeling. <i>Ferroelectrics</i> , 2007, 359, 14-20.	0.6	7
75	Coexistence of the soft mode and sub-THz central peak in ferroelectric BaTiO <sub>3</sub> /(Ba,Sr)TiO <sub>3</sub> superlattices. <i>Superlattices and Microstructures</i> , 2015, 87, 19-24.	3.1	7
76	Ferroelectric Phase in Barium Titanate Epitaxial Thin Film. <i>Ferroelectrics</i> , 2003, 291, 55-64.	0.6	6
77	Superconducting RNi <sub>2</sub> B <sub>2</sub> C (R = Y, Lu) nanoparticles: Size effects and weak links. <i>Advanced Materials</i> , 1997, 9, 503-506.	21.0	5
78	Ferroelectric Phases in Rare-Earth TTB Ferroelectric Compounds Pb <sub>2</sub> (1-x)K(1+x)Tl <sub>2</sub> ETQ <sub>0</sub> O <sub>0</sub> rgBT/Overlock 10 Tf 5	0.6	5
79	Monte Carlo Study of Ferroelectric Properties of Tetragonal Tungsten Bronze Compounds. <i>Ferroelectrics</i> , 2010, 397, 1-8.	0.6	5
80	Inhomogeneous Polarization Switching in Finite-Size Cubic Ferroelectrics. <i>Ferroelectrics</i> , 2012, 427, 34-40.	0.6	5
81	Resistive Switching Hysteresis in Thin Films of Bismuth Ferrite. <i>Ferroelectrics</i> , 2013, 444, 183-189.	0.6	5
82	Impedance spectroscopy studies on lead free Ba <sub>1-x</sub> Mg <sub>x</sub> (Ti <sub>0.9</sub> Zr <sub>0.1</sub> )O <sub>3</sub> ceramics. <i>Superlattices and Microstructures</i> , 2018, 118, 45-54.	3.1	5
83	Synthesis of La <sub>0.5</sub> Ca <sub>0.5</sub> ~xMnO <sub>3</sub> nanocrystalline manganites by sucrose assisted auto combustion route and study of their structural, magnetic and magnetocaloric properties. <i>Journal of Materials Science: Materials in Electronics</i> , 2019, 30, 20459-20470.	2.2	5
84	Crystal Structure and the Spectral Response of the Ba~Doped SrTiO <sub>3</sub> Incipient Ferroelectrics. <i>Physica Status Solidi (B): Basic Research</i> , 2021, 258, 2100010.	1.5	5
85	Conductivity and field and current distributions in a two-component system composed of regular triangles. <i>Journal of Experimental and Theoretical Physics</i> , 2002, 94, 203-215.	0.9	4
86	Catalytic behaviors of ruthenium dioxide films deposited on ferroelectrics substrates, by spin coating process. <i>Applied Surface Science</i> , 2007, 254, 1399-1404.	6.1	4
87	The transverse spin-12 Ising order-disorder superlattice. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2007, 374, 127-138.	2.6	4
88	Dielectric and structural properties of diffuse ferroelectric phase transition in Pb <sub>1.85</sub> K <sub>1.15</sub> Li <sub>0.15</sub> Nb <sub>5</sub> O <sub>15</sub> ceramic. <i>EPJ Applied Physics</i> , 2011, 53, 20901.	0.7	4
89	Field-induced vortices in weakly anisotropic ferroelectrics. <i>Superlattices and Microstructures</i> , 2011, 49, 314-317.	3.1	4
90	Phase transition in ferroelectric BaTiO <sub>3</sub> /SrTiO <sub>3</sub> superlattice: Raman spectroscopy studies. <i>Ferroelectrics</i> , 2016, 501, 61-69.	0.6	4

#	ARTICLE	IF	CITATIONS
91	Lattice dynamics and structural distortions in the multiferroic (Ba,Sr)TiO <sub>3</sub> /(Bi,Nd)FeO <sub>3</sub> heterostructures. Thin Solid Films, 2017, 636, 220-224.	1.8	4
92	Symmetry of the mixed state of superconductors with anisotropic pairing. Physica C: Superconductivity and Its Applications, 1993, 206, 373-386.	1.2	3
93	Comment on "Ginzburg-Landau theory of the phase diagram of superconducting UPt <sub>3</sub> ". Physical Review Letters, 1993, 71, 1957-1957.	7.8	3
94	Comment on 'Inhomogeneities and birefringence in quartz'. Journal of Physics Condensed Matter, 1999, 11, 8169-8173.	1.8	3
95	Domain Proximity and Ferroelectric Transition in Ferro-Paraelectric Superlattices. Ferroelectrics, 2003, 291, 169-175.	0.6	3
96	Phase Transition Proper of Ferroelectric Superlattice with three Alternative Layers from Ising Model in a Transverse Field. Physica Scripta, 2005, 72, 265-273.	2.5	3
97	Unexpectedly high Curie temperature in weakly strained ferroelectric film. Physica Status Solidi (B): Basic Research, 2017, 254, 1600413.	1.5	3
98	Structural, Dielectric, and Magnetic Properties of Multiferroic (1-x) La <sub>0.5</sub> Ca <sub>0.5</sub> MnO <sub>3</sub> -(x) BaTi <sub>0.8</sub> Sn <sub>0.2</sub> O <sub>3</sub> Laminated Composites. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2019, 66, 1935-1941.	3.0	3
99	Ferroelectric multiple-valued logic units. Ferroelectrics, 2019, 543, 213-221.	0.6	3
100	Dynamics of polarization vortices revealed in a ferroelectric material. Nature, 2021, 592, 359-360.	27.8	3
101	Anomalous Light Scattering in Quartz: Ferroelastic-ELT Versus Non Equilibrium-EQT Model. Ferroelectrics, 2003, 290, 97-104.	0.6	2
102	Study of Ferroelectric Bi <sub>3.25</sub> La <sub>0.75</sub> Ti <sub>3</sub> O <sub>12</sub> Thin Films Deposited by Sol-Gel Method. Ferroelectrics, 2010, 397, 112-121.	0.6	2
103	Phase diagram of ferroelectric thin film with diluted surface. Superlattices and Microstructures, 2011, 49, 307-313.	3.1	2
104	Longitudinal and Transversal Polarization Switching in Strained Ferroelectrics. Ferroelectrics, 2014, 461, 22-28.	0.6	2
105	Gate-tunable electron interaction in high- $\epsilon$ dielectric films. Scientific Reports, 2017, 7, 42770.	3.3	2
106	Nondestructive method of thin-film dielectric constant measurements by two-wire capacitor. Physica Status Solidi (B): Basic Research, 2017, 254, 1600476.	1.5	2
107	Built-in electric field induces polarization rotation in bilayer BiFeO <sub>3</sub> /(Ba,Sr)TiO <sub>3</sub> thin films. Journal of Alloys and Compounds, 2020, 812, 152164.	5.5	2
108	Superconducting mixed state symmetry for an anisotropic pairing near H <sub>c2</sub> and phase transitions in UPt <sub>3</sub> . Physica C: Superconductivity and Its Applications, 1991, 185-189, 2629-2630.	1.2	1

#	ARTICLE	IF	CITATIONS
109	Intercalation in C60: High resolution 13C NMR results. Synthetic Metals, 1995, 70, 1431-1434.	3.9	1
110	Polarization Rotation in the Incommensurate Phase of Sn2P2(SexS1â€“x)6. Ferroelectrics, 2004, 302, 137-141.	0.6	1
111	Catalytic Studies of RuO2 Films Deposited on Ferroelectrics Films by Spin Coating Process. Ferroelectrics, 2008, 371, 34-42.	0.6	1
112	Investigation of diffuse phase transition in ferroelectric Pb2âˆ“x K1+x Li x Nb5O15 (0âˆ“%âˆ“xâˆ“%âˆ“1.5) ceramics. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	1
113	The Anisotropy Induced by a Magnetostriction in Exchange-Biased Two-Layer Films. Metallofizika i Noveishie Tekhnologii, 2016, 36, 1453-1464.	0.5	1
114	ASSESSING VEGETATION STRUCTURAL CHANGES IN OASIS AGRO-ECOSYSTEMS USING SENTINEL-2 IMAGE TIME SERIES: CASE STUDY FOR DRÃ„A-TAFILALET REGION MOROCCO. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XLII-4/W12, 69-73.	0.2	1
115	Symmetry of electronic states in antiferromagnets; applications to CuO2 planes. Physica C: Superconductivity and Its Applications, 1991, 185-189, 1583-1584.	1.2	0
116	Phase transitions in the mixed state of superconductors with anisotropic pairing. Physica B: Condensed Matter, 1994, 194-196, 1971-1972.	2.7	0
117	High-resolution NMR in alkali intercalated C60. Physica C: Superconductivity and Its Applications, 1994, 235-240, 767-768.	1.2	0
118	Model of isotropic d-wave pairing in UPt3. Physica C: Superconductivity and Its Applications, 1994, 235-240, 2447-2448.	1.2	0
119	Nearly isotropic d-wave pairing in UPt3. Physica B: Condensed Matter, 1995, 206-207, 577-579.	2.7	0
120	TGB C phase in liquid crystalsâˆ“the analog of vortex state in space modulated superconductors. European Physical Journal D, 1996, 46, 1835-1836.	0.4	0
121	Structural and Dynamical Aspects of Structural Phase Transitions on Incommensurate A2BX4compounds. Ferroelectrics, 2004, 305, 75-78.	0.6	0
122	Dielectric nonlinearity and polarization anharmonicity of BaTiO<inf>3</inf>. Applications of Ferroelectrics, IEEE International Symposium on, 2006, , .	0.0	0
123	Charge ordering in amorphous WOx films. Physica B: Condensed Matter, 2008, 403, 1211-1212.	2.7	0
124	Temperature Evolution of 180Â° Ferroelectric Domains in Thin Ferroelectric Films. Ferroelectrics, 2008, 372, 41-46.	0.6	0
125	New algorithm for Multi-Valued Decision Diagram construction. , 2019, , .		0
126	Application of Generalised Reed-Muller Expansion in Development of Programmable Logic Array. , 2019, , .		0



#	ARTICLE	IF	CITATIONS
127	180° Ferroelectric Domains in Thin Films and Superlattices. NATO Science for Peace and Security Series B: Physics and Biophysics, 2008, , 221-236.	0.3	0
128	Satellite Desertification Monitoring in Sahara. NATO Science for Peace and Security Series C: Environmental Security, 2011, , 241-244.	0.2	0