



3rd International Conference  
**SCANNING PROBE MICROSCOPY**

4th Russia-China  
**WORKSHOP ON DIELECTRIC  
AND FERROELECTRIC MATERIALS**

International Youth Conference  
**FUNCTIONAL IMAGING OF NANOMATERIALS**

August 25 – 28, 2019

*Ural Center for Shared Use “Modern Nanotechnologies”  
Insutute of Natural Sciences and Mathematics  
Ural Federal University*

# PROGRAM



**Ural Federal  
University**

named after the first President  
of Russia B.N.Yeltsin



**UrFU**

**Institute  
of Natural Sciences  
and Mathematics**

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## SPM-2019 organizers

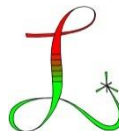
Institute of Natural Sciences and Mathematics  
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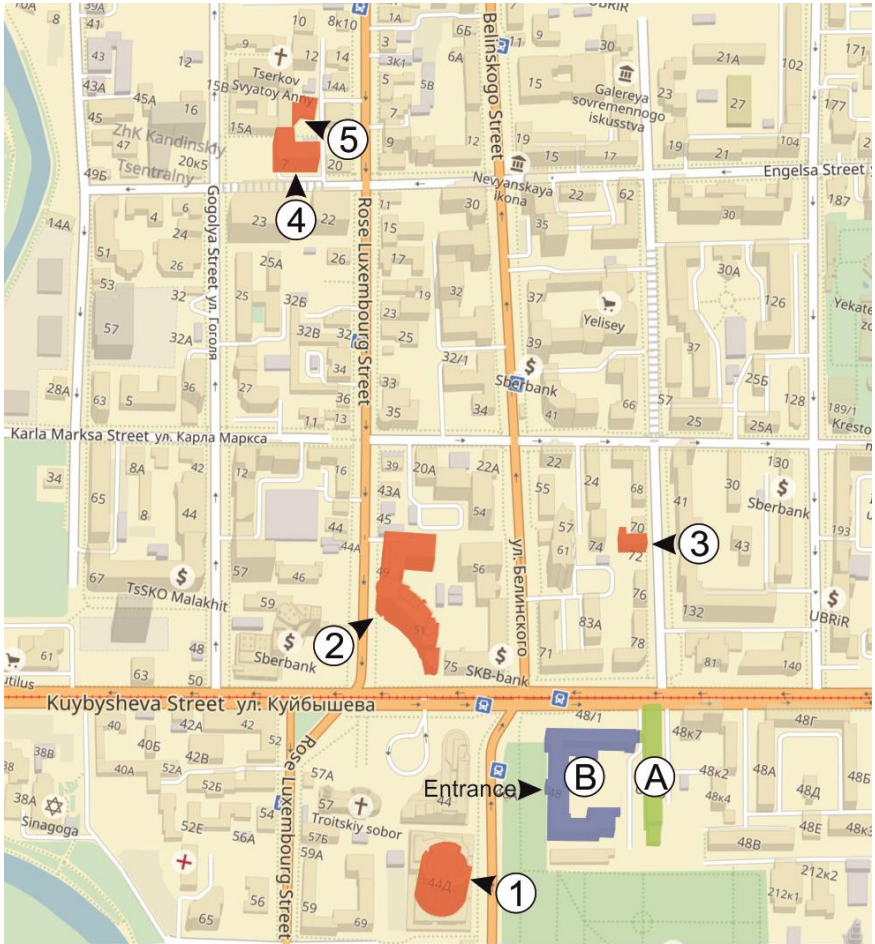


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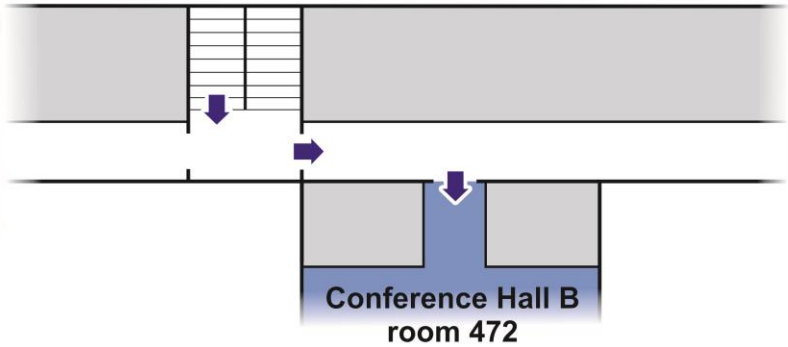
## Map of the Conference location



- Ⓐ **Ural Federal University BUILDING A** 48, Kuybysheva str.
- Ⓑ **Ural Federal University BUILDING B** 48, Kuybysheva str.
- ① **Panorama Business Hotel** 44, Kuybysheva str.
- ② **Onegin Hotel** 49, Rose Luxembourg str.
- ③ **Live Hotel** 72, Krasnoarmeiskaya str.
- ④ **Novotel** 7, Engelsa str.
- ⑤ **TransHotel** 15E, Gogolya str.

Institute of Natural Sciences and Mathematics,  
Ural Federal University

Building B  
**4<sup>th</sup>**  
floor



Building A  
**5<sup>th</sup>**  
floor



Building A  
**7<sup>th</sup>**  
floor



**Transit between the buildings on the third floor**

# Instructions for speakers

## Details for oral presentations

The length of the presentations:

- Plenary (PI) 40 min (including 5 min for questions and answers)
- Invited (I) 30 or 20 min (including 5 or 3 min for questions and answers)
- Oral (O) 15 or 10 min (including 3 or 2 min for questions and answers)
- Short oral (SO) 3-4 min

The following facilities in the conference halls will be provided:

- Computer with Windows 7 OS
- XGA Projector (the resolution will be limited to 1064x768 px) with VGA input
- Mouse, keyboard and remote “presenter” with laser pointer
- Laser pointer
- Wireless and wired microphones

For using the conference notebook (preferred), please, make sure to upload and test your presentation before the start of your session. Uploading can be done at the “presentations” desk in the conference hall. Please, bring your presentation on USB flash disk.

Speakers should arrive in the session room 10 minutes before the start of their sessions to report to the session chair.

On the conference computer, the following presentation file formats are supported:

- Adobe Reader (PDF)
- Microsoft Office 2010 (PowerPoint ppt, pptx, pps; Microsoft Word doc, docx)
- OpenOffice 3.4 (Writer, Impress)
- Adobe Flash
- Video files (video files must be checked in advance in order to have a possibility to install necessary codecs if missing)

Video switch will be available for presenting from your own laptop, equipped with VGA output. Please, test the equipment with your notebook in advance.

## Details for poster presentations

For poster presentations, plastic poster boards will be provided. The space of 1x1 m<sup>2</sup> will be available for each poster. Mounting can be done by removable adhesive.

All participants presenting posters in Poster Session I or II are kindly asked to mount their posters starting from the Monday, August 26<sup>th</sup> or Tuesday, August 27<sup>th</sup> morning and dismount them after the end of the poster session.

Left posters will be dismounted by Organizing committee team after closing.

## How to understand the presentation identification number

Presentation type		Room	
PI	Plenary	A	Conference hall A, room 700 in Building A
Invited	I	B	Conference hall B, room 472 in Building B
Oral	O		
Short oral	SO		



## Detailed program of SPM-2019-RCWDFM

August 25, Sunday

### Youth Conference “Functional Imaging of Nanomaterials”

10.30-12.00	<i>Visit to Ural Center for Shared Use “Modern Nanotechnologies” UrFU, Kuibysheva str. 48, bld. A, 2<sup>nd</sup> floor</i>	
Conference Hall A (bld. A, room 700)		
13.00	L1. <b>Victor Mironov</b> , <i>Institute for Physics of Microstructures, Nizhny Novgorod, Russia</i> Magnetic resonant force microscopy	<b>12.30-19.00</b> <b>Registration,</b> <b>Kuibysheva str. 48, bld. A,</b> <b>7<sup>th</sup> floor</b>
13.40	L2. <b>Seungbum Hong</b> , <i>Korean Advanced Institute of Science and Technology, Daejeon, Korea</i> Visualization of polarization and electrical charges using Atomic Force Microscopy	
14.20	L3. <b>Vladimir Shur</b> , <i>Ural Federal University, Ekaterinburg, Russia</i> Study of ferroelectric domains by scanning probe microscopy	
15.00	<i>Tea break</i>	
15.20	L4. <b>Roger Proksch</b> , <i>Asylum Research, Santa Barbara, USA</i> Quantifying nanoscale electromechanical response with the AFM	
16.00	L5. <b>Syed Tofail</b> , <i>University of Limerick, Limerick, Ireland</i> Infrared imaging fundamentals and applications	
17.00-19.00	<i>Excursion to the border between Europe and Asia</i>	
19.30-21.00	<i>Welcome party, Panorama hotel, Kuibysheva str. 44, 11<sup>th</sup> floor</i>	

## August 26, Monday

08.30	<i>Registration, Kuibysheva str. 48, bld. A, 7<sup>th</sup> floor</i>		08.30
09.00	<i>Conference Hall A (bld. A, room 700) Opening, Kuibysheva str. 48, 7<sup>th</sup> floor</i>		09.00
09.25	PIA01. <b>Roger Proksch</b> , <i>Asylum Research, USA</i> Getting to zero - quantitative electromechanical Atomic Force Microscopy		09.25
10.05	<i>Short break</i>		10.05
	Conference Hall A (bld. A, room 700)	Conference Hall B (bld. B, room 472)	
	<b>Session A1. SPM in material science</b> Chairs: Roger Proksch, Victor Mironov	<b>Session B1. High-performance piezo-/ferroelectric materials and devices</b> Chairs: Zhuo Xu, Alexander Sigov	
10.15	IA01. <b>Seungbum Hong</b> , <i>KAIST, Republic of Korea</i> Materials Imaging and Integration (MII): new paradigm of nanoscale materials design and discovery	IB01. <b>Jianguo Zhu</b> , <i>Sichuan University, China</i> Flexible piezoelectric ultrasonic energy harvester array using KNN-based lead free composite	10.15
10.45	IA02. <b>Syed Tofail</b> , <i>University of Limerick, Ireland</i> Piezoresponse force microscopy and electron backscattering diffraction of 90° ferroelectric twins in BaTiO <sub>3</sub> PTC thermistors	IB02. <b>Ekaterina Politova</b> , <i>NIFHI, Russia</i> Structure, ferroelectric and piezoelectric properties of KNN- and NBT-modified perovskite ceramics	10.45
11.15 11.35	<i>Tea break</i>		11.15 11.35

11.35	IA03. <b>Victor Bykov</b> , <i>NT-MDT SI, Russia</i> New possibility of scanning probe microscopy and spectroscopy		IB03. <b>Jiwei Zhai</b> , <i>Tongji University, China</i> Strain and structural evolution in lead-free NBT-based piezoceramics	11.35
12.05	OA01. <b>Vasily Shaginyan</b> , <i>PNPI, Russia</i> Flat bands, scanning tunneling microscopy, and the violation of time-reversal symmetry		IB04. <b>Andrei Akhmatkhanov</b> , <i>UrFU, Russia</i> Tilt control of the charged domain walls in lithium niobate	12.05
12.20	OA02. <b>Ivan Mukhin</b> , <i>ITMO University, Russia</i> Influence of condensation enhancement effect in nanocapillaries at hydrophilic surface on AFM image contrast		OB01. <b>Dongxue Bi</b> , <i>BMSTU, Russia</i> Optical properties of ferroelectric photonic structures	12.25
12.35	<i>Group photo and lunch</i> <i>Panorama hotel, Kuibysheva str. 44</i>			12.35
14.00				14.00
	Conference Hall A (bld. A, room 700)		Conference Hall B (bld. B, room 472)	
	<b>Session A2. SPM in materials science</b> Chairs: Seungbum Hong, Vladimir Shur		<b>Session B2. High-performance piezo-/ferroelectric materials and devices</b> Chairs: Yang Shen, Vladimir Gorelik	
14.00	IA04. <b>Alexander Ankudinov</b> , <i>Ioffe Inst., Russia</i> Accuracy of probe-sample contact stiffness measurements in an atomic force microscope		IB05. <b>Guorong Li</b> , <i>Shanghai Inst. of Ceramics CAS, China</i> Defects on the ferroelectric and photocatalytic properties of La <sup>3+</sup> ions doped SrBi <sub>2</sub> Nb <sub>2</sub> O <sub>9</sub> materials	14.00

14.30	<b>OA03. Ilya Morozov, ICMM UB RAS, Russia</b> Structural-mechanical AFM study of inhomogeneous stiff nanocoating of soft polymer substrate		<b>IB06. Rinat Mamin, KPhTI RAS, Russia</b> Tailoring quasi-two-dimensional high conductivity and superconductivity areas at the interfaces of ferroelectric/dielectric heterostructures	14.30
14.45	<b>OA04. Ivan Lobov, OSC SB RAS, Russia</b> Evaluation of mechanical and electrical parameters of individual polyaniline nanoparticles			
15.00	<b>OA05. Vyacheslav Polyakov, NT-MDT SI, Russia</b> Automation of topography and phase contrast measurements in tapping mode		<b>IB07. Haoshuang Gu, Hubei University, China</b> One-dimensional piezoelectric nanomaterials for high-performance micro-energy harvesting applications	15.00
15.10	<b>OA06. Evgeny Lisov, Ostec, Russia</b> New developments in AFM cantilevers fabrication methods			
15.20	<b>OA07. Tatiana Sazanova, NNSTU, Russia</b> AFM in polymeric chemistry's studies			
15.30	<b>OA08. Vera Neudachina, Intertech, Russia</b> SPM characterization of large samples			
15.40	<b>OA09. Dmitry Gornostaev, SPECS, Russia</b> Multifunctional low temperature and high vacuum probe microscopy and spectroscopy			
15.50	<b>OA10. Sergey Krasnoborod'ko, MTEON, Russia</b> Advanced integrated solutions based on AFM		<b>IB08. Vladimir Gorelik, LPI, Russia</b> Raman opalescence and central peak scattering near the transition point in crystals	15.30
16.00	<b>OA11. Maxim Minin, IMC, Russia</b> Scientia-Omicron high-end UHV SPM modern instrumentation			
16.10	<i>Tea break</i>			16.00
16.30				16.30

Conference Hall A (bld. A, room 700)		Conference Hall B (bld. B, room 472)	
	<b>Session A3. Biocompatible &amp; organic materials</b> Chair: Syed Tofail	<b>Session B2. High-performance piezo-/ferroelectric materials and devices (continued)</b> Chairs: Yang Shen, Vladimir Gorelik	
16.30	IA05. <b>Sandor Kasas, EPFL, Switzerland</b> Nanomotion based antibiotic sensitivity test	IB09. <b>Zhiguang Wang, Xi'an Jiaotong Univ., China</b> Piezoelectric strain tuned magnetic sensor	16.30
		OB03. <b>Andrei Ushakov, UrFU, Russia</b> Domain structure evolution in (111)-cut rhombohedral PMN-PT single crystals during polarization reversal	16.50
17.00	OA12. <b>Pavel Zelenovskiy, UrFU, Russia</b> Water adsorption and polar properties of self-assembled diphenylalanine nanotubes	OB04. <b>Qingyuan Hu, Xi'an Jiaotong University, China</b> Nanoscale investigation on domain evolution behavior in Pb(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> -PbTiO <sub>3</sub> relaxor ferroelectric single crystal	17.00
17.15	OA13. <b>Joanna Bauer, WUST, Poland</b> Smart hybrid nanostructures for cancer treatment	OB05. <b>Mikhail Bunin, SFedU, Russia</b> Giant piezoelectric response in textured piezoceramics with tetragonal tungsten bronze structure	17.15
17.30			17.30
	<i>Short break</i>		
	Conference Hall A (bld. A, room 700)		
17.40	Session SOI. Short oral talks of young scientists (chair Andrei Akhmatkhanov)		17.40
	Poster session I, Kuibysheva str. 48, bld. A, rooms 510, 513		
19.00			19.00

## August 27, Tuesday

	Conference Hall A (bld. A, room 700)		
09.00	<b>PIA02. Alexander Sigov, MIREA - Russian Technological University, Russia</b> Ultrafast ferroelectric switching: what are the limitations?		09.00
09.40	<i>Short break</i>		09.40
	Conference Hall A (bld. A, room 700)	Conference Hall B (bld. B, room 472)	
	<b>Session A4. Thin films, single crystals, interfaces and nanoscale materials</b> Chairs: Zuo-Guang Ye, Tatiana Volk	<b>Session B3. Biocompatible &amp; organic materials</b> Chairs: Sandor Kasas, Igor Yaminsky	
09.50	<b>IA06. Yongming Hu, Hubei University, China</b> Flexible all-solid-state supercapacitors based on transition metal oxide nanocomposites	<b>IB10. Igor Yaminsky, Moscow State Univ., Russia</b> Scanning capillary microscopy: new achievements and opportunities	09.50
10.10	<b>IA07. Alexey Pugachev, IAE SB RAS, Russia</b> Manifestation of local polar regions in spectroscopic investigations in ferroelectrics and relaxors	<b>OB06. Xiaogang Yao, Shanghai Inst. of Ceram., China</b> Research progress in high performance poly-silicon aromatic alkyne based composite substrate with ultra-high permittivity	10.20
10.30	<b>IA08. Hao Tian, Harbin Institute of Tech., China</b> Lead free KTN single crystals: from composition regulation, space charge field engineering to application	<b>OB07. Denis Sokolov, OSC SB RAS, Russia</b> Dielectric characterization of erythrocytes by electrostatic force microscopy	10.35
10.50	<b>OA14. Natalia Andreeva, LETI, Russia</b> Resistive switching phenomena in thin ferroelectric films	<b>OB08. Larisa Privalova, EMRC PHPIW, Russia</b> Experimental assessments of metallic and metal oxide nanoparticles' toxicity	10.50
11.05			11.05

11.05	<i>Tea break</i>		11.05
11.25	IA09. <b>Eudes Araujo</b> , <i>Sao Paulo State Univ., Brazil</i> Processing of BiFeO <sub>3</sub> thin films to control their dielectric response	IB11. <b>Maxim Dokukin</b> , <i>SarFTI, Russia</i> AFM adhesion imaging as a prospective tool in the detection of cell's abnormalities and diseases	11.25
		IB12. <b>Vladimir Bystrov</b> , <i>IMPB RAS, Russia</i> Piezoelectric, ferroelectric, optoelectronic and photocatalytic phenomena from defect levels in hydroxyapatite by first-principles	11.45
11.55	IA10. <b>Leonid Korotkov</b> , <i>VSTU, Russia</i> Dielectric and magnetic responses in nanocrystalline BaTiO <sub>3</sub>	OB09. <b>Assel Akhmetova</b> , <i>MSU, Russia</i> Detection of proteins, viruses, bacteria using scanning probe microscopy	12.05
12.15		OB10. <b>Roman Chernozem</b> , <i>TPU, Russia</i> Hybrid piezoelectric and biodegradable polymer-based scaffolds for biomedical applications	12.15
		OB11. <b>Andrei Makaev</b> , <i>UrFU, Russia</i> Creation of nanoparticles and surface nanostructures of aluminum oxides by hot water treatment	12.25
12.35	OA15. <b>Irina Zaytseva</b> , <i>IAE SB RAS, Russia</i> The investigation of the time characteristic of local polar inhomogeneities in paraelectric phase in relaxors and ferroelectric crystals ...	OB12. <b>Denis Fokin</b> , <i>Optec, Russia</i> Nanoscale IR Spectroscopy & Imaging	12.35
12.45		<i>Lunch at Panorama hotel, Kuibysheva str. 44</i>	
14.00			14.00



Conference Hall A (bld. A, room 700)		Conference Hall B (bld. B, room 472)	
<b>Session A5. New mechanisms/materials/devices</b> Chairs: Guorong Li, Rinat Mamin		<b>Session B4. PFM, MFM, KPFM, SNOM, ESM, SEM, and other advanced techniques</b> Chairs: Alexander Ankudinov, Andrei Kholkin	
14.00	IA12. <b>Yong Zhang</b> , <i>Tsinghua University, China</i> Characterization of oxygen-vacancy-related relaxation by thermally stimulated depolarization current and impedance spectroscopy	IB13. <b>Victor Mironov</b> , <i>IPM RAS, Russia</i> Magnetic resonance force microscopy of planar ferromagnetic nanostructures	14.00
14.30	IA13. <b>Wen Chen</b> , <i>Wuhan University of Tech., China</i> Tristate ferroelectric memory effect in Fe, Nb co-doped $\text{Bi}_{1/2}(\text{Na}_{0.8}\text{K}_{0.2})_{1/2}\text{TiO}_3$ lead-free ceramics	IB14. <b>Andrei Kholkin</b> , <i>Univ. of Aveiro, Portugal</i> Electrochemical Strain Microscopy of Li-ion battery cathodes	14.30
15.00	IA14. <b>Alexander Vtyurin</b> , <i>KIPh SB RAS, Russia</i> Structural phase transitions in elpasolite-like fluorides comprising rare earth elements – Raman scattering study	OB13. <b>Igor Maslenikov</b> , <i>FSBI TISNCM, Russia</i> Raman spectroscopy during indentation measurements	15.00
		OB14. <b>Lev Fomin</b> , <i>IMT RAS, Russia</i> Studies of morphology and magnetic properties of island magnetic metamaterials	15.15
15.30	IA15. <b>Hua Hao</b> , <i>Wuhan University of Tech., China</i> Microstructure and dielectric characteristics of $\text{BaTiO}_3$ -based ceramics for high temperature capacitor application	OB15. <b>Anton Chuklanov</b> , <i>KPhTI, Russia</i> Changing the domain structure of CoNi particles under mechanical stress	15.30
15.50	OA16. <b>Valentina Kasimova</b> , <i>MISiS, Russia</i> Optical and electrophysical properties of Ce-doped $\text{Gd}_3\text{Al}_2\text{Ga}_3\text{O}_{12}$	OB16. <b>Denis Lebedev</b> , <i>SPBU, Russia</i> Study of inelastic electron tunneling in the Pt-Au tunnel junction in ultra-high vacuum STM	15.45
16.00			16.00

16.00	<i>Tea break</i>		16.00
16.20	IA16. <b>Zhongqiang Hu</b> , <i>Xi'an Jiaotong Univ., China</i> Integrated magnetoelectric devices based on interfacial magnetoelectric coupling effects	IB15. <b>Vladimir Shvartsman</b> , <i>UDE, Germany</i> Investigation of ferroelectric behavior of Bi(Fe,Sc)O <sub>3</sub> multiferroics using piezoresponse force microscopy	16.20
16.40	OA17. <b>Changjiao Li</b> , <i>Wuhan Univ. of Tech., China</i> Progressive prediction using instrumental variable for accurate prediction of band gap of ABO <sub>3</sub> perovskites		IB16. <b>Denis Alikin</b> , <i>Ural Federal University, Russia</i> Polarization-dependent conductivity of grain boundaries in BiFeO <sub>3</sub> thin films
16.55	OA18. <b>Juan Xiong</b> , <i>Hubei University, China</i> The study on AZO based hybrid transparent electrode and its application in perovskite solar cells		
17.10			17.10
<i>Short break</i>			
Conference Hall A (bld. A, room 700)			
17.20	Session SOII. Short oral talks of young scientists (chair Denis Alikin)		17.20
Poster session II, Kuibysheva str. 48, bld. A, rooms 510, 513			
18.30			18.30
19.30	<i>Banquet</i> <i>Restaurant "Kosmos", Dzerzhinskogo str., 2</i>		19.30

## August 28, Wednesday

Conference Hall A (bld. A, room 700)			
09.00	<b>PIA03. Zuo-Guang Ye, Simon-Fraser University, Canada</b> Structures and properties of novel antiferroelectric materials with high energy-storage performance	09.00	
09.40	<i>Short break</i>		09.40
Conference Hall A (bld. A, room 700)		Conference Hall B (bld. B, room 472)	
<b>Session A6. Domains, domain walls, and domain engineering</b> Chair: Alexander Vtyurin, Xiaoyong Wei		<b>Session B5. New mechanisms/materials/devices</b> Chair: Yong Zhang, Alexander Krylov	
09.50	<b>IA17. Vladimir Shur, UrFU, Russia</b> Superfast domain wall motion and growth of dendrite domains in ferroelectrics. Analogy with crystal growth	09.50	<b>IB17. Jianmin Yuan, NUDT, China</b> Measurement of the dielectric constant of optically dense materials by polarization-sensitive terahertz ellipsometry
10.20	<b>OA19. Chao He, FJIRSM CAS, China</b> Domain engineering in relaxor-PT ferroelectric single crystals	10.20	<b>IB18. Yang Shen, Tsinghua University, China</b> Dielectric breakdown of polymer composites: experiments & phase-field simulations
10.35	<b>OA20. Lyudmila Kokhanchik, IMT RAS, Russia</b> Effect of titanium in LiNbO <sub>3</sub> on domain growth during e-beam writing		
10.50	<b>OA21. Dmitry Chezganov, UrFU, Russia</b> Electron beam periodical poling in [001]c-poled PMN-39PT single crystal	10.50	<b>OB17. Veniamin Abalmasov, IAE SB RAS, Russia</b> The role of uncompensated electric charges in the polarization dynamics induced by femtosecond high-intensity infrared laser pulses
11.05		11.05	

11.05	<i>Tea break</i>		11.05
11.25	IA18. <b>Tatiana Volk</b> , <i>Inst. of Crystallography, Russia</i> AFM domain patterning in structurally disordered ferroelectric crystals	IB19. <b>Natalia Sherstyuk</b> , <i>MIREA, Russia</i> Photoinduced dynamics in ferroelectric semiconductor Sn <sub>2</sub> P <sub>2</sub> S <sub>6</sub>	11.25
		OB18. <b>Nikolay Lyapunov</b> , <i>PolyU, China</i> Resistive switching and ferroelectricity in HfO <sub>2</sub> thin films	11.45
11.55	IA19. <b>Radmir Gainutdinov</b> , <i>Inst. of Cryst., Russia</i> Atomic force microscopy of layer-doped triglycine sulfate ferroelectric crystals	IB20. <b>Xusheng Wang</b> , <i>Tongji University, China</i> Ferroelectric relaxor properties characterized by dynamic mechanical analyses	11.55
12.15	OA22. <b>Huazhang Zhang</b> , <i>WHUT, China</i> High-field nonlinear properties and characteristics of domain wall motion of Fe <sub>2</sub> O <sub>3</sub> doped PMnS-PZN-PZT ceramics	OB19. <b>Jinglei Li</b> , <i>Xi'an Jiaotong University, China</i> The energy-storage performances in (1-x)(Na <sub>0.5</sub> Bi <sub>0.5</sub> )TiO <sub>3-x</sub> SrZrO <sub>3</sub> ceramics	12.15
12.25	OA23. <b>Maria Chuvakova</b> , <i>UrFU, Russia</i> Formation of dendrite domain structures in single crystals of lithium niobate	OB20. <b>Elizaveta Neradovskaia</b> , <i>UNSA, France</i> Periodical poling in congruent lithium niobate crystals with slanted polar axis	12.25
12.35	<i>Lunch at Panorama hotel, Kuibysheva str. 44</i>		12.35
13.40			13.40

Conference Hall A (bld. A, room 700)		Conference Hall B (bld. B, room 472)	
<b>Session A7. Multiferroic materials and devices</b> Chair: Vladimir Shvartsman, Eudes B. Araujo		<b>Session B6. Theory, modeling &amp; data processing</b> Chair: Alexey Pugachev, Jiwei Zhai	
13.40	IA20. <b>Jinbin Wang</b> , <i>Xiangtan University, China</i> Enhanced coupling of electromagnons in Nd-doped BiFeO <sub>3</sub> nanoparticles near morphotropic phase boundaries	IB21. <b>Lolita Nesterenko</b> , VSU, Russia Switching processes in ferroelectric superlattices	13.40
14.00	IA21. <b>Alexander Krylov</b> , <i>KIPh SB RAS, Russia</i> Investigation of phase transitions in multiferroics HoFe <sub>3-x</sub> Ga <sub>x</sub> (BO <sub>3</sub> ) <sub>4</sub> and TbFe <sub>3-x</sub> Ga <sub>x</sub> (BO <sub>3</sub> ) <sub>4</sub> solid solution with huntite structure	OB21. <b>Alexander Rassadin</b> , <i>MSU, Russia</i> On joint application of AFM and light scattering data for determination of autocorrelation function for growing fractal solid state surface height	14.00
		OB22. <b>Andrey Nasedkin</b> , <i>SFedU, Russia</i> Finite element modelling of 1-3 piezoelectric polymer composites with surface effects	14.15
14.30	OA24. <b>Jian Zhuang</b> , <i>Xi'an Jiaotong Univ., China</i> Chemically engineered multiferroic morphotropic phase boundary in BiFeO <sub>3</sub> -based single phase multiferroics	OB23. <b>Galina Geguzina</b> , <i>SFedU, Russia</i> Correlations "interatomic bond strain - Curie temperature" for complex oxides on the perovskite structure quasielastic model base	14.30
14.45	OA25. <b>Boris Khannanov</b> , <i>Ioffe Institute, Russia</i> Frozen superparaelectric state of the local polar domains in GdMn <sub>2</sub> O <sub>5</sub> and Gd <sub>0.8</sub> Ce <sub>0.2</sub> Mn <sub>2</sub> O <sub>5</sub>	OB24. <b>Vadim Avilov</b> , <i>SFedU, Russia</i> Phase composition distribution simulation of titanium oxide nanosize structures obtained by the local anodic oxidation method	14.45
14.55			14.55
<i>Short break</i>			
Conference Hall A (bld. A, room 700)			
15.05	<i>Closing</i>		15.05
15.30	<i>Visit to Ural Center for Shared Use "Modern Nanotechnologies" UrFU, Kuibysheva str. 48, bld. A, 2<sup>nd</sup> floor</i>		15.30

**Short oral session I**  
**August 26, 2019**

- SO1/P1. Abramov Alexander** (Ural Federal University, Ekaterinburg, Russia)  
Local polarization reversal in polycrystalline BiFeO<sub>3</sub>-based solid solutions
- SO2/P14. Baruzdina Olga** (Cherepovets State University, Cherepovets, Russia)  
Determination of the dominant factor affecting the change of the phase transition point in thin ferroelectric films
- SO3/P27. Gimadeeva Lyubov** (Ural Federal University, Ekaterinburg, Russia)  
Domain structure of BaTiO<sub>3</sub> ceramics before and after poling
- SO4/P32. Greshnyakov Evgeny** (Ural Federal University, Ekaterinburg, Russia)  
Charged domain walls in lithium tantalate with compositional gradients produced by VTE process
- SO5/P38. Ibragimov Artem** (Bauman Moscow State Tech. Univ., Moscow, Russia)  
Optimization of the photonic crystal colloidal films deposition by means of atomic force microscopy
- SO6/P54. Korsakova Elena** (Ural Federal University, Ekaterinburg, Russia)  
Multimodal characterization of broadband, polycrystalline silver halide fiber bundle for confocal laser scanning microscopy in the near-mid infrared spectra
- SO7/P58. Kozlowski Alexander** (Saratov State University, Saratov, Russia)  
Kinetics of photo-stimulated adsorption of enzyme molecules onto *n*- and *p*-type silicon
- SO8/P64. Lei Jiang** (Hubei University, Wuhan, China)  
Hydrothermal growth and piezoelectric response of Li,Ta-doped (K,Na)NbO<sub>3</sub> nanorod arrays
- SO9/P67. Lisjikh Boris** (Ural Federal University, Ekaterinburg, Russia)  
Polarization reversal in lithium niobate with compositional gradients

## Poster session I (bld. A, rooms 510, 513)

August 26, 2019

- P1. Abramov Alexander** (Ural Federal University, Ekaterinburg, Russia)  
Local polarization reversal in polycrystalline BiFeO<sub>3</sub>-based solid solutions
- P2. Akbaeva Galina** (Southern Federal University, Rostov-on-Don, Russia)  
Effect of the degree of diffuse phase transitions on the behavior of polarization switching processes and elastic properties in multicomponent ceramics based on PZT
- P3. Akhmatkhanov Andrei** (Ural Federal University, Ekaterinburg, Russia)  
Polarization reversal in Rb:KTP and KTA single crystals
- P4. Alekseev Alexander** (National Research University "MIET", Moscow, Russia)  
Mapping charge carrier mobility at nanoscale
- P5. Amangulova Ilyuza** (Bashkir State University, Ufa, Russia)  
SPM-study of oligonucleotides consisting of repeated nucleotide sequences
- P6. Antonov Anton** (Blagoveschensk State Pedagogical University, Russia)  
A comparative study on electrophysical properties of two composites based on triglycine sulfate mixed with natural clay and clay nanoparticles
- P7. Antonov Anton** (Blagoveschensk State Pedagogical University, Russia)  
Anomalous dielectric properties of a mixed composite from nanodispersed silica and sodium nitrite
- P8. Astashonok Andrei** (The Republican Research and Practical Center for Epidemiology and Microbiology, Minsk, Belarus)  
Evidence of surface structure of the cultured astrocytes and glioblastoma cell culture after exposing  $\beta$ -amyloids (A $\beta$ 1-40, A $\beta$ 1-42, tau-protein) isolated from the aged human brain with Alzheimer's disease
- P9. Astashonok Andrei** (The Republican Research and Practical Center for Epidemiology and Microbiology, Minsk, Belarus)  
Nanoscale organization of the normal human dermal fibroblasts and mesenchymal stem cells isolated from adipose tissue
- P10. Avilov Vadim** (Southern Federal University, Taganrog, Russia)  
Atomic force microscopy of titanium oxide nanosize structures resistive switching
- P11. Barabanova Ekaterina** (Tver State University, Tver, Russia)  
Effect of the lithium ions on the structure formation of the ceramics based on sodium niobate
- P12. Barabanova Ekaterina** (Tver State University, Tver, Russia)  
IR spectra of polystyrene-based composite films



- P13. Baraishuk Sergey** (Belarus State Agrarian Technical Univ., Minsk, Belarus)  
Investigation of the properties of magnetocaloric  $Mn_{1-x}Fe_xNiGe$
- P14. Baruzdina Olga** (Cherepovets State University, Cherepovets, Russia)  
Determination of the dominant factor affecting the change of the phase transition point in thin ferroelectric films
- P15. Bystrov Vladimir** (Keldysh Inst. of Applied Math. RAS, Pushchino, Russia)  
Molecular modeling of ZnO nanoclusters interacting with various dopant and PVDF
- P16. Chen Wen** (Wuhan University of Technology, Wuhan, China)  
Effects of doping site and concentration on upconversion luminescence of  $Er^{3+}$  doped  $Ba(Mg_{1/3}Nb_{2/3})O_3$
- P17. Cherkasov Dmitry** (Shubnikov Institute of Crystallography RAS, Moscow, Russia)  
Microscopic investigation and magnetic properties of metal nanowires
- P18. Chernykh Elena** (Kazan Federal University, Kazan, Russia)  
Interfacial glass transition temperature of nanoscale polymer interfaces using Tip-Enhanced Raman Scattering
- P19. Chezganov Dmitry** (Ural Federal University, Ekaterinburg, Russia)  
Domain patterning of non-polar cut lithium niobate by focused ion beam
- P20. Chikova Olga** (Ural State Pedagogical University, Ekaterinburg, Russia)  
SEM-investigating microstructure of cast AlNiCuFeCo high entropy alloys formations a liquid-phase separation
- P21. Chikova Olga** (Ural State Pedagogical University, Ekaterinburg, Russia)  
Study of structure-property relationship in polycrystalline steels based on analysis of EBSD data
- P22. Chuklanov Anton** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
MFM study of switching magnetization in particles with configurational anisotropy obtained by the microsphere lithography
- P23. Dunaevskiy Mikhail** (Ioffe Institute, Saint Petersburg, Russia)  
The effect of optical cooling of the SPM probe in the optomechanical resonator
- P24. Eremeev Alexander** (FSRC «Crystallography and Photonics», Moscow, Russia)  
Magnetic field effect on the TGS:Cr dielectric properties and real structure
- P25. Eremenko Mikhail** (Southern Federal University, Taganrog, Russia)  
Study of growth temperature effect on wetting layer during In/GaAs droplet epitaxy

- P26. Esin Alexander** (Ural Federal University, Ekaterinburg, Russia)  
Charged domain walls formation and dielectric permittivity enhancement in stoichiometric lithium niobate
- P27. Gimadeeva Lyubov** (Ural Federal University, Ekaterinburg, Russia)  
Domain structure of BaTiO<sub>3</sub> ceramics before and after poling
- P28. Golubev Yevgeny** (Inst. of Geology of Komi SC UB RAS, Syktyvkar, Russia)  
Microscopic investigation of nanoscale coesite crystals in ultra-high pressure silica glass from impactites
- P29. Golubok Alexander** (Institute for Analytical Instrumentation RAS, Saint Petersburg, Russia)  
Features of combining of scanning probe microscopy with optical and scanning electron microscopy
- P30. Goncharov Boris** (NRC “Kurchatov Institute”, Moscow, Russia)  
Low temperature resistive elements integrated into superconductive NbN nanowires produced under ion beam irradiation
- P31. Goncharov Boris** (NRC “Kurchatov Institute”, Moscow, Russia)  
Creation of thin superconducting MoCN covering by cathode sputtering technique as a basis film for functional cryogenic nanoelements
- P32. Greshnyakov Evgeny** (Ural Federal University, Ekaterinburg, Russia)  
Charged domain walls in lithium tantalate with compositional gradients produced by VTE process
- P33. Gunina Ekaterina** (Ural Federal University, Ekaterinburg, Russia)  
Shape change of metal oxide nanoparticles produced by laser ablation in liquid
- P34. Guryanov Andrey** (Southern Federal University, Taganrog, Russia)  
Investigation of the effect of upper electrode material on the memristor properties of strained carbon nanotubes
- P35. Guschina Ekaterina** (Ioffe Institute, Saint Petersburg, Russia)  
Polarization switching effects in thin BZT films
- P36. Gusev Evgeny** (Southern Federal University, Taganrog, Russia)  
Electron beam processing of silicon carbide substrate to obtain graphene-like carbon films
- P37. Ibragimov Artem** (Bauman Moscow State Tech. Univ., Moscow, Russia)  
Uncertainty of tunneling microscopy measurements of the field emission from multilayer nanostructures
- P38. Ibragimov Artem** (Bauman Moscow State Tech. Univ., Moscow, Russia)  
Optimization of the photonic crystal colloidal films deposition by means of atomic force microscopy

- P39. Ili'na Marina** (Southern Federal University, Taganrog, Russia)  
Study of the electromechanical properties of aligned carbon nanotubes coated with ZnO using atomic force microscopy
- P40. Ivanova Alexandra** (Tver State University, Tver, Russia)  
Growth features of ceramic grains based on titanates and niobates of alkali and alkaline earth metals
- P41. Ivleva Liudmila** (Prokhorov General Physics Institute RAS, Moscow, Russia)  
Recording and light scattering on dynamic holographic gratings in  $\text{Sr}_{0.61}\text{Ba}_{0.39}\text{Nb}_2\text{O}_6$ : 0.002 wt %  $\text{CeO}_2$  crystal
- P42. Jin Wei** (Wuhan University of Technology, Wuhan, China)  
Functionalized PPO and polyolefin low dielectric thermosetting blend
- P43. Jin Wei** (Wuhan University of Technology, Wuhan, China)  
In situ supported VOx on carbon nanotubes for the low-temperature selective catalytic reduction of NO with  $\text{NH}_3$
- P44. Jityaev Igor** (Southern Federal University, Taganrog, Russia)  
Resolution of the etching method of graphene / SiC using FIB
- P45. Kallaev Suleiman** (Institute of Physics, Dagestan Science Center RAS, Makhachkala, Russia)  
Heat capacity and dielectric properties of multiferroic  $\text{SmFeO}_3$
- P46. Kandaurov Mikhail** (Inst. of Solid State Chem. UB RAS, Ekaterinburg, Russia)  
Self-assembly of hollow bismuth ferrite spheres
- P47. Kandaurov Mikhail** (Inst. of Solid State Chem. UB RAS, Ekaterinburg, Russia)  
Synthesis and magnetic properties of  $\text{BiFe}_{1-x}\text{Co}_x\text{O}_3$  ( $x = 0\div 0,07$ )
- P48. Kardashova Gyulnara** (Dagestan State University, Makhachkala, Russia)  
Study of structure of a surface of a break of ceramics on the basis of SiC-AlN
- P49. Khannanov Boris** (Ioffe Institute, Saint Petersburg, Russia)  
Electric polarization induced by phase separation domains in multiferroics of  $\text{RMn}_2\text{O}_5$  (R=Gd, Bi)
- P50. Kholkin Andrei** (University of Aveiro, Aveiro, Portugal)  
Piezoelectric actuation of graphene-based polar structures: frequency and geometry effects
- P51. Klimin Victor** (Southern Federal University, Taganrog, Russia)  
Scanning probe microscopy and plasma etching for the formation of complex relief on the surface of  $\text{A}_3\text{B}_5$
- P52. Klimin Victor** (Southern Federal University, Taganrog, Russia)  
Energy efficient ionization sensor using carbon nanostructures

- P53. Koriazhkina Maria** (Lobachevsky State Univ., Nizhny Novgorod, Russia)  
Conductive Atomic Force Microscopy study of local resistive switching by a complex signal in the yttria stabilized zirconia films
- P54. Korsakova Elena** (Ural Federal University, Ekaterinburg, Russia)  
Multimodal characterization of broadband, polycrystalline silver halide fiber bundle for confocal laser scanning microscopy in the near-mid infrared spectra
- P55. Kostritskii Sergey** (RPC Optolink Ltd, Zelenograd, Moscow, Russia)  
Dependence of pyroelectric response on inter-electrode capacitance for integrated-optical circuits utilizing x-cut  $\text{LiNbO}_3$  chips
- P56. Kostritskii Sergey** (RPC Optolink Ltd, Zelenograd, Moscow, Russia)  
Direct laser writing of periodic structures in a Cu-doped near-surface layer on z-cut  $\text{LiNbO}_3$  crystals
- P57. Kou Song** (Wuhan University of Technology, Wuhan, China)  
Effect of surface ligands on fluorescence properties and stability of all-inorganic  $\text{CsPbI}_3$  perovskite quantum dots
- P58. Kozlowski Alexander** (Saratov State University, Saratov, Russia)  
Kinetics of photo-stimulated adsorption of enzyme molecules onto *n*- and *p*-type silicon
- P59. Krutov Vladislav** (MIREA – Russian Technological Univ., Moscow, Russia)  
A technique of creating of ferroelectric regular domain structures using highly dissipative liquids at room temperature
- P60. Krylov Alexander** (Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russia)  
Raman spectroscopy study of the switchable phases metal-organic frameworks DUT-8(Ni)
- P61. Krylova Svetlana** (Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russia)  
Lattice dynamics of  $\text{HoGa}_3(\text{BO}_3)_4$  and  $\text{HoFe}_3(\text{BO}_3)_4$  crystals
- P62. Krylova Svetlana** (Kirensky Institute of Physics SB RAS, Krasnoyarsk, Russia)  
Raman scattering study of  $\text{SrTiO}_3$ : Bi ceramics with higher ( $x = 0.16$ ) bismuth content
- P63. Kunkel Tatyana** (Saint Petersburg Polytechnic University, Russia)  
Study of electrical properties of Ni-phyllsilicate nanoscrolls with reduced Ni nanoparticles
- P64. Lei Jiang** (Hubei University, Wuhan, China)  
Hydrothermal growth and piezoelectric response of Li,Ta-doped  $(\text{K,Na})\text{NbO}_3$  nanorod arrays

- P65. Li Shenhou** (Tsinghua University, Beijing, China)  
Nano-layered-structure interface and Zinc diffusion of borosilicate glass during sealing process
- P66. Liang Xuewei** (Tsinghua University, Beijing, China)  
Effects of annealing atmosphere on the dielectric properties
- P67. Lisjikh Boris** (Ural Federal University, Ekaterinburg, Russia)  
Polarization reversal in lithium niobate with compositional gradients
- P68. Liu Wenbin** (Shanghai Institute of Ceramics, CAS, China)  
Study of the domain evolution and transmittance on various temperature in PKN single crystal using in situ method
- P69. Mamin Rinat** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Investigation of high conductivity area at the interface between  $\text{Ba}_{0.8}\text{Sr}_{0.2}\text{TiO}_3$  and  $\text{LaMnO}_3$  after effect of electric field on  $\text{Ba}_{0.8}\text{Sr}_{0.2}\text{TiO}_3$  ferroelectric film
- P70. Mamin Rinat** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Properties of the barium strontium titanate film on the silicon substrate
- P71. Marakhovskiy Mikhail** (Southern Federal Univ., Rostov-on-Don, Russia)  
Study of the influence of technological factors on improving the efficiency of ferroelectrically hard piezoceramic material PCR-8, designed for operation in power modes
- P72. Melnikova Galina** (A.V. Luikov Heat and Mass Transfer Institute of NAS of Belarus, Minsk, Belarus)  
The determination of mechanical properties of nanostructured tantalum nitride and tantalum oxynitride films on the glass and stainless steel surfaces by atomic force microscopy
- P73. Petrovskaya Agata** (A.V. Luikov Heat and Mass Transfer Institute of NAS of Belarus, Minsk, Belarus)  
Study of the effect of curcumin microparticles on structure and properties of blood cells membranes by the atomic force microscopy
- P74. Mikhailova Tatiana** (Vernadsky Crimean Federal Univ., Simferopol, Russia)  
Scanning probe microscopy investigation of iron garnet films for magnetoplasmonics
- P75. Milinskiy Alexey** (Blagoveschensk State Pedagogical University, Russia)  
Dielectric properties of an eco-friendly ferroelectric nanocomposite from cellulose nanoparticles mixed with Rochelle salt
- P76. Milinskiy Alexey** (Blagoveschensk State Pedagogical University, Russia)  
Influence of silicon dioxide nanoparticles on dielectric relaxation of triglycine sulfate

**Short oral session II**  
**August 27, 2019**

- SO9/P77. Miruschenko Mikhail** (Southern Federal Univ., Rostov-on-Don, Russia)  
The surface piezoresponse and electric potential of the c-oriented  $\text{Sr}_{0.5}\text{Ba}_{0.5}\text{Nb}_2\text{O}_6/\text{Pt}/\text{Al}_2\text{O}_3$  thin films
- SO10/P78. Morozova Anna** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Effect of the hydrophilicity degree of silicon substrate on the morphology of the triglycine film
- SO11/P89. Pavlov Dmitry** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
High temperature superconductivity at the interface  $\text{Ba}_{0.8}\text{Sr}_{0.2}\text{TiO}_3/\text{La}_2\text{CuO}_4$
- SO12/P98. Podgornov Fyodor** (South Ural State University, Chelyabinsk, Russia)  
Electrochemical impedance spectroscopy of organic polyiodides with different anion composition and proton disorder
- SO13/P114. Saveliev Evgeny** (Ural Federal University, Ekaterinburg, Russia)  
Correlation of wall velocity and tip curvature radius of dendrite domain in lithium niobate
- SO14/P128. Slautin Boris** (Ural Federal University, Ekaterinburg, Russia)  
Discrete switching during local polarization reversal in ion sliced lithium niobate thin films
- SO15/P131. Tang Zhuohua** (Xi'an Jiaotong University, Xi'an, China)  
The growth, domain structures, electrical and magnetic properties of  $\text{BiFeO}_3\text{-PbTiO}_3$  single crystals
- SO16/P140. Vlasov Evgeny** (Ural Federal University, Ekaterinburg, Russia)  
Domain structure formation by electron beam irradiation in lithium niobate and lithium tantalate crystals at elevated temperatures
- SO17/P141. Volchetskaya Ksenia** (Ural Federal University, Ekaterinburg, Russia)  
Fabrication of superhydrophobic and superoleophilic teflon surfaces using infrared laser irradiation
- SO18/P145. Yuzhakov Vladimir** (Ural Federal University, Ekaterinburg, Russia)  
Elastic and piezoelectric properties of diphenylalanine microtubes with different filling of nanochannels

## Poster session II (bld. A, rooms 510, 513)

August 27, 2019

- P77. Miruschenko Mikhail** (Southern Federal Univ., Rostov-on-Don, Russia)  
The surface piezoresponse and electric potential of the c-oriented  $\text{Sr}_{0.5}\text{Ba}_{0.5}\text{Nb}_2\text{O}_6/\text{Pt}/\text{Al}_2\text{O}_3$  thin films
- P78. Morozova Anna** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Effect of the hydrophilicity degree of silicon substrate on the morphology of the triglycine film
- P79. Mukhin Ivan** (ITMO University, Saint Petersburg, Russia)  
Significant influence of metal surface morphology on photon emission from a local tunnel junction at ambient conditions
- P80. Muravyeva Tamara** (Ishlinsky Institute for Problems in Mechanics RAS, Moscow, Russia)  
SEM and SPM studies of friction composite materials based on carbon graphitized fibers
- P81. Mushinsky Sergey** (PNPPK, Perm, Russia)  
Influence of surface treatment on the structure and properties of proton-exchanged waveguides in lithium niobate
- P82. Nasedkin Andrey** (Southern Federal University, Rostov-on-Don, Russia)  
Analysis of porosity influence on the effective moduli of ceramic matrix PZT composite based on the simplified finite element model
- P83. Nuraeva Alla** (Ural Federal University, Ekaterinburg, Russia)  
Crystal structure and growth kinetics of self-assembled microtubes with different chirality
- P84. Okhotnikova Anastasia** (Southern Federal University, Taganrog, Russia)  
Investigation of the surface of Chlorella microalgae by atomic force microscopy in liquid
- P85. Pakhomov Alexey** (Voronezh State University, Voronezh, Russia)  
Dielectric and repolarization properties of  $\text{BaTiO}_3/\text{BaZrO}_3$  ferroelectric superlattices
- P86. Panov Dmitry** (Shubnikov Inst. of Crystallography RAS, Moscow, Russia)  
Probe microscopy for investigation of conical nanowires
- P87. Pariy Igor** (National Research Tomsk Polytechnic Univ., Tomsk, Russia)  
Poling and annealing of piezoelectric poly(vinylidene fluoride) micropillar arrays
- P88. Pashnina Elena** (Ural Federal University, Ekaterinburg, Russia)  
E-beam domain patterning in thin plates of MgO-doped  $\text{LiNbO}_3$



- P89. Pavlov Dmitry** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
High temperature superconductivity at the interface  $\text{Ba}_{0.8}\text{Sr}_{0.2}\text{TiO}_3/\text{La}_2\text{CuO}_4$
- P90. Pavlov Dmitry** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Effect of magnetic field on high conductivity area at the interface of heterostructure  $\text{Ba}_{0.8}\text{Sr}_{0.2}\text{TiO}_3/\text{LaMnO}_3$
- P91. Pavlov Dmitry** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Heterostructure with ferroelectric: growth and conductivity measurements
- P92. Petrova Tatiana** (Cherepovets State University, Cherepovets, Russia)  
Study of the surface relief morphology of sheet metal with textured polymer coatings
- P93. Piskunov Oleg** (Cherepovets State University, Cherepovets, Russia)  
Computer modeling of shear strain in the polymer brushes
- P94. Piskunova Natalia** (Institute of Geology of Komi Science Center, UB RAS, Syktyvkar, Russia)  
Morphological and kinetic consequences of the scratching of the growing crystal surface
- P95. Piyanzina Irina** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Ab initio insight into the electronic properties of heterointerfaces composed of nonpolar ferroelectric oxides
- P96. Zagidullin Rustem** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Experimental investigation of  $\text{Ba}_{0.8}\text{Sr}_{0.2}\text{TiO}_3$  (BSTO)/STO heterointerface
- P97. Piyanzina Irina** (Zavoisky Physical-Technical Institute, Kazan, Russia)  
Structural, electronic and magnetic properties of ferroelectric/dielectric heterostructures
- P98. Podgornov Fyodor** (South Ural State University, Chelyabinsk, Russia)  
Electrochemical impedance spectroscopy of organic polyiodides with different anion composition and proton disorder
- P99. Politova Ekaterina** (Karpov Inst. of Physical Chemistry, Moscow, Russia)  
Phase formation and relaxor properties of lead-free perovskite ceramics on the base of sodium-bismuth titanate
- P100. Polyakova Victoria** (Southern Federal University, Taganrog, Russia)  
Investigation of profiling of silicon surface by local anodic oxidation nanolithography for memristors crossbar architecture creating
- P101. Raevskaya Svetlana** (Southern Federal University, Rostov-on-Don, Russia)  
Mossbauer study of cation substitution effect on the magnetic phase transition temperature of  $0.5\text{AFeO}_3\text{-}0.5\text{NaNbO}_3$  (A=Bi, La) solid solutions

- P102. Raevskaya Svetlana** (Southern Federal University, Rostov-on-Don, Russia)  
Dielectric properties of  $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$  -  $\text{PbTiO}_3$  and  $\text{BaNb}_2\text{O}_6$ - $\text{SrNb}_2\text{O}_6$  solid solution ceramics sintered from mechanochemically synthesized nanopowders
- P103. Raevski Igor** (Southern Federal University, Rostov-on-Don, Russia)  
Optical and EXAFS studies of  $\text{NaNbO}_3$  -  $\text{Gd}_{1/3}\text{NbO}_3$  solid solutions
- P104. Raevski Igor** (Southern Federal University, Rostov-on-Don, Russia)  
Tuning relaxor and magnetic properties of complex perovskites by varying the compositional ordering degree
- P105. Rassadin Alexander** (Lomonosov Moscow State Univ., Moscow, Russia)  
An oscillatory circuit with a ferroelectric capacitor with negative differential capacitance under the action of blocking-generator
- P106. Rezvan Alexey** (Southern Federal University, Taganrog, Russia)  
Emission arrays based on carbon nanostructures for vacuum electronics
- P107. Rezvan Alexey** (Southern Federal University, Taganrog, Russia)  
Formation of vacuum electronics elements by a combination of methods of focused ion beams and plasma layer etching on SiC
- P108. Rudyk Nikolay** (Southern Federal University, Taganrog, Russia)  
Development and research of carbon nanotube-based resistive gas sensor
- P109. Rumyantsev Evgeny** (Ural Federal University, Ekaterinburg, Russia)  
Switching current of the domains ensemble with serrated charged walls
- P110. Ryabova Julia** (Ekaterinburg Medical Research Center, Russia)  
The impact of subchronic intoxication with lead and cadmium oxides nanoparticles on spermatogenesis in rats
- P111. Sadykov Sadyk** (Dagestan State University, Makhachkala, Russia)  
Dielectric properties and ac conductivities of  $\text{Bi}_{1-x}\text{Sm}_x\text{FeO}_3$  ceramics
- P112. Saparina Svetlana** (Kazan Federal University, Kazan, Russia)  
Investigation of the defect structure of carbon allotropes via a new class of hybrid tip-enhanced Raman scattering method
- P113. Savchenkov Evgeny** (Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russia)  
Diffraction methods of investigation of the periodical domain structures with inclined domain walls in lithium niobate
- P114. Saveliev Evgeny** (Ural Federal University, Ekaterinburg, Russia)  
Correlation of wall velocity and tip curvature radius of dendrite domain in lithium niobate

- P115. Sazanova Tatiana** (Nizhny Novgorod State Technical University, Russia)  
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