

Short symposium agenda

NOVEMBER, 15		TUESDAY	<i>arriving</i>
12.30-13.30	<i>lunch</i>		
14.00-15.30	Visit to Ferroelectric Laboratory		
15.30-17.30	Tour of Ekaterinburg city		
17.30-20.00	Registration (<i>Ekaterinburg-Central hotel</i>)		
18.00-20.00	WELCOME PARTY (<i>Ekaterinburg-Central hotel</i>)		
NOVEMBER, 16		WEDNESDAY	<i>(conference location)</i>
09.00	Registration		
09.30	OPENING		
10.00-11.15	Session 1: Physical basis of the domain engineering Chair: V. Lemanov		
11.15-11.35	<i>coffee break</i>		
11.35-12.20	Session 7: Modeling and theory Chair: O. Tikhomirov		
12.20-14.00	<i>conference photo and lunch</i>		
14.00-16.15	Session 6: Testing and characterization of domain patterns Chair: M. Fontana		
16.15-16.35	<i>coffee break</i>		
16.35-18.00	Round table: Micro- and nano-scale domain structuring in ferroelectrics Y. Zhu, S. Kurimura, V. Shur, Y. Cho, F. Laurell		
NOVEMBER, 17		THURSDAY	<i>(conference location)</i>
09.00-10.35	Session 3: Modern achievements in application Chair: Y. Zhu		
10.35-10.55	<i>coffee break</i>		
10.55-12.25	Session 8: Single crystals: growth and characterization Chair: F. Laurell		
12.25-14.00	<i>lunch</i>		
14.00-18.30	Excursions to "Europe-Asia" & "Romanov's Monastery"		
19.00-22.00	BANQUET		
NOVEMBER, 18		FRIDAY	<i>(conference location)</i>
09.00-10.55	Session 4: Submicron and nano-scale domain structuring by scanning probe microscopy Chair: A. Kholkin		
10.55-11.15	<i>coffee break</i>		
11.15-12.25	Session 5: Creation and properties of nano-scale ferroelectrics Chair: A. Sternberg		
12.25-14.00	<i>lunch</i>		
14.00-15.35	Session 2: Periodical poling in LN, LT and KTP family crystals Chair: S. Kurimura		
15.35-15.55	<i>coffee break</i>		
15.55-19.00	Poster Session and Exhibition		
19.00	CLOSING		
NOVEMBER, 19		SATURDAY	<i>departure</i>
10.00	Visit to Ferroelectric Laboratory		

Detailed symposium agenda

November, 15

Tuesday

- 12.30-13.30 *lunch*
14.00-15.30 Visit to Ferroelectric Laboratory
15.30-17.30 Tour of the Ekaterinburg city
17.30-18.00 Registration
18.00-20.00 **WELCOME PARTY**

November, 16

Wednesday

- 09.00 Registration
09.30 **OPENING**

Session 1: Physical basis of the domain engineering

Chairman: Vladislav LEMANOV

- 10.00 **I1. Yongyuan ZHU,**
China, Nanjing, Nanjing University
Microstructural ferroelectric domain engineering
- 10.25 **I2. Vladimir SHUR,**
Russia, Ekaterinburg, Ural State University
Principles of micro- and nano-domain engineering in lithium niobate and lithium tantalate
- 10.50-11.10 *coffee break*
- 11.10 **I3. Satoshi WADA,**
Japan, Tokyo, Tokyo Institute of Technology
Domain wall *engineering* in barium titanate and potassium niobate single crystals for enhanced piezoelectric properties

Session 7: Modelling and theory

Chairman: Oleg TIKHOMIROV

- 11.35 **O4. Victor NEPOCHATENKO,**
Ukraine, Bila Tserkva, Bila Tserkva State Agrarian University
Structure of thin domain walls in tetragonal phase BaTiO₃
- 11.50 **O5. Sadyk SADYKOV,**
Russia, Makhachkala, Dagestan State University
Fractal treatment in the theory of switch current impulses in ferroelectrics
- 12.05 **O6. Alexei LOBOV,**
Russia, Ekaterinburg, Ural State University
Field induced evolution of regular and random 2D domain structures and shape of isolated domains in LiNbO₃ and LiTaO₃
- 12.20-14.00 *conference photo and lunch*

Session 6: Testing and characterization of domain patterns

Chairman: Marc FONTANA

- 14.00 **I7. Andrei KHOLKIN,**
Portugal, Aveiro, University of Aveiro
Nanoscale characterization of ferroelectric materials for piezoelectric applications
- 14.25 **I8. Patrice BOURSON,**
France, Metz, University of Metz
Using of polaron luminescence in LiNbO₃ to characterize optical guides and integrated optical devices
- 14.50 **I9. Oleg TIKHOMIROV,**
Italy, Pisa, University of Pisa
Scanning electro-optic microscopy of ferroelectrics

- 15.15 O10. **Torsten GRANZOW**,
Germany, Darmstadt, Darmstadt University of Technology
Observation of ferroelectric domain structures by one-beam holography
- 15.30 O11. **Anna MASLOVSKAYA**,
Russia, Blagoveshchensk, Amur State University
Advanced modes of imaging of ferroelectric domains in the SEM
- 15.45 O12. **Evgeniy MILOV**,
Russia, Moscow, Lomonosov Moscow State University
Polarization switching and domain structure in LaBGeO₅ crystals
- 16.00 O13. **Olga MALYSHKINA**,
Russia, Tver, Tver State University
Domain structure and pyroelectric effect in the presence of temperature gradient in ferroelectrics
- 16.15-16.35 *coffee break*
- Additional Session:** Round table
Key speakers: Yongyuan ZHU, Sunao KURIMURA, Vladimir SHUR, Yasuo CHO, Fredrik LAURELL
- 16.35-18.00 Micro- and nano-scale domain structuring in ferroelectrics

November, 17	Thursday
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Session 3: Modern achievements in application

Chairman: Yongyuan ZHU

- 09.00 I14. **Sunao KURIMURA**,
Japan, Tsukuba, National Institute for Materials Science
Optical application of domain engineering – polarization-reversed optical devices
- 09.25 I15. **Christophe MULLER**,
France, Toulon, University of South Toulon Var
Reliability of FeRAM test vehicles under simultaneous electrical and irradiative stresses
- 09.50 O16. **Gregory NEMET**,
USA, CA, Spectralus Co.
Solid-state compact blue-green lasers research and development; practical implementation and applications in science and technology
- 10.05 O17. **Mikhail MALINKOVICH**,
Russia, Moscow, Moscow Steel and Alloys Institute
Application of piezoelectric monocrystals in devices of precision displacement
- 10.20 O18. **Kenkou TANAKA**,
Japan, Sendai, Tohoku University
Real information storage using ferroelectrics with the density of 1 Tbit/inch²
- 10.35-10.55 *coffee break*

Session 8: Single crystals: growth and characterization

Chairman: Fredrik LAURELL

- 10.55 I19. **Marc FONTANA**,
France, Metz, University of Metz
Non linear optical properties in ferroelectric materials: investigations by Raman spectroscopy
- 11.20 I20. **Edvard KOKANYAN**,
Armenia, Ashtarak-2, Institute for Physical Research
Hafnium-doped periodically poled lithium niobate crystals: Growth and photorefractive properties

- 11.45 O21. **Galiya KITAEVA**,
Russia, Moscow, Moscow State University
THz generation and detection in Czochralski-grown periodically poled Mg:Y:LiNbO₃
- 12.00 I22. **Vladislav LEMANOV**,
Russia, St.-Petersburg, A.F. Ioffe Physico-Technical Institute
Domain effect on elastic properties of SrTiO₃ at improper ferroelastic phase transition
- 12.25-14.00 *lunch*

Excursion and Banquet

- 14.00-18.30 Excursions
19.00 *Banquet*

November, 18	Friday
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Session 4: Submicron and nano-scale domain structuring by SPM

Chairman: Andrei KHOLKIN

- 09.00 I23. **Yasuo CHO**,
Japan, Sendai, Tohoku University
Ferroelectric domain engineering for the ultra high-density data storage with 10 Tbit/inch² memory density and sub nano-second switching time
- 09.25 I24. **Andris STERNBERG**,
Latvia, Riga, University of Latvia
Local induced polarization in modified ferroelectric thin films
- 09.50 I25. **Kazuya TERABE**,
Japan, Tsukuba, National Institute for Materials Science
Domain and surface structuring of LT and LN single crystals by SPM
- 10.15 O26. **Eugene SHISHKIN**,
Russia, Ekaterinburg, Ural State University
Study of as-grown maze domain structure in lead germanate by scanning force microscopy
- 10.30-10.50 *coffee break*

Session 5: Creation and properties of nano-scale ferroelectrics

Chairman: Andris STERNBERG

- 10.50 I27. **Juras BANYS**,
Lithuania, Vilnius, Vilnius University
Dielectric dispersion and distribution of the relaxation times of the relaxor PMN-PSN-PZN ceramics and single crystals
- 11.15 O28. **Christian TURQUAT**,
France, Toulon, University of South Toulon Var
On the investigation of the Bi segregation in SBT-based 3D ferroelectric capacitors
- 11.30 O29. **Dmitry PELEGOV**,
Russia, Ekaterinburg, Ural State University
Polarization reversal in relaxor PLZT ceramics: Role of nano-scale nonpolar inclusions
- 11.45 O30. **Ivan BATURIN**,
Russia, Ekaterinburg, Ural State University
Nature of the fatigue and wake-up effects in ceramics, thin films and model single crystals
- 12.00-14.00 *lunch*

Session 2: Periodical poling in LN, LT and KTP family crystals

Chairman: Sunao KURIMURA

- 14.00 I31. **Fredrik LAURELL**,
Sweden, Stockholm, Royal Institute of Technology
Nanostructured PPKTP

- 14.25 I32. **Marc DE MICHELI**,
France, Nice, Universite de NICE SOPHIA-ANTIPOLIS
Proton exchanged waveguides in PPLN wafers and applications
- 14.50 O33. **Helge EGGERT**,
Germany, Bonn, University of Bonn
Light-assisted generation of tailored ferroelectric domain structures
- 15.05 O34. **Katia GALLO**,
UK, Southampton, University of Southampton
2D hexagonal poling for nonlinear photonic crystals and quasicrystals in LiNbO₃
- 15.20 O35. **Christopher VALDIVIA**,
UK, Southampton, University of Southampton
Ultrashort-pulse optically-assisted domain engineering in lithium niobate
- 15.35-15.55 *coffee break*

Poster Session and Exhibition

- 15.55 Poster Session
19.00 **CLOSING**

November, 19

Saturday

- 10.00 Visit to Ferroelectric Laboratory, Ural State University

Poster session

Topic 1. Physical basis of domain engineering.

- P1. **Sadyk SADYKOV**,
Russia, Makhachkala, Daghestan State University
Features of internal screening in ferroelectrics in fast-rising strong electric field

Topic 2. Periodical poling in LN, LT and KTP family crystals.

- P2. **Sergey KOSTRITSKII**,
Russia, Moscow, Moscow Institute of Electronic Technology
Fabrication and characterization of proton-exchanged waveguides in MgO-doped and congruent PPLN substrates
- P3. **Sergey KOSTRITSKII**,
Russia, Moscow, Moscow Institute of Electronic Technology
Formation of polarization nano-clusters in light-ions-implanted LiNbO₃ waveguides
- P4. **Sergey KOSTRITSKII**,
Russia, Moscow, Moscow Institute of Electronic Technology
Micro-Raman study of UV-written channel LiNbO₃ waveguides

Topic 3. Modern achievements in application.

- P5. **Igor RAEVSKII**,
Russia, Rostov-on-Don, Rostov State University
Growth and characterization of perovskite crystals with relaxor-like properties
- P6. **Svetlana RAEVSKAYA**,
Russia, Rostov-on-Don, Rostov State University
Lead-free niobate ceramics with relaxor-like properties

Topic 4. Submicron and nano-scale domain structuring by SPM.

- P7. **Eugene SHISHKIN**,
Russia, Ekaterinburg, Ural State University
Kinetics of the local polarization switching under electric field applied using the tip of scanning probe microscope

P8. **Ekaterina NIKOLAEVA**,
Russia, Ekaterinburg, Ural State University
Nanoscale domain structure in relaxor PLZT x/65/35 ceramics

Topic 5. Creation and properties of nano-scale ferroelectrics.

P9. **Sadyk SADYKOV**,
Russia, Makhachkala, Daghestan State University
Internal screening and symmetry of switching current impulses in PZT ferroelectric ceramics in fast - rising electric fields

P10. **Vladimir KOLOSOV**,
Russia, Ekaterinburg, Ural State Economic University
Internal lattice bending in the grains of ferroelectric PZT thin films

P11. **Stanislav KUBRIN**,
Russia, Rostov-on-Don, Rostov State University
Dielectric and mossbauer studies of B-cation order-disorder effect on the properties of $\text{Pb}(\text{Fe}_{1/2}\text{Ta}_{1/2})\text{O}_3$ relaxor ferroelectric

P12. **Dmitrii KUZNETSOV**,
Russia, Ekaterinburg, Ural State University
Effect of penetrating irradiation on polarization reversal PZT thin films

Topic 6. Testing and characterization of domain patterns.

P13. **Galiya KITAEVA**,
Russia, Moscow, Lomonosov Moscow State University
Characterization of periodically poled domain structures via spontaneous parametric down-conversion

P14. **Olga MALYSHKINA**,
Russia, Tver, Tver State University
Pure and doped strontium barium niobate crystals: domain structure and pyroelectric effect

P15. **Irina AZANOVA**,
Russia, Perm, Perm State University
The filling order of proton sites in crystal lattice of $\text{H}_x\text{Li}_{1-x}\text{NbO}_3$ monocrystal layers

P16. **Pavel SAMARIN, Evgeniy MINGALIEV**
Russia, Ekaterinburg, Ural State University
Direct study of super-fast domain kinetics in lead germanate single crystals

P17. **Dmitriy FURSOV, Ivan BATURIN**,
Russia, Ekaterinburg, Ural State University
Field-induced formation of the periodic domain structures in lithium niobate

P18. **Evgenii RUMYANTSEV**,
Russia, Ekaterinburg, Ural State University
On applicability of the kolmogorov-avrami formula for analysis of the polarization reversal data in ferroelectrics

P19. **Dmitrii KUZNETSOV, Alexei LOBOV**
Russia, Ekaterinburg, Ural State University
Formation of self-similar surface domain structures in lithium niobate under highly-nonequilibrium conditions

P20. **Pavel SAMARIN, Eugene SHISHKIN**
Russia, Ekaterinburg, Ural State University
Field induced evolution of as-grown domain structure in single crystalline lead germinate

P21. **Maxim NEBOGATIKOV**,
Russia, Ekaterinburg, Ural State University
Study of the field-induced evolution of the domain geometry in lithium niobate and lithium tantalate single crystals by *in-situ* optical method

Topic 7. Modeling and theory.

P22. **Sergey PETROV,**

Russia, Ekaterinburg, Russian state vocational pedagogic university

On the symmetry description of the complex structure crystals

Topic 8. Single crystals: growth and characterization.

P23. **Inna NAUMOVA,**

Russia, Moscow, Lomonosov Moscow State University

AFM study of Czochralski-grown PPLN with small period

P24. **Inna NAUMOVA,**

Russia, Moscow, Lomonosov Moscow State University

AFM study of the bulk photorefractive periodically poled LiNbO₃:Y:Fe crystal

P25. **Vladimir VAZHENIN,**

Russia, Ekaterinburg, Ural State University

The electron paramagnetic resonance spectrum of Fe³⁺ centers in congruent vapour-transport-equilibrated lithium tantalate

The exhibition with demonstration of the products of national and foreign companies will be held during all three working days of Symposium.