

**I Lithuanian-Ukrainian-Polish Meeting
on Ferroelectrics Physics**

Programme

**12-16 September, 2010
Vilnius, Lithuania**

I Lithuanian-Ukrainian-Polish Meeting on Ferroelectrics Physics

Sunday, September 12, 2010

18:00 – 21:00 Get – together party

I Lithuanian-Ukrainian-Polish Meeting on Ferroelectrics Physics

Monday, September 13, 2010

Morning Sessions 9:00 – 11:00

8:00 – 9:00 **Breakfast**

9:00 – 9:15 **Meeting opening:** J.Grigas, Z.Czapla, M.D.Glinchuk

Session I

Chaired by J.Grigas

9:15 – 10:00 Z.Czapla^{1,2}, A.Rokosa¹, S.Dacko, B.Kosturek¹.
**Successive phase transitions in (Gua)₄SO₄Cl₂ crystal:
dielectric, pyroelectric, optical and dilatometric studies**

¹*Institute of Experimental Physics, University of Wroclaw, Poland*

²*Dept. of Physics, Opole University of Technology, Poland*

10:00 – 10:45 M.D.Glinchuk¹, A.N.Morozovska², E.A.Eliseev¹, R.Blinc³
Prediction of size-induced ferroelectricity in BaO nanowires

¹*Inst. for Problems of Materials Science, Kiev, Ukraine*

²*V.Lashkarev Inst. of Semiconductor Physics, Kiev, Ukraine*

³*Jožef Stefan Inst., Ljubliana, Slovenia*

10:45 – 11:00 **Coffee Break**

Monday, September 13, 2010

Morning Sessions 11:00 – 14:00

Session II

Chaired by Z.Czapla

11:00 – 11:45 S.Wada¹, R.Mitsui, K.Yamato¹, P.Pulpan¹, I.Fuji¹, C.Moriyoshi²,
Y.Kuroiwa²

Piezoelectric properties of Barium titanate – Bismuth perovskite-type oxide system ceramics with microstructure control

¹*Material Science and Technology, Univ. of Yamanashi, Japan*

²*Dept. of Physics Science, Hiroshima University, Japan*

11:45 – 12:15 M.Polomska¹, B.Hilczer¹, J.Wolak¹, A.Pawlowski¹,
L.F.Kirpichnikova²

The role of ferroelasticity in the mechanism of superprotonic phase transitions

¹*Inst. of Molecular Physics, Polish Academy of Sciences, Poznan, Poland*

²*Inst. of Crystallography, Russian Academy of Sciences, Moscow, Russia*

12:15– 12: 45 O.Mys¹, B.Zapeka¹, A.Say¹, I.Martynyuk-Lototska¹, R.Vlokh¹,
A.A.Grabar², Yu.M.Vysochanskii²

Optical properties and new peculiarities of phase transition in $\text{Sn}_2\text{P}_2(\text{Se}_x\text{S}_{1-x})_6$ crystals

¹*Inst. of Physical Optics, Lviv, Ukraine*

²*Inst. for Solid State Physics and Chemistry, Uzhgorod Univ., Ukraine*

12:45 – 13:15 T.Ostapchuk, J.Petzelt, J.Hlinka, V.Bovtun, P.Kuzel, M.Savinov
Ferroelectric phase transition dynamics in the BaTiO_3 – SrTiO_3 system by dielectric spectroscopy

Inst. of Physics, Acad. Sci. Czech Rep., Praha, Czech Republic

13:15 – 14:30 **Lunch**

Monday, September 13, 2010

Afternoon Sessions 14:30 – 16:30

Session III

Chaired by Yu.M.Vysochanskii

14:30 – 15:15 W.Kleemann

Magnetolectricity in disordered multiferroics

Angewandte Physik, Universität Duisburg-Essen, Germany

15:15 – 15:45 B.Hilczer¹, E.Markiewicz¹, K.Pogorzalec-Glaser¹, M.Polomska¹,
A.Pietraszko²

Dielectric relaxation in confined ferroelectric polymer

¹*Inst. of Molecular Physics, Polish Acad. Sci., Poznan, Poland*

²*Inst. of Low Temperatures and Structure Research, Polish Acad. Sci.,
Wroclaw, Poland*

15:45 – 16:15 N.A.Korynevskii^{1,2}, V.B.Solovyan¹

**Thermodynamic functions of hydrogen bonded ferro-
antiferroelectric mixed compounds**

¹*Inst. for Condensed Matter Physics, National Acad. Sci. Ukraine, Lviv*

²*Inst. of Physics, Univ. of Szczecin, Poland*

16:15 – 16:30 **Coffee Break**

I Lithuanian-Ukrainian-Polish Meeting on Ferroelectrics Physics

Monday, September 13, 2010

Afternoon Sessions 16:30 – 20:00

Session IV

Chaired by B.Hilczer

16:30 – 17:00 A.Grabar¹, P.Mathey¹, G.Gadret¹, I.Stoika¹, Yu.Vysochanskii¹

Photochromic effects in photorefractive Sn₂P₂S₆ crystals

¹*Uzhgorod National Univ., Uzhgorod, Ukraine*

²*Inst. Carnot de Bourgogne, Univ. de Bourgogne, Dijon, France*

17:00 – 17:30 A.Kania¹, S.Miga¹, J.Dec²

Nonlinear dielectric response of AgNb_{1-x}Ta_xO₃ solid solutions

¹*Inst. of Physics, Univ. of Silesia, Katowice, Poland*

²*Inst. of Materials Science, Univ. of Silesia, Katowice, Poland*

17:30 – 18:00 J.Dec¹, S.Miga², W.Kleemann³

Ferroelectric phase transitions viewed via nonlinear dielectric response

¹*Inst. of Materials Science, Univ. of Silesia, Katowice, Poland*

²*Inst. of Physics, Univ. of Silesia, Katowice, Poland*

³*Angewandte Physik, Universität Duisburg-Essen, Germany*

18:00 – 20:00 **Poster Session I**

Chaired by J.Banys

A.Molak

N.A.Korynevskii

I Lithuanian-Ukrainian-Polish Meeting on Ferroelectrics Physics

Tuesday, September 14, 2010

Morning Sessions 9:00 – 10:45

8:00 – 9:00 **Breakfast**

Session V

Chaired by A.Kania

9:00 – 9:30 B.Konieczna¹, K.Biedrzycki², H.W.Janus², L.Markowski²
Low density plasma-assisted electron and ion emission at the phase transition of LATGS single crystal

¹*Institute of Experimental Physics, University of Wroclaw, Poland*

²*Inst of Physics, Opole Univ. of Technology, Opole, Poland*

9:30 – 10:00 L.Kozielski¹, M.Adamczyk², J.Erhart³
PLZT-based light driven piezoelectric transformer

¹*Inst. of Materials Science, Univ. of Silesia, Katowice, Poland*

²*Inst of Physics, Univ. of Silesia, Katowice, Poland*

³*Technical Univ. of Liberec, Czech Republik*

10:00 – 10:30 A.Dziaugys¹, J.Banys¹, Yu.Vysochanskii², W.Kleemann³,
V.Shvartsman³

Dielectric spectroscopy of the mixed $\text{CuIn}_x\text{Cr}_{1-x}\text{P}_2\text{S}_6$ crystals

¹*Faculty of Physics, Vilnius University, Lithuania*

²*Institute of Solid State Physics and Chemistry, Uzhgorod Univ., Ukraine*

³*Faculty of physics, Duisburg-Essen University, Germany*

10:30 – 10:45 **Coffee Break**

Tuesday, September 14, 2010

Morning Sessions 10:45– 14:30

Session VI

Chaired by W.Kleemann

- 10:45 – 11:30 Yu.Vysochanskij, K.Glukhov, M.Maior, K.Fedyo, A.Kohutych, V.Betsa, I.Prits, M.Gurzan
Ferroelectric and semiconductive properties of $\text{Sn}_2\text{P}_2\text{S}_6$ crystals with intrinsic vacancies
Uzhgorod University, Uzhgorod, Ukraine
- 11:30 – 12:00 M.Dunce, E.Birks, M.Antonova, K.Kalninch, M.Kundzinsh
Structure and physical properties of $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$ - CdTiO_3 solid solutions
Inst. of Solid State Physics, Univ. of Latvia, Riga, Latvia
- 12:00 – 12:30 O.V.Malyshkina¹, A.A.Movchikova¹, K.Penzov¹, M.Shashkov¹, R.Steinhausen², H.T.Langhammer², H.Beige²
The polarization distribution in graded BTS ceramics
¹*Tver State University, Tver, Russia*
²*Martin-Luther-University Halle-Wittenberg, Halle, Germany*
- 12:30 – 13:15 B.Garbarz-Glos¹, K.Bormanis², D.Sitko¹
Effect of Zr^{+4} doping on the electrical properties of BaTiO_3 ceramics
¹*Inst. of Physics, Pedagogical Univ., Krakow, Poland*
²*Inst. of Solid State Physics, Univ. of Latvia, Riga, Latvia*
- 13:15- 14:30 **Lunch**

Tuesday, September 14, 2010

Afternoon Sessions 14:30– 16:15

Session VII

Chaired by S.Waplak

- 14:30 – 15:00 A.F.Orliukas¹, T.Šalkus¹, A.Kežionis¹, A.Dindune², Z.Kanepe², J.Ronis², O.Bohnke³, V.Venckutė¹, M.Lelis⁴
Structure and electrical properties of $\text{Li}_{3-x}\text{Sc}_{2-x}\text{Zr}_x(\text{PO}_4)_3$ ($x = 0; 0.1; 0.2$) ceramics
¹*Faculty of Physics, Vilnius Univ., Lithuania*
²*Inst. of Inorganic Chemistry, Riga Technical Univ., Latvia*
³*Laboratoire des Fluorines, Univ. du Maine, France*
⁴*Lithuanian Energy Inst., Kaunas, Lithuania*
- 15:00 – 15:30 S.Sorokov, R.Levitskii, A.Vdovych
Cluster Theory Of $\text{Rb}_{1-x}(\text{NH}_4)_x\text{H}_2\text{PO}_4$ Type Mixed Crystals. Problems and Outlook
Institute for Condensed Matter Physics, National Academy of Sciences of Ukraine
- 15:30 – 16:00 M.D.Volnianskii, M.P.Trubitsyn, Y.A.H.Obaidat
Relaxation phenomena in $\text{Li}_2\text{Ge}_7\text{O}_{15}$ crystal
Dept. of Solid State Physics and Optoelectronics, Oles Gonchar Nat. Univ. of Dnepropetrovsk, Ukraine
- 16:00 – 16:15 **Coffee Break**

Tuesday, September 14, 2010

Afternoon Sessions 16:15– 20:00

Session VIII

Chaired by B.Garbarz-Glos

16:15 – 16:45 J.Macutkevič¹, J.Banys², R.Grigalaitis², A.Mikonis²,
R.Adomavičius¹, A.Krotkus¹

**Soft mode investigations in ferroelectrics and relaxors by
time domain THz spectroscopy**

¹*Semiconductor Physics Inst., Center for Physical Sciences and Technology,
Vilnius, Lithuania*

²*Dept. of Radiophysics, Vilnius Univ., Vilnius, Lithuania*

16:45 – 17:15 W.Zapart¹, M.B.Zapart¹, R.Kowalczyk¹, K.Maternicki¹,
M.Maczka²

**Ferroelastic phase transitions in mixed KSc(MoO₄)₂ based
trigonal double molybdates**

¹*Inst. of Physics, Technical Univ. of Czestochowa, Poland*

²*Inst. of Low Temperatures and structure Research, Polish Acad. Sci.,
Wroclaw, Poland*

17:15 – 17:45 G.Völkel

**Order-disorder phenomena in the low-temperature phase of
BaTiO₃**

Zickra 1, D-07955 Auma, Germany

17:45 – 18:00 V.Samulionis, J.Banys and Yu.Vysochanskii*

**Ultrasonic investigation of piezoelectric sensitivity in
CuInP₂S₆ family layered crystals**

Physics Faculty, Vilnius University, Lithuania

**Institute of Solid State Physics and Chemistry, Uzhgorod Univ., Ukraine*

18:00 – 20:00 **Poster Session II**

Chaired by E.Tornau

J.Dec

M.P.Trubitsyn

Wednesday, September 15, 2010

Morning Sessions 9:00 – 10:45

8:00 – 9:00 **Breakfast**

Session IX

Chaired by A.Grabar

- 9:00 – 9:30 A.Molak¹, K.Lawniczak-Jablonska², P.Nachimuthu³,
R.C.C.Perera³
The estimation of the Mn atoms chemical bonding in $(\text{Na}_{(1-x)}\text{Bi}_x)(\text{Nb}_{(1-y)}\text{Mn}_y)\text{O}_3$ ceramics and changeover in the electrical properties
¹*Inst. of Physics, Univ. of Silesia, Katowice, Poland*
²*Inst. of Physics, Polish Acad. Sci., Warszawa, Poland*
³*Center for X-ray Optics, Lawrence Berkley Nat. Lab., Berkley, USA*
- 9:30 – 10:00 S.Miga¹, Z.Czapla^{2,3}, W.Kleemann⁴, J.Dec⁵
Nonlinear dielectric response of Rochelle salt
¹*Inst. of Physics, Univ. of Silesia, Katowice, Poland*
²*Dept. of Physics, Opole Univ. of Technology, Opole, Poland*
³*Institute of Experimental Physics, University of Wroclaw, Poland*
⁴*Angewandte Physik, Universität Duisburg-Essen, Germany*
⁵*Inst. of Materials Science, Univ. of Silesia, Katowice, Poland*
- 10:00 – 10:30 E.E.Tornau
Formation of stripe structures with and without longer-range interactions
Semiconductor Physics Inst., Center for Physical Sciences and Technology, Vilnius, Lithuania
- 10:30 – 10:45 **Coffee Break**

Wednesday, September 15, 2010

Morning Sessions 10:45 – 12:45

Session X

Chaired by S.Wada

10:45 – 11:15 S.Waplak, W.Jurga

Size-effect in ferroelectric TGS, TGSe crystals under high hydrostatic pressure

Inst. of Molecular Physics, Polish Acad. Sci., Poznan, Poland

11:15 – 11:45 B.Fugiel

Some less known aspects of the para-ferroelectric phase transition in ferroelectrics with hydrogen bonds

Inst. of Physics, Univ. of Silesia, Katowice, Poland

I Lithuanian-Ukrainian-Polish Meeting on Ferroelectrics Physics

Wednesday, September 15, 2010

12:15 – 17:30 Excursion & Lunch

18:00 – 21:00 Conference Dinner

I Lithuanian-Ukrainian-Polish Meeting on Ferroelectrics Physics

Thursday, September 16, 2010

Morning Sessions 9:00 – 11:00

8:00 – 9:00 **Breakfast**

Session XI

Chaired by J.Banys

- 09:00 – 09:30 B.Andriyevsky¹, A.Patryn¹, C.Cobet², J.Przeslawski³,
B.Kosturek³, N.Esser², D.Dorywalski¹
Electronic properties of KDP and DKDP crystals: *ab-initio* calculations and spectral ellipsometry experiment
¹*Faculty of Electronics and Computer Sciences, Koszalin Univ. of Technology, Poland*
²*Inst. for Analytical Sciences, Dept. Berlin, Germany*
³*Institute of Experimental Physics, University of Wroclaw, Poland*
- 9:30 – 09:45 T.Marciniszyn, R.Poprawski
Physical properties and phase transitions in ADP embedded into the porous glasses
Institute of Physics, Wrocław University of Technology, Wrocław, Poland
- 9:45 – 10:30 J.A.Eiras
Ferroelectric and ferroelastic contributions to the dielectric response of ferroelectrics
Universidade Federal de São Carlos – Depto. Física - Grupo de Cerâmicas Ferroelétricas, BRASIL
- 10:30 – 10:45 **Award of young scientists**
- 10:45 – 11:00 **Closing of the Meeting**