

ECAPD7 program

Sunday, September 5, 2004

16:00-20:00 Registration (registration desk, building H)

Monday, September 6, 2004

08:00-18:00 Registration desk (building E)

09:00-09:30 Opening ceremony (lecture hall E9, building E)

Plenary session, lecture hall E9, building E

Chairman: V.Janovec

09:30-10:15 L.E.Cross, Wenhui Ma, Wenyi Zhu: STRAIN GRADIENT INDUCED ELECTRIC POLARIZATION IN PARAELECTRIC, FERROELECTRIC AND RELAXOR (**I-04, invited**)

10:15-11:00 P.Günter, G.Montemezzani, D.Haertle, M.Jazbinsek, A.A.Grabar: PHOTOREFRACTIVE MATERIALS FOR NEAR INFRARED APPLICATIONS (**I-07, invited**)

11:00-11:30 Coffee break

Plenary session, lecture hall E9, building E

Chairman: L.E.Cross

11:30-12:15 R.Blinc, B.Zalar, V.Laguta, R.Pirc: POLAR NANOCCLUSERS IN RELAXORS (**I-12, invited**)

12:15-13:00 J.Fousek: TECHNICAL APPLICATIONS OF OPEN DOMAIN-RELATED PROBLEMS (**I-31, invited**)

13:00-14:30 Lunch

Session “Thin Films I.”, lecture hall E9, building E

Chairman: W.Zhu

14:30-15:05 Paul Muralt: PIEZOELECTRIC FILMS AND THEIR APPLICATIONS IN MICROSYSTEMS (**I-32, invited**)

15:05-15:40 J.S.Cross: FRAM CAPACITOR AND RELIABILITY TECHNOLOGY (**I-03, invited**)

15:40-16:15 R.W.Whatmore: PYROELECTRIC ARRAYS USING CERAMICS AND THIN FILMS (**I-30, invited**)

Session “Optical Properties I.”, lecture hall AP12, building A

Chairman: P.Günter

14:30-15:05 M.D.Fontana, L.Guilbert, J.P.Salvestrini, S.Gille, R.Radouani, Y.Zhang, P.Bourson: LiNbO_3 OPTICAL WAVEGUIDE DEVICES : STUDY OF THE PHYSICAL PHENOMENA CAUSING THE DC DRIFT (**I-15, invited**)

15:05-15:40 L.Bohatý, P.Becker: ELECTROMECHANICAL AND ELECTRO-OPTICAL PROPERTIES OF NON-FERROELECTRIC POLAR BISMUTH TRIBORATE, BiB_3O_6 (**I-06, invited**)

15:40-16:15 D.Kasprowicz, J.Kroupa, A.Majchrowski, E.Michalski, M.Drozdowski: OPTICAL PROPERTIES OF BISMUTH TRIBORATE (BIBO) SINGLE CRYSTAL (**O-12**)

Session “Ceramics”, lecture hall F13, building F

Chairman: Q.R.Yin

14:30-15:05 Yao Xi, Zhang Liangying: PROCESSING AND FIELD INDUCED TRANSITION OF PZST CERAMICS (**I-20, invited**)

15:05-15:40 Hong Wang, Xi Yao: BI-PYROCHLORE DIELECTRIC CERAMICS FOR MICROWAVE APPLICATIONS: CURRENT STATUS AND FUTURE PROSPECT (**I-21, invited**)

15:40-16:15 T.Takenaka, H.Nagata: GRAIN ORIENTATION AND ELECTRICAL PROPERTIES OF SOME BISMUTH LAYER-STRUCTURED FERROELECTRICS FOR LEAD-FREE PIEZOELECTRIC APPLICATIONS (**I-22, invited**)

16:15-16:30 Coffee break

16:30-19:00 **Poster session I.** (Posters P-01 to P-60, lobby in the building F)

19:00-21:00 Welcome party (Menza, building F)

Tuesday, September 7, 2004

08:00-18:00 Registration desk (building E)

Session “Dielectric spectroscopy I.”, lecture hall E9, building E

Chairman: R.Blinc

08:30-08:55 E.Buixaderas, M.Kempa, S.Veljko, M.Savinov, S.Kamba, J.Petzelt: BROAD-BAND DIELECTRIC SPECTROSCOPY OF RELAXOR FERROELECTRIC $\text{Sr}_{0.61}\text{Ba}_{0.39}\text{Nb}_2\text{O}_6$ (**O-01**)

08:55-09:20 J.Banys, J.Macutkevic, J.Grigas, A.Brilingas, K.Bormanis, A.Stenberg: DIELECTRIC PROPERTIES OF NEW RELAXORS PMN-PSN-PZN CERAMICS (**O-02**)

09:20-09:55 V.V.Lemanov: DIELECTRIC RELAXATION IN DOPED SrTiO_3 IN THE REGIMES OF CLASSICAL THERMAL ACTIVATION AND OF QUANTUM TUNNELING (**I-25, invited**)

09:55-10:30 J.Petzelt, T.Ostapchuk, A.Pashkin, M.Kempa, S.Kamba: INFRARED AND HIGH-FREQUENCY DIELECTRIC BEHAVIOUR AND SOFT MODES IN FERROELECTRIC AND RELAXOR FILMS (**I-18, invited**)

Session “Domains and nanostructures”, lecture hall AP12, building A

Chairman: V.Ya.Shur

08:30-09:05 L.M.Eng.: FERRO-NANO-OPTICS: DIELECTRIC, POLARIZATION, AND OPTICAL PROPERTIES IN FERROELECTRIC DOMAINS AND DOMAIN WALLS (**I-16, invited**)

09:05-09:40 A.L.Kholkin, V.V.Shvartsman, I.K.Bdikin, S.V.Vakhrushev: SCANNING FORCE MICROSCOPY OF FERROELECTRIC RELAXORS (**I-11, invited**)

09:40-10:15 Q.R.Yin, H.R.Zeng, H.F.Yu, G.R.Li, H.S.Luo: PIEZORESPONSE FORCE MICROSCOPY OF DOMAIN STRUCTURES IN FERROELECTRIC $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ - PbTiO_3 SINGLE CRYSTALS (**I-10, invited**)

10:15-10:50 J.F.Scott, D.J.Jung, M.Dawber, F.D.Morrison: DIELECTRIC PROPERTIES OF FERROELECTRICS IN RESTRICTED GEOMETRIES: NANOTUBES, NANO-RODS, RIBBON STRUCTURES, AND SHOULDERS ON [3D] CAPACITOR (**I-27, invited**)

Session “Thin Films II.”, lecture hall F13, building F

Chairman: R.W.Whatmore

08:30-09:05 V.Nagarajan, R.Waser: SIZE EFFECTS IN ULTRA-THIN EPITAXIAL FERROELECTRIC HETEROSTRUCTURES (**I-28, invited**)

09:05-09:40 W.Zhu, X.F.Chen, Z.H.Wang, O.K.Tan: FERROELECTRIC FILMS FOR ELECTRONIC DEVICE APPLICATIONS (**I-09, invited**)

09:40-10:05 M.Tyunina, J.Levoska: EPITAXIAL FILMS OF RELAXOR FERROELECTRIC $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$ IN STRONG ELECTRIC FIELDS (**O-28**)

10:05-10:30 V.Železný, J.Buršík, P.Vaněk: INFRARED STUDY AND PREPARATION OF KTN THIN FILMS (**O-25**)

10:50-11:30 Coffee break

Session “Dielectric spectroscopy II.”, lecture hall E9, building E

Chairman: J.Petzelt

11:30-11:55 S.Kamba, M.Kempa, J.Petzelt, K.Brinkman, N.Setter: SOFT MODE AND CENTRAL-MODE BEHAVIOUR IN THIN FILMS OF $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$ AND $\text{PbSc}_{1/2}\text{Ta}_{1/2}\text{O}_3$ RELAXOR FERROELECTRICS (**O-11**)

11:55-12:20 N.N.Kolpakova, P.Czarnecki, W.Nawrocik, M.P.Shcheglov, L.Szczepanska: NANO-SCALE FRUSTRATED FERROICS (**O-26**)

12:20-12:45 R.Pirc, R.Blinc: OFF-CENTER ION DISPLACEMENTS AND THE PHASE TRANSITION IN PEROVSKITE FERROELECTRICS (**O-22**)

Session “Lead-free materials”, lecture hall AP12, building A

Chairman: S.Wada

11:30-12:05 E.Ringgaard, T.Wurlitzer, W.W.Wolny: PROPERTIES OF LEAD-FREE PIEZOCERAMICS BASED ON ALKALI NIOBATES (**I-23, invited**)

12:05-12:30 Jing Liu, Zhijian Shen, Mats Nygren: SPARK PLASMA SINTERING OF $(\text{Ba}, \text{Sr})\text{TiO}_3$ NANO-POWDERS (**O-15**)

12:30-12:55 S.A.M.Tofail, D.Haverty, K.T.Stanton, J.B.McMonagle: STRUCTURAL ORDER AND DIELECTRIC BEHAVIOUR OF HYDROXYAPATITE (**O-44**)

Session “Thin Films III.”, lecture hall F13, building F

Chairman: J.Cross

11:30-12:05 G.Suchaneck, A.Deyneka, L.Jastrabik, G.Gerlach: LEAD EXCESS IN SELF-POLARIZED PZT THIN FILMS DEPOSITED BY REACTIVE SPUTTERING AT LOW TEMPERATURES (**I-02, invited**)

12:05-12:30 P.V.Afanasiev, V.P.Afanasjev, D.Yu.Bulat, A.V.Pankrashkin, P.Pronin, G.Suchaneck, G.Gerlach: STORAGE AND ERASURE OF OPTICAL INFORMATION IN Pt-PZT-SnO₂ THIN FILM STRUCTURES (**O-34**)

12:30-12:55 A.S.Sidorkin, L.P.Nesterenko, I.A.Bocharova, G.L.Smirnov, S.V.Ryabtsev: DIELECTRIC PROPERTIES OF LEAD TITANATE THIN FERROELECTRIC FILMS DEPENDING ON OBTAINING CONDITIONS (**O-32**)

13:00-14:30 Lunch

14:30-18:00 Trip to Jizera Mountains

19:30-22:00 Conference banquet (Hotel “Zlatý Lev”)

Wednesday, September 8, 2004

08:00-18:00 Registration desk (building E)

Session “Dielectric spectroscopy III.”, lecture hall E9, building E

Chairman: V.V.Lemanov

08:30-08:55 A.P.Ayala, J.J.Lima-Silva, J.Mendes Filho, D.Garcia, J.A.Eiras: RAMAN SCATTERING INVESTIGATION OF THE LEAD BARIUM NIOBATE PHASE DIAGRAM (**O-08**)

08:55-09:20 A.Almeida, M.R.Chaves, I.Gregora, J.A.Moreira, N.J.Muga, P.M.Vilarinho, A.L.Kholkin, A.M.Costa: LATTICE DYNAMICS AND POLAR STUDIES IN (Sr_{1-1.5x}La_x)TiO₃ CERAMICS (**O-18**)

09:20-09:45 A.Bussmann-Holder, A.R.Bishop: INTRINSIC LOCAL MODES AND HETEROGENEITY IN RELAXOR FERROELECTRICS (**O-03**)

09:45-10:10 V.Samulionis, J.Banys, Yu.Vysochanskii: INVESTIGATION OF ACOUSTOELECTRIC PHENOMENA IN Sn₂P₂(Se_{0.28}S_{0.72})₆ SINGLE CRYSTALS (**O-31**)

Session “Domain engineering”, lecture hall AP12, building A

Chairman: A.L.Kholkin

08:30-09:05 Zuo-Guang Ye: HIGH PIEZO- AND FERROELECTRIC SINGLE CRYSTALS (**I-13, invited**)

09:05-09:40 S.Wada, K.Muraoka, H.Kakemoto, T.Tsurumi, H.Kumagai: ENHANCED PIEZOELECTRIC PROPERTIES OF POTASSIUM NIOBATE SINGLE CRYSTALS BY DOMAIN ENGINEERING (**I-14, invited**)

09:40-10:15 Shi-ning Zhu: NOVEL PHYSICAL EFFECTS IN DIELECTRIC SUPERLATTICE (**I-29, invited**)

10:15-10:50 V.Ya.Shur: MICRO AND NANODOMAIN ENGINEERING IN LITHIUM NIOBATE AND LITHIUM TANTALATE (**I-26, invited**)

Session “Theory and modelling I.”, lecture hall F13, building F

Chairman: S.B.Lang

08:30-08:55 P.Mokrý, A.K.Tagantsev, N.Setter: EFFECT OF SPONTANEOUS POLARIZATION SCREENING ON DIELECTRIC RESPONSE OF FERROELECTRIC POLYDOMAIN FILMS (**O-17**)

08:55-09:30 A.K.Tagantsev: INTERNAL BIAS FIELD EFFECTS AND POLARIZATION IMPRINT IN FERROELECTRIC FILMS (**I-08, invited**)

09:30-10:05 A.J.Bell, R.Kurchania: TEMPERATURE DEPENDENCE AND NON-LINEARITY OF DIELECTRICS WITH COMPOSITION GRADIENTS (**I-01, invited**)

10:05-10:40 V.Janovec, P.E.Tomaszewski, L.Richterová, J.Fábry, Z.Kluiber: DATABASES OF FERROIC PHASE TRANSITIONS (**I-05, invited**)

10:40-11:10 Coffee break

Session “Polymers”, lecture hall E9, building E

Chairman: A.J.Bell

11:10-11:45 B.Hilczer, H.Smogór, J.Goslar: FUNCTIONALIZATION OF FERROELECTRIC POLYMERS (**I-19, invited**)

11:45-12:10 Eiichi Fukada, Munehiro Date, Hidekazu Kodama, Yuhei Oikawa: ELASTICITY CONTROL OF CURVED PIEZOELECTRIC POLYMER FILMS (**O-04**)

12:10-12:35 L.Ibos, A.Bernès, C.Lacabanne: ANNEALING OR STORAGE INFLUENCE ON PYROELECTRICITY OF FERROELECTRIC PVDF AND P(VDF-TrFE) COPOLYMER (**O-06**)

12:35-13:00 O. Richard Hughes: MEASUREMENT OF HYSTERETIC LOSSES EXHIBITED BY A FAMILY OF FLUORO-POLYMER FILMS (**O-07**)

Session “Optical Properties II.”, lecture hall AP12, building A

Chairman: M.Zgonik

11:00-11:35 R.S.Cudney: OPTICAL USES OF FERROELECTRIC CRYSTALS WITH 180° DOMAINS (**I-17, invited**)

11:35-12:10 S.B.Lang: LASER INTENSITY MODULATION METHOD (LIMM): EXPERIMENTAL TECHNIQUES, DATA ANALYSIS AND APPLICATIONS (**I-24, invited**)

12:10-12:35 C.Medrano, B.Ruiz, P.Günter: GROWTH OF NONLINEAR OPTICAL DAST CRYSTALS FOR TERAHERTZ GENERATION AND ELECTRO-OPTICS (**O-43**)

12:35-13:00 Arno Schneider, Peter Günter: SPECTRUM OF TERAHERTZ PULSES FROM ORGANIC DAST CRYSTALS (**O-23**)

Session “Theory and modelling II.”, lecture hall F13, building F

Chairman: A.Bussmann-Holder

11:10-11:35 C.Pientschke, R.Steinhausen, A.Kouvatov, H.T.Langhammer, H.Beige: EQUIVALENT CIRCUIT MODELLING OF THE TIME-DEPENDENT POLING BEHAVIOUR OF FERROELECTRIC MULTILAYER STRUCTURES (**O-21**)

11:35-12:00 A.Kopal, T.Sluka: FERROIC LAYER COMPOSITES: THE EFFECTIVE PROPERTIES AND POSSIBLE INSTABILITY OF THE DOMAIN STRUCTURE (**O-14**)

12:00-12:25 J.Novák, J.Fousek, J.Maryška, M.Marvan: DISTRIBUTIONS OF ELECTRIC AND ELASTIC FIELDS AT 90° DOMAIN BOUNDARIES IN FERROELECTRIC THIN LAYER - VARIOUS CONFIGURATIONS (**O-36**)

12:25-12:50 C.R.Bowen, D.P.Almond: ANOMALOUS POWER LAW DISPERSIONS IN AC CONDUCTIVITY AND PERMITTIVITY SHOWN TO BE CHARACTERISTICS OF MICROSTRUCTURAL ELECTRICAL NETWORKS (**O-37**)

13:00-14:30 Lunch

14:30-17:30 **Poster session II.** (Posters P-61 to P-112, lobby in the building F)

17:30-19:00 Dinner

19:00-22:00 Theatre performance (Opera Nabucco, F.X.Šalda Theater)

Thursday, September 9, 2004

08:00-18:00 Registration desk (building E)

Session “Miscellaneous phenomena”, lecture hall E9, building E

Chairman: T.Takenaka

08:30-08:55 Yong Zhang, D.C.Lupascu, J.Rödel: STATIC AND DYNAMIC HETEROGENEITY OF FATIGUED BULK LEAD ZIRCONATE TITANATE (**O-27**)

08:55-09:20 V.K.Yarmarkin, S.N.Popov, S.G.Shulman, V.V.Lemanov: DEFECT DIPOLES AND INTERNAL BIAS FIELD IN GLYCINE PHOSPHATE DOPED GLYCINE PHOSPHITE CRYSTALS (**O-29**)

09:20-09:45 J.A.Moreira, A.Almeida, M.L.Santos, M.R.Chaves, N.J.Muga, A.M.Costa, A.Klopperpieper, T.M.Correia: NON ERGODICITY IN LOW TEMPERATURE PHASES OF GLYCINE PHOSPHITE AND BETAINE PHOSPHITE (**O-19**)

09:45-10:10 E.P.Smirnova, A.V.Sotnikov, R.Kunze, M.Weihnacht, V.V.Lemanov: IMPROPER FERROELASTIC PHASE TRANSITION AND ITS INTERRELATION WITH FERROELECTRIC TRANSITION IN $(1-x)$ SrTiO₃ – x ATiO₃ (A=Ba,Pb) (**O-30**)

10:10-10:35 R.F.Mamin: DYNAMIC NANOSCALE INHOMOGENETIES DUE TO THE CHARGE LOCALIZATION IN RELAXORS (**O-33**)

10:35-11:00 M.S.BOZGEYIK, AMIRULLAH M. MAMEDOV: EFFECTS OF POLARIZATION ON FERROELECTRIC P-N JUNCTION (**O-42**)

Session “Electrical and Optical properties”, lecture hall AP12, building A

Chairman: B.Hilczner

08:30-08:55 V.Buscaglia, M.Viviani, M.T.Buscaglia, L.Mitoseriu, A.Testino, P.Nanni, Z.Zhao, M.Nygren, J.Petzelt: SIZE EFFECT ON CRYSTAL STRUCTURE, PHASE TRANSITIONS AND DIELECTRIC PROPERTIES OF DENSE NANOCRYSTALLINE BaTiO₃ CERAMICS (**O-05**)

08:55-09:20 H.Chai, F.Schlaphof, T.Otto, L.M.Eng: SURFACE EFFECT ON ELECTRICAL AND OPTICAL PROPERTIES OF BaTiO₃ AT ROOM TEMPERATURE (**O-10**)

09:20-09:45 A.Kojima, S.Sasou, Y.Yoshimura, H.Iwasaki, K.Tozaki: NOTABLE ANOMALIES OF THE 403K PHASE TRANSITION OBSERVED IN ETCHED BaTiO₃ SINGLE CRYSTALS (**O-13**)

09:45-10:10 A.G.Souza Filho, D.Valim, S.B.Fagan, P.T.C.Freire, A.P.Ayala, J.Mendes Filho, A.F.L.Almeida, P.B.A.Fechine, A.S.B.Sombra: HIGH PRESSURE STUDIES OF THE GIANT-DIELECTRIC-CONSTANT CaCu₃Ti₄O₁₂ (**O-09**)

10:10-10:35 J.Teyssier, R.Le Dantec, C.Galez, Y.Mugnier, J.Bouillot, J.-C. Plenet: ORIENTATION OF LiIO₃ NANOCRYSTALS IN LAPONITE MATRIX FOR PERIODICALLY STRUCTURED NON-LINEAR WAVEGUIDES (**O-24**)

Session “Applications, devices”, lecture hall F13, building F

Chairman: J.Erhart

08:30-08:55 Toshio Ogawa: PIEZOELECTRIC BIMORPH WITH GIANT ELECTROMECHANICAL COUPLING FACTOR OF BENDING MODE NEARLY 70% FABRICATED BY LOW SYMMETRY MONO-DOMAIN Pb[(Zn_{1/3}Nb_{2/3})_{0.91}Ti_{0.09}]O₃ SINGLE CRYSTALS (**O-20**)

08:55-09:20 I.L.Baginsky, E.G.Kostsov: LINEAR ELECTROSTATIC MICROMOTOR ON THE BASIS OF FERROELECTRIC CERAMICS (**O-39**)

09:20-09:45 Jinlong Du, Junhui Hu, King Jet Tseng: A HIGH-POWER PIEZOELECTRIC TRANSFORMER USING IN DC/DC CONVERTERS (**O-40**)

09:45-10:10 A.Richter, P.Rydlo, M.Pustka, M.Kolář: PULSE DRIVING OF PIEZOCERAMIC ACTUATORS AND THEIR PRESENT TECHNICAL LIMITATIONS (**O-35**)

10:10-10:35 M.KANESAKI, M.DATE, E.FUKADA, Y.TAJITSU: NOVEL TWEEZERS FOR BIOLOGICAL CELLS USING PIEZOELECTRIC POLYLACTIC ACID FIBERS (**O-38**)

10:35-11:00 I.Mateescu, G.Johnson, K.Scott, S.Georgescu, C.Bran: MASS-LOADING INFLUENCE ON PIEZOELECTRIC RESONATORS CHARACTERISTICS (**O-41**)

11:00-11:30 Coffee break

11:30-12:00 Closing ceremony (lecture hall E9, building E)

12:00-14:00 Lunch

14:00-18:00 Trip to Castle Sychrov

Friday, September 9, 2004

08:00-17:00 Post conference tour to Prague or to the Nature Reservation “Bohemian Paradise”