

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**Mesoscopic nanostructures and long-time relaxation processes in ferroelectrics with coexisting ferroelectric and antiferroelectric phases<sup>1</sup>** V. SOBOLEV, South Dakota School of Mines & Technology, Rapid City, South Dakota 57701, USA, V. ISHCHUK, Institute for Single Crystals of the Academy of Sciences of Ukraine, Kharkov 61001, Ukraine, Z. SAMOILENKO, Physics/Engineering Institute of the Academy of Sciences of Ukraine, Donetsk 83114, Ukraine — Presentation contains results of experimental study of the kinetics of mesoscopic segregate structures formed in the vicinity of interphase domain boundaries separating the domains of the coexisting ferroelectric and antiferroelectric phases in two series of the lead zirconate titanate based solid solutions in which the isovalent complex  $(\text{La}_{0.5}\text{Li}_{0.5})^{2+}$  or the  $\text{La}^{3+}$  ions are substituted for lead. These systems of solid solutions possess an extended interval of compositions for which the inhomogeneous state of coexisting ferroelectric and antiferroelectric domains is energetically favorable in comparison with homogeneous ferroelectric and antiferroelectric phases. The mechanisms that control the kinetics of formation of the segregates are investigated and compared for these two series of solid solutions

<sup>1</sup>The work was supported in part through ONR Grant No. N00014-06-1-0616.

Vladimir Sobolev  
South Dakota School of Mines and Technology

Date submitted: 26 Nov 2008

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