

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

**Coexistence of polar order and local domain dynamics in ferroelectric  $\text{SrTi}^{18}\text{O}_3$**  ANNETTE BUSSMANN-HOLDER, Max-Planck-Institute for Solid State Research, HELMUT BUETTNER, University of Bayreuth, ALAN BISHOP, Los Alamos National Laboratory — Perovskite oxide ferroelectrics show classical soft mode behaviour typical for the onset of a homogeneous long-range polar state and a displacive phase transition. Besides these long wave length properties, local effects are observed by different probes which reveal that dynamical symmetry breaking already takes place far above the actual instability. It is shown here that displacive mean-field type dynamics can indeed coexist with local dynamical symmetry breaking.

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Date submitted: 20 Nov 2006

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