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LIST OF ABBREVIATIONS

AFE	Antiferroelectric phase
BaCO ₃	Barium carbonate
BT	Barium titanate
BZN	Barium zinc niobate
<i>a</i>	Lattice parameter in a axis
<i>c</i>	Lattice parameter in c axis
<i>c/a</i>	Tetragonality
CUBIC	Cubic
E	Electric field
E _c	Coercive field
FE _{Rh}	Ferroelectric rhombohedral phase
FE _{Tet}	Ferroelectric tetragonal phase
La ₂ O ₃	Lanthanum oxide
MONO	Monoclinic
MPa	Megapascal
MPB	Morphotropic phase boundary
Nb ₂ O ₅	Niobium pentaoxide
P	Polarization
PbO	Lead oxide
PE _{cubic}	Paraelectric cubic phase
PLZT	Lead lanthanum zirconate titanate
PLZT-BT	Lead lanthanum zirconate titanate-barium titanate
PLZT-PZN	Lead lanthanum zirconate titanate-lead zinc niobate
PMN	Lead magnesium niobate
PMN-PT	Lead magnesium niobate-lead titanate
PMN-PZT	Lead magnesium niobate-lead zirconate titanate
P _r	Remanent polarization
P _s	Saturate polarization
PST	Lead strontium titanate

PT	Lead titanate
PZ	Lead zirconate
PZN	Lead zinc niobate
PZT	Lead zirconate titanate
RHOM	Rhombohedral
SEM	Scanning electron microscope
SFE	Slim loop ferroelectric
ST	Strontium titanate
T_c	Curie's temperature
TET	Tetragonal
TiO_2	Titanium dioxide
T_m	Temperature at maximum dielectric constant
ZnO	Zinc oxide
ZrO_2	Zirconium dioxide
XRD	X-ray diffraction

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ข้อความแห่งการริเริ่ม

1. ไมเคิลสันอินเตอร์เฟอโรมิเตอร์ได้ถูกพัฒนาเพื่อใช้สังเกตพฤติกรรมของความเครียดเพื่อศึกษาความรู้เรื่องคุณสมบัติของสารเฟร์โรอิกในพฤติกรรมการเสื่อมตามอายุ กลไกการสูญเสีย การขึ้นกับปัจจัยของอุณหภูมิ และผลของแมกนีโตอิเล็กทริก ที่สามารถวัดได้โดยระบบไมเคิลสันอินเตอร์เฟอโรมิเตอร์ที่ได้รับการปรับปรุง (เข้ากับที่จับตัวอย่าง แบบให้ความร้อนหรือสนามแม่เหล็ก)
2. การสังเกตลักษณะเฉพาะของความเครียดที่ถูกกระตุ้นที่สัมพันธ์กับสนามต่างๆ เช่น สนามไฟฟ้า สนามแม่เหล็ก และ ความร้อน ในการนำไปสู่การพัฒนาสู่การประยุกต์ใช้ในทางเซ็นเซอร์ และ ตัวขับเคลื่อน

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
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STATEMENTS OF ORIGINALITY

1. Michelson interferometer was developed to investigate field induced strain behavior. The new knowledge of ferroic material properties in term of aging behavior, loss mechanism, temperature dependence and magnetoelectric effect could also be obtained by the use of interferometry combined with modified system (i.e. heat load sample holder and solenoid coil).
2. The investigation of induced-strain characteristic relations with external fields such as electric field, magnetic field and heat in order to find their characteristic in order to develop multifunctional applications such as sensors/actuators.



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