

**POSTER SESSION I**  
**MONDAY, 4 AUGUST 2003**  
**16:30 – 19:00, JOHNSON ATHLETIC CENTER**

<i>Ferroelectric Thin Films</i>
<p><b>FERROELECTRIC PROPERTIES OF PZT CAPACITORS ON <math>\text{LaNiO}_3</math> BOTTOM ELECTRODE BY REACTIVE SPUTTERING USING La AND Ni METALS</b></p> <p>H. Kim*, J.-H. Kim and W.K. Choo Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, 373-1, Guseong-dong, Yuseong-gu, Daejeon 305-701, South Korea</p>
<p><b>SWITCHING PROPERTIES OF (001) AND (100) ORIENTED EPITAXIAL <math>\text{Pb}(\text{Zr,Ti})\text{O}_3</math> THIN FILMS</b></p> <p>M. Tsukada*, H. Yamawaki, M. Kondo, J.S. Cross, and K. Kurihara 10-1 Morinosato-Wakamiya, Atsugi 243-0197, Japan/Fujitsu Limited</p>
<p><b>COMPARISON OF LEAD SOURCE MATERIAL ON THE MICROSTRUCTURE AND FERROELECTRIC PROPERTIES OF SPUTTER DEPOSITED PZT FILMS USING LEAD AND LEAD OXIDE FOR COMPENSATION</b></p> <p>J.L. He and W.L. Chang Dept. of Materials Science, Feng-Chia University No. 100, Wen-Hua Rd., Taichung City, Taiwan, ROC</p>
<p><b>EFFECT OF Zr/Ti RATIO ON MICROSTRUCTURE AND ELECTRICAL PROPERTIES OF LEAD ZIRCONATE TITANATE THIN FILMS DERIVED BY PULSED LASER DEPOSITION</b></p> <p>Z. Wang<sup>1*</sup>, L. Yan<sup>1</sup>, M. Ichiki<sup>2</sup>, R. Maeda<sup>2</sup> and H. Kokawa<sup>1</sup> <sup>1</sup>Dept. of Materials Processing, Graduate School of Engineering, Tohoku University, Aoba-yama 02 Sendai 980-8579, Japan <sup>2</sup>National Institute of Advanced Science and Technology, 1-2 Namiki, Tsukuba 305-8564, Japan</p>
<p><b>LOW TEMPERATURE PROCESS FOR SYNTHESIS OF (100) TEXTURED <math>\text{Pb}(\text{Zr}_{0.48}\text{Ti}_{0.52})\text{O}_3</math> THIN FILM ON SI SUBSTRATE BY LASER LIFT-OFF TRANSFERRING TECHNIQUE</b></p> <p>Y.-H. Zhu<sup>1</sup>, S.-J. Lin<sup>1</sup>, K.-S. Liu<sup>1</sup> and I.-N. Lin<sup>2</sup> <sup>1</sup>Dept. of Materials Science and Engineering, Tsing-Hua University, Hsinchu, Taiwan 300, R.O.C. <sup>2</sup>Material Science Center, National Tsing-Hua University, Hsinchu, Taiwan 300, R.O.C.</p>
<p><b>THE XPS STUDIES OF PZT FILMS DEPOSITED BY USING METALLIC LEAD AND CERAMIC PZT DUAL TARGET COSPUTTERING</b></p> <p>W.L. Chang and J.L. He Dept. of Materials Science, Feng-Chia University, No. 100, Wen-Hua Rd., Taichung City, Taiwan, ROC</p>
<p><b>ION DOPING EFFECTS IN Bi-LAYERED FERROELECTRICS</b></p> <p>T.K. Song*<sup>1</sup>, S.E. Park<sup>1</sup>, J.A. Cho<sup>1</sup>, M.H. Kim<sup>1</sup>, H.-S. Lee<sup>2</sup>, and S.S. Kim<sup>2</sup> <sup>1</sup>Dept. of Ceramic Science and Engineering, Changwon National University, Changwon, Kyongnam 641-773, South Korea <sup>2</sup>Dept. of Physics, Changwon National University, Changwon, Kyongnam 641-773, South Korea</p>
<p><b>PLATINUM (100) HILLOCK GROWTH IN Pt/Ti ELECTRODE STACK FOR <math>\text{SrBi}_2\text{Ta}_2\text{O}_3</math> FERROELECTRIC RANDOM ACCESS MEMORY</b></p> <p>W.W. Jung*<sup>1</sup>, S.K. Choi<sup>1</sup>, S.Y. Kweon<sup>2</sup>, S.J. Yeom<sup>2</sup> <sup>1</sup>Dept. of Materials Science and Engineering, Korea Advanced Institute of Science and Technology, 373-1 Kusong-Dong, Yusung-Gu, Daejeon 305-701, South Korea <sup>2</sup>Memory Research and Development Division, Hynix Semiconductor Inc., San 136-1, Ami-ri, Bubal-eub, Ichon-si, Kyoungki-do 467-701, South Korea</p>

**FERROELECTRIC AND DIELECTRIC PROPERTIES OF LANTHANUM-MODIFIED BISMUTH TITANATE THIN FILMS OBTAINED BY THE POLYMERIC PRECURSOR METHOD**

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**PHASE FORMATIONS AND ELECTRICAL PROPERTIES OF VARIOUS Bi<sub>3.15</sub>La<sub>0.85</sub>Ti<sub>3</sub>O<sub>12</sub> THIN FILMS BY CHEMICAL SOLUTION DEPOSITION**

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**VANADIUM DOPING EFFECTS ON ELECTRICAL CONDUCTION OF Bi<sub>3.25</sub>La<sub>0.75</sub>Ti<sub>3</sub>O<sub>12</sub> THIN FILM**

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**FERROELECTRIC PROPERTIES OF Bi<sub>3.25</sub>Nd<sub>0.75</sub>Ti<sub>3</sub>O<sub>12</sub> THIN FILM PREPARED BY MOD PROCESS**

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**FERROELECTRIC PROPERTIES OF (Bi, Sm)<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub> (BST) THIN FILMS FABRICATED BY METALORGANIC SOLUTION DEPOSITION METHOD**

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**THREE DIMENSIONAL DOMAIN STRUCTURE IN EPITAXIAL BARIUM TITANATE THIN FILMS**

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***Dielectric I (Thin Film)***

**SCALING EFFECT OF THE DIELECTRIC CONSTANT IN Ba(Ti<sub>x</sub>Zr<sub>1-x</sub>)O<sub>3</sub> THIN FILMS**

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**DIELECTRIC RESPONSE AND STRUCTURAL FEATURES OF Pb(Sc<sub>1/2</sub>Ta<sub>1/2</sub>)O<sub>3</sub> (PST) SOL-GEL DERIVED THIN FILMS**

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**THE CHARACTERISTICS OF Mg<sub>2</sub>TiO<sub>4</sub> THIN FILM MADE BY LOW PRESSURE METALORGANIC CHEMICAL VAPOR DEPOSITION**

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**ANODIZING PROPERTIES OF HIGH DIELECTRIC OXIDE FILMS COATED ON ALUMINUM BY SOL-GEL METHOD**

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*Advances in Synthesis and Processing I (Thin Film)*

**EFFECT OF THERMAL TREATMENT ON THE CRYSTALLINITY AND MORPHOLOGY OF LiTaO<sub>3</sub> THIN FILMS PREPARED FROM POLYMERIC PRECURSOR METHOD**

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**LiTaO<sub>3</sub> THIN FILMS PREPARED BY A DIOL-BASED SOL-GEL PROCESS AND CRYSTALLIZED BY CONVENTIONAL AND RTA PROCESS**

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**FABRICATION OF METAL OXIDE ULTRATHIN DIELECTRICS BY SURFACE SOL-GEL PROCESS**

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**CHEMICAL SOLUTION PROCESSING AND PROPERTIES OF TUNGSTEN BRONZE K(Sr,Ba)<sub>2</sub>Nb<sub>5</sub>O<sub>15</sub> THIN FILMS WITH PREFERRED ORIENTATION**

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**SYNTHESIS AND CHARACTERIZATION OF MESOPOROUS TITANIA THIN FILMS WITH A NANOCRYSTALLINE FRAMEWORK**

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**OPTIMIZATION OF NON-FLUORINE SOL-GEL DERIVED YBCO THIN FILMS**

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*Characterization I (Thin Film)*

**MODIFICATION ON CRYSTALLIZATION CHARACTERIZATION OF Pb(Zr,Ti)O<sub>3</sub> THIN FILMS BY INCORPORATION OF NANO-SIZED POWDERS**

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**ATOMIC MIXING BEHAVIOR OF Co/Al vs. Al/(fcc)Co : MOLECULAR DYNAMICS SIMULATION**

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**SPECTROSCOPIC ELLIPSOMETRY STUDY OF ZnO:Ga THIN FILMS DEPOSITED ON SAPPHIRE (11  $\bar{2}$  0) BY PLD METHOD**

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**CRYSTAL POLARITY OF 3C-SIC EPITAXIAL FILM GROWN ON Si(111) SUBSTRATE**

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**CHARACTERIZATION OF CRYSTALLINE CARBON NITRIDE FILMS DEPOSITED ON SI AND Si<sub>3</sub>N<sub>4</sub>/SI SUBSTRATE BY RF MAGNETRON SPUTTERING SYSTEM WITH DC BIAS**

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**AB INITIO STUDY OF Si ADSORPTION ON Mo(110)**

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***Piezoelectric I***

**DESIGN AND PROPERTIES OF PIEZOELECTRIC VIBRATOR WITH GENERATING FUNCTION BY FEM ANALYSIS**

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**DESIGN AND PERFORMANCES OF MINIATURIZED ADAPTOR USING PIEZOELECTRIC STEP-DOWN TRANSFORMER**

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**PIEZOELECTRIC HYDROSTATIC COEFFICIENT DH OF PZT CERAMICS, PZN-PT, AND PYN-PT SINGLE CRYSTALS**

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**PIEZOELECTRIC AND DIELECTRIC PROPERTIES OF  $Pb(Zr_xTi_{1-x})O_3$ -  
 $Pb(Ni_{1/3}Sb_{1/3}Nb_{1/3})O_3$  PIEZOELECTRIC CERAMICS**

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**PIEZOELECTRIC PROPERTIES OF PZT-PMN CERAMIC FOR LARGE  
DISPLACEMENT DEVICE APPLICATION**

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**PEROVSKITE PHASE FORMATION IN THE  $Pb(Zn_{1/3}Nb_{2/3})O_3$ -BASED  
RELAXOR SYSTEM**

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**$Pb(Mg_{0.7}Zn_{0.3})_{1/3}Nb_{2/3}O_3$  RELAXOR FERROELECTRIC CERAMICS BY A  
REACTION-SINTERING PROCESS**

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**PZN-PFW AND PFN-PFW RELAXOR FERROELECTRIC CERAMICS BY A  
REACTION-SINTERING PROCESS**

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**X-RAY STUDY AND DIELECTRIC PROPERTIES OF TI-SUBSTITUTED  
 $Pb(Yb_{1/2}Nb_{1/2})O_3$  CERAMICS**

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**IMPROVED ELECTROMECHANICAL RESPONSE IN RHOMBOHEDRAL  
 $BaTiO_3$**

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**CRYSTAL GROWTH AND HIGH TEMPERATURE PIEZOELECTRICITY OF  
 $La_3Ta_{0.5}Ga_{5.5-x}Al_xO_{14}$  CRYSTALS**

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**THE MODIFICATION OF  $Bi_{0.5}Na_{0.5}TiO_3$  PIEZOELECTRIC CERAMICS BY La-  
SUBSTITUTIONS**

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**DEVELOPMENT OF PLZT CERAMICS AND PIEZOCOMPOSITES FOR UNDERWATER SENSORS AND ACTUATORS**

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**DIELECTRIC AND MICROSTRUCTURAL INVESTIGATION OF  $Sr_{0.5}Ba_{0.5}Nb_2O_6$  RELAXOR FERROELECTRICS**

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**TEMPERATURE DEPENDENT ELECTRICAL AND MICROMECHANICAL PROPERTIES OF LANTHANUM TITANATE**

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**PARTIAL DISCHARGE SIGNAL DETECTION BY PIEZOELECTRIC CERAMIC SENSOR AND SIGNAL PROCESSING**

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**DIFFUSE DIELECTRIC ANOMALY IN FERROELECTRIC MATERIALS**

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**PROCESSING AND CHARACTERIZATION OF HIGH TEMPERATURE PEROVSKITE PIEZOELECTRIC SOLID SOLUTIONS**

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*Microwave Application I (Ceramics)*

**FABRICATION OF HIGH FREQUENCY PZT COMPOSITE**

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**EFFECT OF NANO-COATING ON THE SINTERING BEHAVIOR AND ELECTRICAL MICROWAVE PROPERTIES OF  $Ba(Nd_{2-x}Sm_x)Ti_4O_{12}$  CERAMICS**

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**HYDROTHERMAL SYNTHESIS OF  $Ba(Zn_{1/3}Nb_{2/3})O_3$  POWDERS FOR MICROWAVE CERAMICS**

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**MICROWAVE DIELECTRIC CHARACTERISTICS OF MgTa<sub>0.6</sub>Nb<sub>1.4</sub>O<sub>6</sub> CERAMICS**

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**CORRELATION OF MICROWAVE DIELECTRIC PROPERTIES AND NORMAL VIBRATION MODES OF Ba(MgTa)O<sub>3</sub>-SERIES MATERIALS**

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**PREPARATION AND MICROWAVE DIELECTRIC PROPERTIES OF Ba<sub>6-3x</sub>Ce<sub>8+2x</sub>Ti<sub>18</sub>O<sub>54</sub> CERAMICS**

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**A STUDY ON LOW-TEMPERATURE SINTERING OF MICROWAVE DIELECTRIC CERAMICS BASED ON (Zn<sub>1-x</sub>Mg<sub>x</sub>)TiO<sub>3</sub>**

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**MICROWAVE DIELECTRIC CHARACTERISTICS OF ZnTa<sub>2-x</sub>Nb<sub>x</sub>O<sub>6</sub> CERAMICS (0.25 ≤ x ≤ 0.35)**

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**MICROWAVE DIELECTRIC CHARACTERISTICS OF MCAS GLASS-ADDED (1-x) Al<sub>2</sub>O<sub>3-x</sub>TiO<sub>2</sub> CERAMICS**

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**Al<sub>2</sub>O<sub>3</sub>-MgO-ReO<sub>x</sub> (RE: RARE EARTH)-BASED LTCC AND ITS APPLICATION TO MULTILAYER NON-SHRINKAGE SUBSTRATE FOR MICROWAVE DEVICES**

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***Optical and Photonic Applications and Studies***

**EFFECT OF DIFFERENT DOPANTS ON THE PROPERTIES OF ZnO CERAMICS**

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**FORMATION AND SIZE CONTROL OF ZnO NANOWIRES ON Al-Zn-Si-Fe ALLOY BY DIRECTED MELT OXIDATION PROCESS**

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**OXYGEN INCORPORATION INTO ACCEPTOR-DOPED WIDE BANDGAP OXIDES: MECHANISTIC CASE STUDIES OF SrTiO<sub>3</sub> AND ZrO<sub>2</sub>**

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**CHARACTERIZATION OF HYDROTHERMALLY SYNTHESIZED PLZT FOR PYROELECTRIC APPLICATIONS**

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*Solid Electrolytes, Mixed Conductors and Transport Properties*

**THE EFFECT OF CATHODE MICROSTRUCTURE ON MICRO-SOFC PERFORMANCE**

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**DEFECT MEDIATED TRANSPORT AT INTERFACES AND NANOSTRUCTURES**

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**PROPERTIES OF CaTi<sub>1-x</sub>Fe<sub>x</sub>O<sub>3-δ</sub> CERAMIC MEMBRANES**

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**NONSTOICHIOMETRY AND DEFECT CHEMISTRY IN PRASEODYMIUM-CERIUM OXIDE**

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**A STUDY ON THE DEFECT TYPES AND ELECTRICAL PROPERTIES OF TiO<sub>2</sub> DOPED WITH DONOR AND ACCEPTOR**

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**BaO-TiO<sub>2</sub>-Ti<sub>2</sub>O<sub>3</sub> SYSTEM INVESTIGATED UNDER VARIOUS OXYGEN PARTIAL PRESSURE AND TEMPERATURE CONDITIONS**

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**DEFECT CHEMISTRY AND DEGRADATION BEHAVIORS OF Y DOPED BaTiO<sub>3</sub>**

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**ELECTRICAL CONDUCTIVITY OF CeO<sub>2</sub> PREPARED FROM NANOSIZED POWDERS**

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**ELECTRICAL TRANSPORT STUDIES ON CdI<sub>2</sub> DOPED SILVER OXYSALT SYSTEM**

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**IONIC COLLOIDAL CRYSTALS: ATTRACTIVE ORDERED BINARY COLLOIDAL ASSEMBLIES THROUGH CONTROLLED HETEROCOAGULATION**

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**TRANSPORT PROPERTIES OF LANGASITE AT ELEVATED TEMPERATURES**

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**PARTIAL ELECTRONIC AND IONIC CONDUCTIVITIES OF NANOCRYSTALLINE CERIA**

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**A/B-RATIO AND TRANSPORT PROPERTIES IN  $(La_{0.85}Sr_{0.15})_5CoO_{3-\delta}$   
PEROVSKITES**

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**EFFECT OF NANOSTRUCTURE CONTROL ON THERMOELECTRIC  
PROPERTIES OF Al DOPED ZnO CERAMICS**

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**LOW VOLTAGE DENOX<sub>x</sub> ELECTROCHEMICAL CELL BY THE HYPER-  
STRUCTURAL CONTROL**

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**ELECTROCHEMICAL REACTOR FOR SELECTIVE REDUCTION OF NO<sub>x</sub>**

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**HIGH SELECTIVE DENOX ELECTROCHEMICAL CELL WITH SELF-  
ASSEMBLED ELECTRO CATALYTIC ELECTRODE**

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**BaZrO<sub>3</sub>-BASED PROTON CONDUCTORS FOR ELECTROCHEMICAL  
APPLICATIONS**

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