

펄스 레이저 증착법으로 SrRuO₃/Si 구조위에서 증착된
강유전체 Pb(Zr_{0.2}Ti_{0.8})O₃ 박막

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**The ferroelectric Pb(Zr_{0.2}Ti_{0.8}) thin film growth on SrRuO₃/Si structure
by pulsed laser deposition**

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Abstract : The SrRuO₃ thin film electrodes are grown with (00 l) preferred orientations on SrO buffered-Si (001) substrates by pulsed laser deposition. The optimum conditions of SrO buffer layers for SrRuO₃ preferred orientations are the deposition temperature of 700°C, deposition pressure of 1×10^{-6} Torr, and the thickness of 6 nm. The 100nm thick-SrRuO₃ bottom electrodes deposited above 650°C on SrO buffered-Si (001) substrates have a rms roughness of approximately 5.0 Å and a resistivity of 1700 Ω -cm, exhibiting a (00 l) relationship. The 100nm thick-Pb(Zr_{0.2}Ti_{0.8})O₃ thin films deposited at 575°C have a (00 l) preferred orientation and exhibit 2P_r of 40 C/cm², E_c of 100 kV/cm, and leakage current of about 1×10^{-7} A/cm² at 1 V.

Key Words : PZT, Buffer layer, SRO, Ferroelectric, Orientation