

## EI02

### Effect of preferred orientation of lead zirconate titanate thin film on the ferroelectric properties

#### PZT박막의 우선배향성이 강유전 특성에 미치는 영향

Woo Sik Kim, Jun-Kyu Yang, and Hyung-Ho Park  
Department of Ceramic Engineering, Yonsei University

PZT thin films with highly (100)-and (111)-preferred orientation are obtained successfully through the control of bottom electrode orientation. The films are investigated in terms of the effect of crystalline orientation on the dielectric and ferroelectric properties and microstructure. The results are discussed from the viewpoint of the relationship between external field and polarization direction. In case of (100)-preferred PZT film, very fine grains are observed at the surface of film. To investigate the origin of these fine grains, XPS measurement was carried out. From the dipole pinning in (100)-preferred PZT observed through electrical characteristic, we proposed that grain of (100)-orientation is one of main cause of fatigue.