

---

**T-P32**

## **Study on wet-chemical etching characteristic of ZnO Film by acid solutions**

**Myoung Hwa Kim, Dong Geun Yoo, Seong Hun Jeong and Jin-Hyo Boo**

Department of Chemistry and Institute of Basic Science, Sungkyunkwan University,  
Suwon 440-746, Korea

In order to fabricate of ZnO-based devices, wet-chemical etching behavior of ZnO films was investigated using various acid solutions, such as hydrochloric acid (HCl), acetic acid (CH<sub>3</sub>COOH), nitric acid (HNO<sub>3</sub>), sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) and phosphoric acid (H<sub>3</sub>PO<sub>4</sub>) were used to etch the ZnO films deposited on glass. We have studied on the wet etching technique to fabricate ZnO patterns on glass. The concentrations of these etchants were controlled to study the etching shapes. ZnO films were anisotropically etched at various concentrations and resultant shape of the wet-chemical etching was affected by equivalent of acid. These results show that if wet-chemical etching were performed according to etchant concentration it could be promising method for processing of ZnO-based TCO devices.