

## Study on the Microstructure of Trivalent Chrome Layers by AFM and SANS

Y. Choi, J. J. Lee, B. K. Lee, M. Kim\*, S. C. Kwon\*, and B. S. Seung\*\*

Sunmoon University, Asan, Chungnam 336-840, Korea

\* Korea Institute of Machinery and Materials, Changwon, Kyungnam. 641-010, Korea

\*\* HANARO Center, Korea Atomic Energy Research Institute, Daejeon, PO Box 150, Korea

### Abstract

It is important to know size distribution of defects in electroplated trivalent chrome layers because it significantly influences on performance of the layers. Most of the nano-scale defects are able to be introduced by hydrogen evolution during the plating. Little information is available on the nano-size defects. In this study, SANS was applied to determine the size distribution of nano-scale defects in the trivalent chrome layers prepared in a formate bath. The defect size and distribution was dependent upon plating conditions such as current density and applied voltage. SANS is one of useful techniques to determine the nano-scale defect in the electroplated layers.