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**Effects of Ion Bombardment on the Electrochromism of Tungsten Oxide Thin Films**Y.-S. Choe<sup>1</sup>, I.-S. Lee<sup>1</sup> and H.-K. Baik<sup>2</sup><sup>1</sup>TongYang MoolSan Co. Ltd., R&D Center, Yongin-gun, Kyunggi-do, Korea 449-870<sup>2</sup>Dept. of Metallurgical Engineering, YonSei University, Seoul, Korea 305-350

Optically switchable electrochromic materials are of high potential interest since they can control the flow of light and solar energy through a glass. Electrochromic behaviors of tungsten oxide films were described and analysed in terms of morphology, structure and degree of crystallinity of films.

Tungsten oxide films were prepared by either rf sputtering from a WO<sub>2.9</sub> target in an atmosphere of an Ar-O<sub>2</sub> mixture or dual ion beam sputtering (DIBS). For DIBS, metallic tungsten or WO<sub>2.9</sub> target was sputtered with collimated argon ion beam and simultaneous bombardment of oxygen ion beam to growing films. The dependence of electrochromism on film preparation methods, especially ion bombardment effects, were addressed.