

Abstract Submitted
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Positron annihilation induced Auger electron spectroscopic study of the changes in the top layers of electrodeposited Cu_2O surfaces resulting from vacuum annealing M. NADESALINGAM, University of Texas at Arlington, J. ZHU, N. FAZLEEV, S. MUKHERJEE, N. R. DE TACCONI, S. SOMASUNDARAM, C.R. CHENTHAMARAKSHAN, K. RAJESHWAR, A. H. WEISS — Positron Annihilation induced Auger electron Spectroscopy (PAES) and electron stimulated Auger Spectroscopy (EAES) were used to measure changes in the surface of electrodeposited Cu_2O resulting from vacuum annealing. The PAES measurements show a very large increase in the intensity of the Cu MVV Auger peak after annealing at 535 K. Similar but significantly smaller changes were observed in the EAES spectra consistent with the fact that PAES is primarily sensitive to the top-most atomic layer due to the fact that the positrons are trapped just outside the surface prior to annihilation while EAES samples several atomic layers. The PAES and EAES data indicate that vacuum annealing of Cu_2O results in a surface with a high concentration of Cu in the top-most atomic layer. Research supported by the Welch Foundation Y-1100 and NSF DMR 98-12628.

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